

The 9x9 of Future Business Models

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Abstract: In times of digital transformation and permanent change, the analysis and further development of the business models are essential to be successful in the future. The 9x9 of future business models offer companies a framework for transforming their business model based on digitally shaped changes. The foundation of this approach is the value proposition, which is differentiated for new lifestyles in the future. It takes into account various trend influences, which affects all building blocks of a business model. These include the customers, the partners, and the network, but also the resources, the channels, the finances as well as the skills and activities of the company. In general, a business model must be viewed holistically in the future if it should be successful in the long term. More than ever, the influence of digital, technological and megatrends is critical to success. In summary, the following questions are answered:

- Fundamentals of future business models: Which building blocks are considered in the digital transformation?
- Influence of trends: What is driving digital and social transformation?
- The 9x9 of future transformation: How do technological and social influences affect business models?

Keywords: Business models, Digital transformation, Future thinking, Business model innovation, Megatrends, Technological and social influences

1. Introduction and Problem Statement

The digital transformation poses new challenges for companies. What is required is a radical rethinking that must deal with disruption, change, and constant reorientation. Companies need to continuously rethink their business model, services and products, as well as their unique selling proposition (Rogers, 2017). However, this transformation also offers opportunities and development potential for new business areas and new customers (Tewes, 2018). To master the digital change, strategists, leaders, and operational management must know the business model and jointly develop it further. The 9x9 of future business models provides the framework for this concept. The latest trends and their effects are integrated into the individual components of business models to make them successful in the future.

2. Fundamentals of Future Business Models

Which building blocks have to be considered in the digital transformation? To approach this question, it is first necessary to specify the term 'business model'. Osterwalder and Pigneur (2010) define the business model as a fundamental principle according to which an organization creates, conveys and captures value. Irrespective of the fact that there is no uniform definition of the term, the foundation of the business model always is the value proposition - the reason why the customer chooses the product or service. The customers, as well as financial factors, also form the base of any definition (Fieft, 2013). However, traditionally conceived business models are influenced by technological and social changes today. New companies are entering the market, rethinking the value proposition and offering the customer a better benefit with

which the traditional value proposition cannot compete. In most cases, this disruption is not caused by fundamental technological innovations, but by a new innovative composition of the building blocks of the business model. Based on a content and frequency analysis, Tewes (2018) examined 50 approaches to business models and derived nine success building blocks for future digital business models - integrating the importance of the constant influence of trends. The building blocks provide a framework for action (see Figure 1) to make the entrepreneurial business model fit for the future.

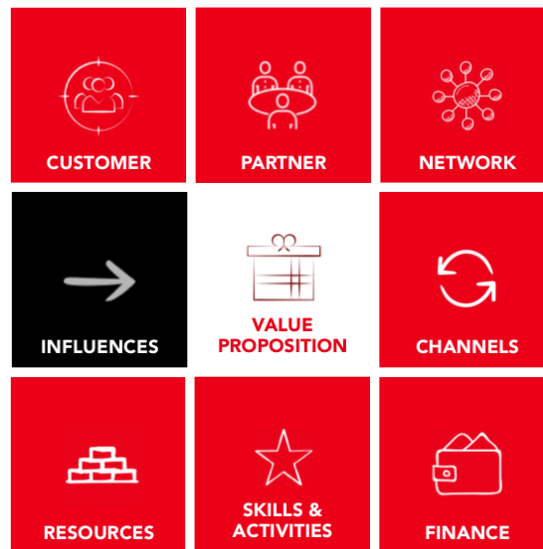


Figure 1: Nine building blocks for future business models (Tewes, 2018)

The core of future business models is the *value proposition* that solves a customer problem or satisfies a customer need (Chesbrough and Rosenbloom, 2002, Johnson et al., 2008, Lindgardt et al., 2009). The *customer* building block contains the segmentation of the customer based on new clustering approaches - e.g., lifestyles (Magretta, 2002, Granig et al., 2016). *Partners* provide a direct benefit within the value chain: e.g., suppliers, joint ventures, strategic alliances (Rappa, 2004, Chesbrough and Rosenbloom, 2002) - while the *network* supports outside the value chain (Zott and Amit, 2010, Shafer et al., 2005). The boundaries between the two building blocks are considered to be fluid. The building block *channels* include communication, marketing, sales and distribution (Osterwalder, 2004, Skarzynski and Gibson, 2008). The building block *finance* analyzes the possibility of generating revenue and profit (Afuah and Tucci, 2001, Teece, 2010). *Resources* build the base of value creation (Hamel, 2001, Tikkanen et al., 2005), *skills & activities* determine the way it is created (Chesbrough, 2007, Pateli and Giaglis, 2004).

The last building block *influence* is of particular importance for future companies - and only an integral part of a few business models approaches (Skarzynski and Gibson, 2008). Due to the speed of change, social and economic trends and future issues, as well as technological developments, influence the business model more significantly than ever before.

3. Influence of Trends

Various trends and drivers determine the transformation of business models. But there is no unique definition of the term trend. According to the 'Zukunftsinstitut', about 1,000 terms have been used in the last 25 years. Trends are observed movements, a complex structure of connected individual elements, which in combination lead to profound and complex changes (Zukunftsinstitut, 2016).

Several authors, futurologists and companies formulate technologies and megatrends that will drive the future. Schallmo et al. (2017) focus on the three trends ‘concentration on people’s, smart machines’ and ‘enabler technologies’ based on the Gartner Hype Cycle (Gartner, 2016). The new Gartner Hype Cycle (Gartner, 2018) mentions emerging technologies such as self-healing system technologies, quantum computing, biochips, and virtual assistants. For Trendone (2018), the megatrends include Future Work, Artificial Intelligence, Industry 4.0 and virtual experiences. The most important influence is exerted by precisely these megatrends, which bring about a transformation of the economy, society, culture, politics, etc. (Naisbitt and Naisbitt, 2018).

The complexity, speed and effectiveness of these influences make it increasingly difficult for companies to master the challenges of transformation. The fundamental question is: Where should digital change start? The 9x9 of the business models of the future supports companies with the development of a sustainable business model by assigning the most relevant trends to the individual building blocks.

4. The 9x9 of Future Transformation

How do technological and social influences affect business models? And how can we convert trends into success? To gain an understanding of the 9x9, the nine building blocks are detailed below in combination with the nine most recent trends and impacts.

4.1 Influences

Various megatrends, as well as digital and technological trends, will fundamentally change the value proposition of the future. In particular, nine megatrends will have a significant impact on business activity and thus on the business models of the future (Zukunftsinstitut, 2015, Trendone, 2018). In addition to these megatrends, further nine digital and technology trends will determine entrepreneurial action (Gartner, 2018, CB Insights, 2017). Figure 2 provides an overview of the megatrends as well as the digital and technological trends.

Megatrends	Digital and technological trends
<ol style="list-style-type: none"> 1. Individualization: the urge for self-realization and individual lifestyles 2. Health: personalized, optimized medicine & nutrition as well as data-based treatment methods 3. Responsibility: sustainable products and conscious action as well as clean energy 4. Urbanization: intelligent cities satisfy human needs, determine urban planning and direct goods and traffic flows from inner cities 5. New world order: China, India and emerging Africa as well as emerging distribution struggles for power and resources 6. Social imbalance: rising prosperity vs. rising unemployment promote distributive justice and new social concepts 7. Gender shift: women and their skills increasingly determine the economy 8. Mobility: ownership of cars will give way to the idea of 'Mobility as a Services'; end-to-end solutions and autonomous driving will determine the future 9. Education: new educational concepts promote and challenge people; contents and methods must be newly developed from kindergarten to university 	<ol style="list-style-type: none"> 1. Artificial intelligence in the broadest sense: from machine learning, algorithmization to deep learning 2. Big data: analysis of mass data determines customer needs, risk potentials, etc. and delivers optimized forecasts and predictions 3. Immersive media: AR, VR and gamification approaches, among others, enable an expanded perception of reality - real and virtual worlds merge 4. Internet of things: connects analog and digital objects; from parcel tracking to smart homes to smart cars 5. Voice assistants: simplify life; online ordering, smart home control etc. will be done by voice (Voice First) 6. Human-machine interaction: facial and gesture recognition in particular are relevant approaches here 7. Blockchain: protection of data by means of decentralized storage and encryption 8. Robotics: from precise production to optimized medicine to use as a human companion 9. 3D printing: creation of three-dimensional objects

Figure 2: Trend influences of the future

How do these trends influence the business models of the future and in which building blocks can companies develop a strategy for future transformation? In the context of the action

framework described, nine trends are identified for each building block to develop a successful value proposition for the future.

4.2 Customer

Customers operate in a field of tension and have no clear and fixed preferences, but prefer cross-channel shopping concepts. They want to start the customer journey in one channel and continue on other channels without interruption (Adyen, 2018). Due to the *experience orientation*, the customer always demands a beneficial shopping experience. The *online and offline worlds* merge and require *intuitive usability and user-friendliness* of all touchpoints. The technological development gives an additional sense of touch and realistic experiences in the digital world (FutureManagementGroup, 2017).

New types of buyers are forcing *demand-driven* value propositions so that successful companies must integrate customer trends into the planning of products, services or information offerings (Best, 2014). On the one hand, customers demand *security* (e.g., privacy and data protection), on the other hand, they want to make their lifestyle accessible to a broad mass of people and attract the highest possible attention (Trendone, 2018). The idea of transparency goes hand in hand with security. The supply chain must be visible to the consumer. *Sustainable* and regional products already have an advantage today. For example, customers want to know the *origin* of the products (Alicke et al., 2016, Kraft et al., 2018, Lehtinen, 2017). This also means that the concept of *convenience* is rethought and healthier.

In the context of these developments, it is seen that traditional socio-demographic target group determinations cannot cover the complexity of satisfying needs. Rather, there is a change towards *lifestyle segmentation*. In the future, the desired customer relationship will differentiate according to lifestyle.

4.3 Partner

Open source applications create the conjoint development of software. Technologies such as the blockchain create reliable foundations for cooperation, while short-term opportunism gives way to long-term partnerships (CB Insights, 2018). Former competitors create *radical collaborations* to survive against the big players (ImpactHub Zürich, 2017). Core tasks of the collaborations are the creation of *infrastructures* for the value proposition as well as their comprehensive provision. Access to specific resources and services as well as economies of scale and risk minimization are also key factors. In many cases, the *elimination of intermediaries* can lead to the desired results (Wang et al., 2017). In the *customer-vendor relationship*, the customer is more strongly integrated into the value creation process as a partner. This even leads to the customer producing parts himself within the value proposition (e.g., content on platforms). In *crowdsourcing* activities, corporate tasks - such as the co-designing of products - are outsourced to the community (Allen et al., 2018).

In addition to competitors and customers, *virtual assistants* are increasingly integrated into everyday business life (Tractica, 2016). Furthermore, the *digital twin* creates a virtual image of products, systems or processes and enables realistic simulation of reality. In the future, the *smart factory* will (for the most part) act as a self-organizing factory (Deloitte, 2017).

4.4 Network

Connecting people through the Internet enables new forms of collaboration. The 'liking' and 'sharing' as a digital currency for quality will continue to channel digital information overload in the future. Companies increasingly use *social networks* such as Slack; customers are served via social channels such as Instagram. *Social collaboration* (radical cooperation between different teams) will increase drastically in the future. With the help of *swarm intelligence*, the collective intelligence of the environment is used to solve problems together. A *trusting* relationship

between the participants in these networks is the primary success factor. *Digital platforms* form the infrastructure for this radical exchange (vom Brocke et al., 2018, Hackl et al., 2017).

In the context of corporate structures, traditional hierarchical inflexible structures will be replaced in the future by *loose coupling of small networks* - often cross-company teams will work together. A direct business relationship within the supply chain does not have to be of primary interest here. For example, the *exchange of knowledge* will be public and cooperative. In particular, this hunger for *lifelong learning* and knowledge will guide future networks. As an example, *alumni networks* promote exchange and further development (North and Kumta, 2018, McKinsey Quarterly, 2017, Tucker, 2018).

4.5 Channels

The customer is in the centre of the channel strategy. The massive increase in generated data and the improved analysis methods make it possible to address customers even more specifically based on *individual customer profiles* (Kitchens et al., 2018, Grewal et al., 2017). These individualized experiences can, for example, include location-based services (proximity marketing) depending on the location of the customer. The focus of the world of experience will be on personalized stories that allow customers to participate in their development. Interaction with companies will become more profound, but also more automated. *Automation* tools offer an individual and at the same time mechanized customer approach (Kotler et al., 2017). *Chatbots*, in particular, are mentioned in this context. *Gesture and voice recognition* will also play a decisive role in future communication and sales (Trendone, 2018).

Multisensory developments make it possible to connect digital and analogue worlds - as a holistic experience. *Augmented reality* is a technology that is slowly being integrated into business models. *Digital interaction* surfaces (displays in self driving cars) will also determine our way of working and living in the future. It must be possible to experience the value offered by *Omnichannel*. Also, *seamless trading* without interruption (e.g., delivery) must be integrated into the concept of the business model (Kotler et al., 2017).

4.6 Finance

For the business models of the future success is also determined by the ratio between revenues and costs. The *transparency* demanded by the customers leads to an obvious pricing of the value proposition. Nevertheless, *dynamic pricing* is also becoming increasingly relevant in some industries (e.g., retail) - even in the offline world (Seim et al., 2017, Kumar et al., 2017). *Sharing economy* and *swapping* (exchanging, not buying) are changing companies and their business models. They will have to define pricing according to the additional offers. Problem solutions, software, mobility, etc. are offered as services in individualized value propositions (e.g., *Solutions as a Service*) (Belk, 2014). Sectors must, therefore, rethink the traditional purchase offer.

Customers will *use* products rather than own them (e.g., cars). *Mobile payment* will become essential, and Fintechs offer alternative solutions for this. In this context, the currently still volatile digital currencies (*crypto currencies*) or the raising of funds for the implementation of value propositions (*crowd funding*) will also have to be examined in the future (Gomber et al., 2017, Baur et al., 2015, Blohm et al., 2015, Moritz and Block, 2014, Assenova et al., 2016).

4.7 Resources

Smart factories are essential components of future productions. The equipment of the factory with *sensors and actuators* determines the degree of automation. Also, organizational resources such as the *IT infrastructure* or *process tools* will influence the company's success (Trendone, 2018). Intellectual resources are still represented by *brands* or *patents*. These are becoming even more important in building trust. Also, collected and analyzed *customer data* are valuable resources (Kitchens et al., 2018).

The use of a *cloud* solution leads to location-independent data access (Sajid and Raza, 2013). The challenge in the area of human resources is the battle for employees who have internalized the extent of the future transformation and at the same time possesses specialist knowledge. This calls for a creative, willing to learn and *problem-solving mind-set* (Brush et al., 2001, de Villiers Scheepers et al., 2018). A simple further training nearly does not cover the requirements of the future. Financial resources - *liquidity and investors* - will continue to be needed to finance future innovation and change (Keuper et al., 2018).

4.8 Skills & Activities

Creative thinking enables innovative customer orientation - especially with regard to problem solving and the satisfaction of needs. The ability of *digital analytics* describes the digital thinking, which is constituted by analytical skills, the inclusion of future possibilities as well as systemic and channel-spreading thinking. *Transformation Management* includes lifelong learning, continuous optimization, and goal-oriented thinking. Furthermore, knowledge in the areas of networking, social media and the constructive handling of criticism is required. Leadership skills and entrepreneurial thinking are also relevant. The consideration of *individual working styles* makes workplaces more flexible and creates satisfaction (Schmidt and Tewes, 2018). In the area of employee education, new and *individual forms of learning* are purposeful. Gamification approaches, virtual worlds and intuitive learning are first approaches.

An increasing form of independence by employees in an employee relationship creates tension between job security and flexible hiring. *Agility* remains an important guideline for action. The *design of workspaces* and the work itself (e.g., co-working) becomes a further component in the company. *Work and private life* are increasingly merging (work-life blending). The way of working is increasingly determined by platforms. *Platform thinking* forms the framework for future cooperation - also in the B2B market (Hackl et al., 2017). Artificial Intelligence solutions also offer efficient possibilities for analysis and optimization.

The following Figure 3 provides an overview of the developments in the nine building blocks of future business models.



Figure 3: 9x9 of future business models

4.9 Implications for the Value Proposition

The value proposition is influenced by the eight building blocks mentioned above. It describes the combination of products, services, and information that solves a problem or satisfies a need for a customer (Osterwalder and Pigneur, 2010). Of course, every company must design this value proposition individually by the building blocks, but there are still general implications (Rogers, 2017, Osterwalder et al., 2014). The following Figure 4 shows ten differentiations for digitally influenced value propositions.

NOVELTY Meeting new needs or new lifestyles (e.g. healthness)	PERFORMANCE Performance improvement (e.g. superfoods like Açai)	DIFFERENTIATION Adaptation to specific needs (e.g. Customization: customizable mass products)	WORK FACILITATION Customer support (e.g. spare parts from the 3D printer)	DESIGN Superior design (e.g. cars, wearables)
PRICE Lower price (e.g. price negotiations in the online shop)	COSTS Cost reduction (e.g. on-demand business: demand instead of supply platforms)	RISK Minimization of risks (e.g. security in the smart home)	AVAILABILITY Accessibility to the value proposition (e.g. delivery by drones or robots)	QUALITY Easier handling and application (e.g. voice first: shopping on call)

Figure 4: Digitally influenced value propositions

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