International Association of Controllers

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Dear Readers,

In the last two newsletters we have already given you a few insights into the topic we are currently investigating: **"Digital Business Model Innovations and the Role of the Controller"**. Now we would like to focus in more detail on the controlling aspects of this topic.

First, we investigate the individual phases of developing and implementing digital business model innovations and show how the controlling function can and should become involved in these phases. Here we focus in particular on the controlling instruments to be used. Then, once again we take a more detailed look at evaluating new business model ideas. Finally, we use the example of the aeronautical industry to show which new business model innovations can be used to tap the potentials of digitization.

We hope you enjoy reading this issue of the Dream Factory Quarterly.

Best regards,

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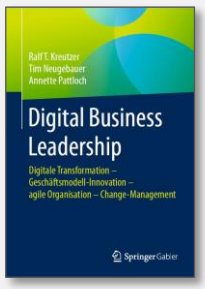
Suggested Reading

The focus of this year's February issue of the Controlling journal is **"Performance Management of Innovative Business Models"**. It deals with both digital business models in general and the role of controllers in the concept design and implementation of such business models in particular. The articles in the journal illustrate, for example, how controlling can accompany the digital transformation of business models or how digital start-ups are managed.

In their book **"Digital Business Leadership"**, Ralf Kreutzer, Tim Neugebauer and Annette Pattloch look at the disruptive upheavals associated with digitization that are currently shaking up entire industries and how established companies master digitization processes. In this context, the book uses concrete corporate use cases to illustrate how scientific models are paired with real-live business methods. At the same time, the authors highlight current developments and identify future challenges.



Business Model Development and Implementation | Phases and instruments of controlling

Comprehensive digitization offers enormous potential for the further development of business models. This is true for both IT companies and for those from "classical" industries. Regardless of the industry, the challenge lies in identifying the potentials of digitization for the specific business model and then leveraging those potentials systematically to the fullest extent possible. In this context, the controlling function can play a significant role. Figure 1 shows how controlling can become involved in the phases of business model development and implementation.

In the **ideas phase**, controllers should prepare portfolio analyses for and with those corporate functions most affected by digitization. With the help of classical analyses, they should compare current market developments with the performance and capabilities of their company. In this way it is possible, for example, to identify those areas in the company which are already threatened by disruptive upheavals (e.g. increasing threat to bricks-and-mortar retailers from online shops). Additionally, controlling should also critically question the initial ideas on digitization and in particular assess the extent to which the intended concept is suited to value generation, for example, and whether the resources necessary for the concept's implementation already exist or should be developed. When it comes to generating value, we can differentiate between innovation (e.g. new shopping advice through augmented reality), increased efficiency (e.g. data-driven optimization of machine operations), bonding (e.g. use of social media to improve customer loyalty) and complementarity (e.g. online evaluation of performance of car windscreen wipers in connection with car location for weather services). The next step before implementing the new business model is to carry out a detailed **market analysis**. Here it is important to include companies which were once seen as being outside your specific industry but are now seen as potential competitors. A look at the automotive industry or passenger transport shows how industry boundaries are increasingly blurring: alongside traditional OEMs such as Daimler, the players now include new entrants (e.g. Tesla), pure platform operators (e.g. Uber) or IT companies (e.g. Google: autonomous driving). Only after a market analysis can a plausible business model be designed as a **concept** in collaboration with the management. In this phase, controlling can again provide support in the form of checklists and structural design aid. When it comes to actual implementation and an **investment** in a digital business model innovation, controlling uses the investment analysis. Investments in young start-ups play a significant role here as they act as an innovation driver for the company's own digital orientation. As soon as the digital business model is implemented, the focus is on **growth**. Here controlling should provide a suitable performance management system, among other things, with the main task being to derive and use suitable performance indicators for digital business models (cf. Pampel 2017, p. 27).

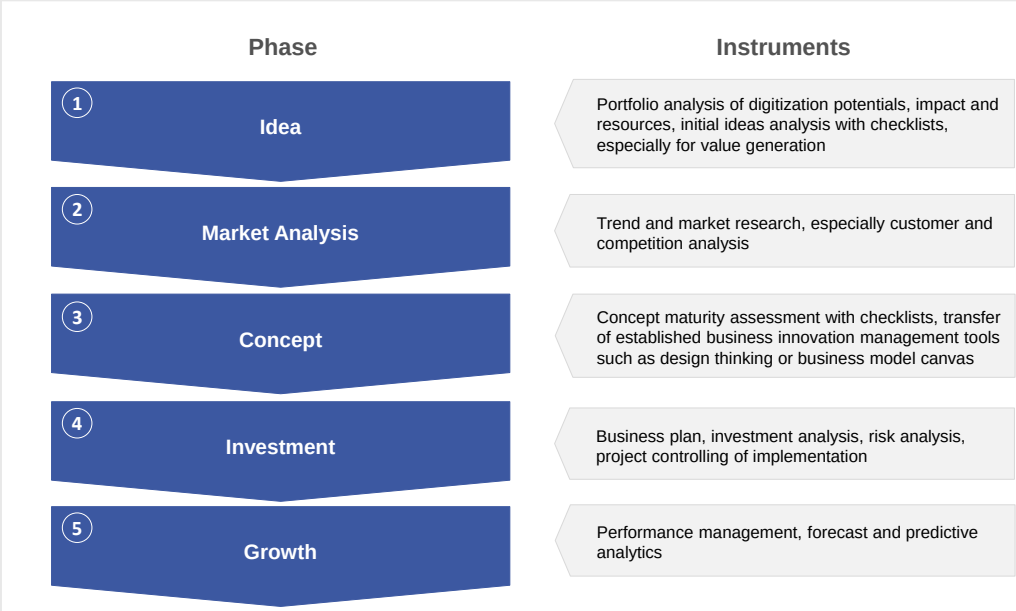


Figure 1: Main controlling topics and instruments in the development and implementation of digital business model innovations (source: Pampel 2017, p. 27)

The First Step towards Digital Business Model Innovation | Controlling in ideas selection

As shown on page 2 of this newsletter, the actual innovation idea is the first step on the road to a digital business model innovation. We will now take a more detailed look at this first step. The key here is to recognize and select the best innovation ideas. As a company's resources are usually limited and there are usually a large number of ideas, it is vital to have a systematic evaluation process. The most important task of controlling here is to provide suitable innovation assessment concepts, thereby ensuring an efficient and effective decision-making process. In general, there are four levers in designing such an innovation assessment concept: gates, decision-makers, decision criteria and decision procedures (cf. Hüsler et al. 2017, p. 34).

During the ideas selection process, the first step is to continuously develop and at the same time critically question the ideas. For this reason, we differentiate here between the further development of an idea (enabling) and a continuation decision (constraining). It is necessary to define **gates** for the individual evaluation and prioritization decisions which are needed. These gates act as milestones which set deadlines for the respective decisions.

When it comes to the **decision-makers**, the individual decisions can be taken either as individual evaluations or as group decisions, while different criteria can be applied for the decisions themselves.

Figure 2 lists examples of **decision criteria** based on overarching dimensions. A look at the dimensions shows that financial decision criteria represent only one of many dimensions. The main reason for this is the uncertainties associated with digital business model innovations and the different benefit dimensions. This results in the use of qualitative decision criteria in particular.

As a result, we also differentiate between the possible **decision procedures**. Depending on their quantifiability, we differentiate between qualitative, semi-quantitative and quantitative decision procedures. Qualitative decision procedures are used above all in the early phases of innovation assessment to evaluate the idea in its overall context without creating a multi-dimensional evaluation system. In the early phases, in particular, there is often not enough quantitative data. Semi-quantitative procedures are characterized on the one hand by the assessment of criteria using quantified scales and on the other hand by the aggregation of the results into a total value. Examples of quantitative procedures include statistical and dynamic investment methods, cost and activity accounting, and methods of evaluating threats and opportunities.

An innovation assessment concept which contains all four levers must always be tailored to the specific situation and needs of the company. As different needs must be considered depending on the company and the industry that company operates in, individual criteria need to be weighted differently or certain decision procedures preferred.

Dimension	Example criteria
Market	Digital market share, market volume, market growth, current market position, existence of customers
Customers	Satisfaction of needs, satisfaction of requirements, customer benefit, customer acceptance, customer satisfaction, customer advantages, willingness to pay
Competition	Competitiveness vs. IT companies outside the industry (e.g. Google), substitution products, market entry barriers, potential for differentiation, number of competitors, competitor margins
Technology	Digital infrastructure, dependence on start-ups, scope of functions, technological lead, growth potentials, technology competence, level of novelty
Finance	Digital EBITDA, price, price development, margin / profitability, costs, opportunity costs, payback period, internal rate of return / return on investment, net present value
Strategy	Synergy effects, strategic fit, learning effects, corporate culture fit, strategic importance, suitability to corporate principles, future viability, entry to new market
Law	Compliance with data protection / security when analyzing digital customer data, patentability, potential for licensing, legal restrictions
Time	Time-to-market, timing of possible entry, product lifecycle, reversibility, first-mover advantage
Retail	Possibility to reach target group via online channels, marketing skills, accessibility, influence on purchasing decision

Figure 2: Evaluation dimensions in ideas selection (source: Winter 2014, p. 127)

Digital Offensive at Lufthansa | Tailored goods and services for customers

For established airlines, digitization represents the biggest challenge since the appearance of budget airlines. It is distinctly possible that soon companies such as Google, booking websites such as Booking.com and travel apps like TripAdvisor could put the airlines under as much pressure as Uber did to the taxi business (cf. Kiani-Kress 2017). For this reason, airlines must identify the potentials digitization offers them as early as possible and use this knowledge to implement digital business model innovations. Only in this way they can remain competitive in the digital age. In this context, Lufthansa has developed a three-stage digital plan which is explained in more detail in the following.

The **first step of the digital plan** focuses on administration and the digitization of company processes and procedures. This allows Lufthansa today to save up to 20% of administrative costs by, for example, sending out wage and salary statements via email or replacing dockets in warehouses with data glasses. However, tapping digital potentials should not only reduce costs but also create greater customer loyalty and increased revenues through new products and services. It is this aspect in particular which the **second step of the digital plan** addresses. Here the focus is on the actual business model innovations in the form of digital goods and services (see figure 3). Above all, these are realized through more intensive analysis of customer data. The concept of the "virtual aircraft" refers to the maintenance business of the Lufthansa subsidiary "Lufthansa Technik". Here, data from approximately 800 airline customers and the experiences of mechanics are collected and used to predict wear and tear on parts and optimize maintenance cycles. Additionally, the travel and purchasing behavior of customers can be used as the basis for suggesting tailored additional services and extras. The cheapest offer for flights within the Lufthansa group can be shown automatically via a messenger service. Moreover, passengers can use the Lufthansa app to find their way through terminals or find the right baggage carousel after landing. Should a passenger's baggage go missing, the system automatically requests the missing data and offers vouchers or air miles as compensation. The **third step of the digital plan** consists of a digital business plan which targets the revenues of other companies (e.g. by offering hotels or expanding onboard entertainment systems to become sales platforms).

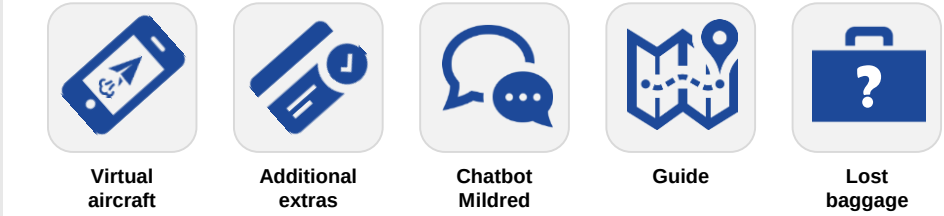


Figure 3: Digital service portfolio of Lufthansa (source: Kiani-Kress 2017, p. 42)

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