The following few pages present an analysis of the current business environment in many industries focusing on the phenomena of converging industries and commoditization, explain why Decision Model Innovation is one (of several) options to ensure that a company is still achieving sustainable competitive advantages in the future and finally show how to implement the concept through the establishment of a Data Value Chain-driven business ecosystems.

1. Converging Industries: The Business Environment in a Data-driven Economy

- “Industry convergence represents the most fundamental growth opportunity for organizations and will redefine industry boundaries by shifting the focus from individual products to cross-industry value experiences…” (Gartner Group 2014)
- “Cross-industry convergence will cause disruption to established business models” (EY 2016)

As Exhibit 1 shows, industry convergence is not a new development. Since the industrialization it has always happened in certain sectors but mostly at such a slow pace that it has been part of the ‘normal’ evolution of industries. The first notable description of industry convergence in the recent past has come from MIT (Exhibit 1) in the 1980s to describe the changes of what we call today the “media sector” (Telecom, IT, Entertainment).

At a macro-economic level, a similar convergence of larger sectors is currently happening between the medical, manufacturing and media sector (Exhibit 1). However, while this mega trend is certainly relevant for any decision maker to consider it is the developments at the industry level that matter for most senior executives when trying to keep their companies competitive.

Exhibit 1: Industry Convergence is not a new trend per se

Industry convergence affecting specific sectors today is different to earlier developments in two aspects.

- First, the speed that sectors today are converging is basically unprecedented.
Second, the geographical reach of converging industry developments is much larger than in the past.

Exhibit 2 shows an example of industry convergence in the insurance sector where insurers have realized that they classic business of risk coverage is not allowing them to sustain healthy margins and that other classic risk management activities become a ‘commodity’.

For this reason, insurance companies are increasingly investing into start-ups and companies that allow for new ways of risk prevention & mitigation as well as claim handling. For example, a company called “Lemonade” in the United States is completely changing how home insurance is offered:

The company’s co-founder Shai Wininger once said, “Lemonade is a tech company doing insurance, not an insurer doing an app” (Intelligent Insurer, 2017) [Industry Convergence]. Rather than filling in forms and making several phone calls to set up an insurance or even submit a claim, at Lemonade everything is processed through an app. To submit a claim, one simply needs to upload pictures of the required documents (e.g. purchase bill) and record a short video testimonial. A bot based on sophisticated algorithms reviews the claim and decides about it [Artificial Intelligence]. Consequently, Lemonade is the first of its kind to process a claim without the help of human. Moreover, Lemonade’s peer-to-peer approach makes them unique. When signing up for a home insurance one needs to choose a local social initiative one identifies with [Sociology]. Everybody who signed up for the same social cause is assigned to one community and all claims submitted by this community are paid out by the communities’ premiums. Everything which is left over at the end of the year is donated to the social cause. According to Lemonade, this makes its business less vulnerable to fraud since nobody wants to cheat on his social cause [Psychology]. www.lemonade.com

Exhibit 2: Industry Convergence Example: Insurance Sector

While these examples show how industry convergence is actually affecting industries, we have not yet discussed the underlying developments that cause such a fast and global industry convergence. Based on our analyses (University of St.Gallen, 2017), we see the following developments as decisive to understand the ongoing industry convergence (Exhibit 3):

- Robotics (Automation) in combination with Globalization
- Digitization
- Financial Crisis & Climate Change pushing the Sharing Economy (Access-based Business Models)
Exhibit 3: Three major Factors causing Industry Convergence

In short, Digitization including Social Media, Industry 4.0, Industrial Internet of Things etc. enables companies across industries to increasingly collaborate based on a common denominator – DATA. Robotics (Automation) in combination with Globalization allows companies to produce similar qualities around the world as production robots - e.g. developed and produced in Germany - allow companies to manufacture almost at the same quality level whether they are located in China, Brazil or Switzerland. This development also causes that more and more companies are locating their production facilities next to their major consumer markets because labour costs as part of the production costs matter less. Finally, the Financial Crisis and the ongoing Climate Change are pushing for different consumption models such as access-based business models changing the way people value brands, quality and customer experience.

These three developments (Digitization, Robotics & Globalization, Sharing Economy/Access-based Business Models) lead to what we call an increasing “Commoditization of Products and Services”. For example, the automotive sector has been among the first to both experience a massive industry convergence into the so-called mobility sector and to fully embrace the potential of robotics to harmonize their manufacturing processes around the world and locate their assembly plants next to their major sales markets. This development also allowed OEMs from emerging markets to catch up in quality levels and at least reduce the margins of established players in the BRIC countries. Similarly, the sharing economy is reducing the number of cars sold and, even more important, is disconnecting the actual mobility consumer from a specific car brand (e.g. a subscriber to a ‘premium’ car sharing service doesn’t care whether the car he/she gets access to for each ride is a BMW, Mercedes, or Audi).

In addition, digitization in the form of artificial intelligence, massive cloud computing or detailed digital maps and new data transmission standards allows for new forms of mobility such as autonomous driving. As a consequence of this “Commoditization of Products and Services” through industry convergence, companies face the problem to identify new ways to create customer value and sustain their profit margins in the future. Our suggestion is to think of “Decision Model Innovation” as one of these strategy concepts.
2. Decision Model Innovation (DMI) Concept

In the past, companies have created COMPETITIVE ADVANTAGES through product/service innovation, process innovation and business model innovation.

“In the operations [manufacturing] area, much of the innovation and cost savings that could be achieved has already been achieved. Our greatest focus is on business model innovation, which is where the greatest benefits lie. It’s not enough to make a difference on product quality or delivery readiness or production scale. It’s important to innovate in areas where our competition does not act – by developing new competencies, alliances, etc.”


However, with the rise of the DATA-driven economy/digitization, robotics & globalization and access-based business models, companies need to consider another form of innovation. In our observations of industries and our interactions with companies we have experienced that companies are increasingly struggling to find ways to differentiate their value proposition from competitors in converging industries due to the “Commoditization of Products and Services”. During the last decades, companies first focused on product innovation, later in combination with process innovation, and finally followed the concept of business model innovation (Exhibit 4).

We do not propose DECISION MODEL INNOVATION (DMI) as being a completely new model compared to business model innovation but differentiate DMI as follows from product, process and especially business model innovation:

- DMI emphasizes the importance of DECISION MAKING SUPPORT for your CUSTOMERS as the KEY VALUE PROPOSITION of your own company given the increased transparency that can be achieved in a DATA-driven economy.
- DMI emphasizes the importance of business ecosystems to integrate all necessary technologies required for improved DECISION MAKING SUPPORT for your customers = Decision Model Innovation.

Exhibit 4: Decision Model Innovation (DMI)

**How to DIFFERENTIATE your value proposition in Converging Industries?**

![Diagram](Source: Moser 2018)
In sum, DECISION MODEL INNOVATION...

- ...focuses on creating value for a company’s stakeholders based on the transparency that new developments along the data value chain provide (data gathering (sensor technologies), data transmission, data storage, data analytics, data visualization).
- ...provides a company with the opportunity to differentiate itself from competition in converging industries.
- ...requires a company to consider itself as a member of multiple ecosystems serving multiple customer segments with a different decision-making support value proposition.

3. DMI Implementation: Contextual Intelligence Platform & Business Ecosystem Development

The implementation of Decision Model Innovation is – simply put – based on three steps:

- **Step #1** (Exhibit 5): Trying to really understand the decision-making needs of your customers (with respect to their core operations).
- **Step #2** (Exhibit 6): Innovating the combination of new technological developments along the Data Value Chain.
- **Step #3** (Exhibit 7): Integrating players from your Business Ecosystem(s) to access the technologies you need to support your customers’ decision-making needs.

Step #1 requires that companies understand the new frontier in creating a relevant value proposition for customers facing converging industries and the commoditization of their products and services. It is NOT anymore (primarily) about the best branding (noise) or lowest costs (throwing products at customers) BUT to really focus on the decision-making needs of your customers and the transparency they need to improve their own decision-making in their core operations.

**Exhibit 5: Step #1: Understanding the Decision-Making Needs of your Customers**

**Decision Model Innovation:**

**Step #1:** Understanding the Decision Making Needs of your Customers.

![Image](image.png)

Source: Moser 2018

Step #2 is then combining different technologies along the DATA VALUE CHAIN to create exactly the kind of transparency that the customers require to improve their own decision-making. This combination of different technologies does often not require having an in-depth expertise of each technology but to be able
to re-combine existing technologies or integrate new technologies. This kind of thinking is often difficult to adapt for traditional companies and senior executives. However, Apple Inc. under Steve Jobs is a good example of how to be successful through an in-depth understanding of the (entertainment) needs of customers and the unique re-combination of technologies – from the iPod and the iPad to the Apple Store.

Dr. Moser is also engaged in several start-ups that are applying Decision Model Innovation as their primary guideline for their business model. None of the start-ups that he has been supported has developed any new (breakthrough) technology but each of them has uniquely combined new technological developments in different parts of the data value chain (Exhibit 6) to address specific transparency requirements (i.e. decision-making needs) of selected customer groups.

**Exhibit 6: Step #2: Innovating the Combination of New Technological Developments along the Data Value Chain**

**Decision Model Innovation:**

**Step #2:** Innovative combination of technologies along the Data value chain.

Finally (Step #3), companies need to learn to invest upfront into business ecosystems to access different technologies in a flexible manner without mastering each technology on its own. This advanced understanding of business ecosystems requires companies to apply a different kind of thinking and to proactively identify ‘critical components’ based on intelligence that only the company has (gathered and processed) (Exhibit 7).
Exhibit 7: Step #3: Integrating Players from your Business Ecosystem(s) to access the Technologies you need to support your Customers’ Decision-Making Needs

**Decision Model Innovation:**

**Step #3:** Integrating players from your Business Ecosystem to access the technologies you need.

*Source: Moser 2018*

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