



# DIGITALIZATION AS IGNITOR FOR BUSINESS MODEL TRANSFORMATION IN THE CHEMICAL DISTRIBUTION INDUSTRY

Dipl. Betriebswirt Stefan Roters, PhD Student  
Burgas Free University

**Abstract:** Digitalization is seen as one of the biggest megatrends in the 21<sup>st</sup> century. Companies in the industrial B-2-B value chain are entering into the new age of Industry 4.0 where corporations, interactions and processes become very smart. This is also true for the chemical value chain. Hereby digitalization will impact the chemical industry in three ways: (1) by improving the business processes of companies, (2) by optimizing existing and inventing new business models, (3) by changing power patterns in the chemical value chain. Chemical 3<sup>rd</sup> party distributors as integral part of this value chain navigate slowly through this digital journey to optimize internal operations whereas their customers, suppliers and e-commerce platforms move much faster. This research paper aims to shed light on the question how to manage the impact of digitalization on companies' business model and its operating model with focus on sales and marketing activities in the chemical distribution industry. Especially the success factors and challenges in terms of digital transformation will be explored.

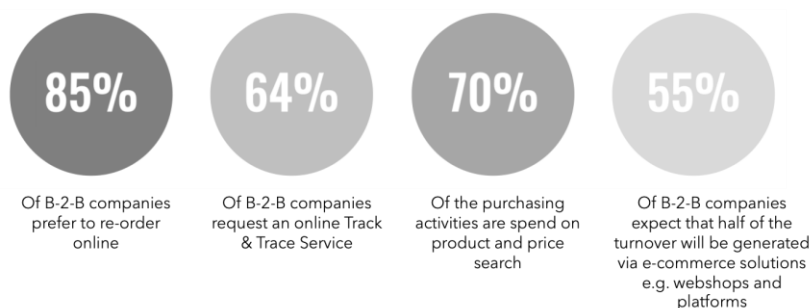
**Keywords:** Digitalization; Transformation; Business Model Innovation; Operating Model; Chemical Distribution

## Introduction

The value chain in the chemical industry is characterized by three main actors. The **chemical manufacturers** who produce the raw material, the various **3<sup>rd</sup> party distributors** who distribute the goods and the small and medium entities (SME) who use the chemical products for further production steps. The graphic below shows the distribution process in the chemical value chain and how it is organized today. (FECC, 2022) Chemical distributors as integral part of the chemical value chain are currently facing a significant impact based on digitalization. Basically the entire chemical value chain gets disrupted due to digital technologies, changing customer demands and new market players like e-commerce platforms who recently entered the value chain.



A representative survey developed and executed in 2020 by McKinsey, Simon-Kucher and Statista shows that 85% of B-2-B companies prefer to re-order their products online. 64% of B-2-B companies request online services like Track & Trace. 70% of the purchase activities of B-2-B companies are spend on online product and price search. Even more interesting is the fact that 55% interviewed companies expect that half of the future turnover in the B-2-B industry will be generated via e-commerce solutions e.g. online shops and platforms. 3rd party distributors need to react on changing market conditions and trends.



Almost all 3rd party distributors in the chemical industry somehow started their digital journey to increase efficiency and to differentiate themselves from competition. However, clear strategies and structured roadmaps verify among the various 3rd party distributors. There are some distributors who defined clear targets and started the transformation process whereas others have not considered on their digital journey yet. The way how to digitalize the business model of 3rd party distributors offers room for further research. Therefore, this industry paper will shed light on this area to understand the importance of digitalization for chemical 3<sup>rd</sup> party distributors. Especially the way how established business models and operational models are affected by digitalization, how new market players change the game and how 3rd party distributors need to react on these changing market conditions will be explored.

### **Research Methodology**

The aim of this research paper is to analyze the impact of digitalization on the chemical distribution industry and especially on business models. In this regard it is important to understand whether and how the digital transformation in this industry takes place, whether and how established business models as well as operating models are affected and what kind of success factors and challenges for chemical distributors come along. A mixed methods-approach has been used to analyze the relevant parameters in the evaluation phase. On the one hand an extensive literature review has been executed where various industry paper, case studies, business analysis and consulting reports have been reviewed. On the other hand, exploratory research via qualitative interviews has been conducted. Dedicated Business Experts have been interviewed to explore the impact of digitalization on the chemical distribution industry and to capture real insights from the market. The interviewed Business Experts hold senior positions at well-known chemical companies. They have multiple years of business experience in the chemical market. A comprehensive questionnaire of various dedicated questions has been designed for the interview sessions. Each qualitative interview lasted one hour to capture the relevant insights. Basis for the



design of the questionnaire are the below listed general research questions and their subordinate questions which consequently reflect the research gap in this industry:

**Primary Research Question:**

*How to manage the impact of digitalization on companies' business models in the chemical distribution industry?*

**Subordinate Research Question 1 on Business Model Transformation**

- *What are the goals based on strategy and structure to digitalize a business model?*
- *How to transform an existing business model to the digital age?*
- *What are the key success factors when transforming an existing business model?*

**Subordinate Research Question 2 on transformation of Operating Models**

- *How to successfully transform established Marketing and Sales processes?*
- *How to manage internal resistance and how to ensure digital readiness?*
- *How to orchestrate digital technology and services to optimize the outcome and to avoid cannibalism effects?*

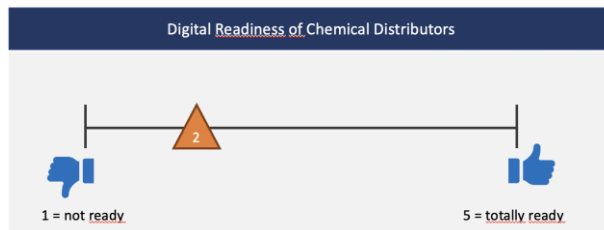
**Subordinate Research Question 3 on Business Model Innovation**

- *Is there a potential to design a business model innovation based on digital technologies in the chemical distribution industry? If so, how would this look like?*
- *In which areas of an existing business model could digitalization bring the most opportunities for sustainable growth?*

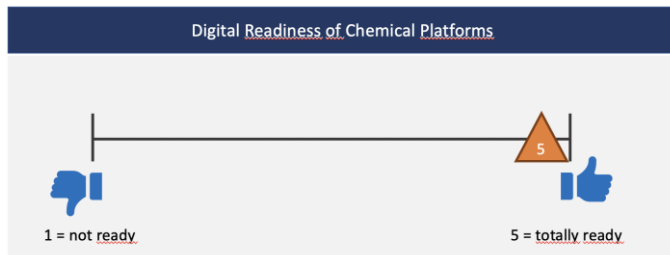
**Evaluation**

After the evaluation it turned out that digitalization is seen as highly important by chemical distributors as well as platform owners and therefore one of the most impacting mega trends in this industry. Most distributors see this impact as stimulator to shape their existing business model, whereas digital platforms have per definition a digital business model in place. Additionally, the selected distributors mentioned a huge impact of digitalization especially on the established operating model.

Most of the chemical distributors envision a frontrunner role in digitalization in the next 5 years. They strive to utilize digital solutions for sales excellence and process efficiency. Whereas the vision of platforms is to become the leading platform in EMEA and even on a global scale where customers find the right solution and the right distribution partner. The interviewed platform owners strive for growth and visibility in all areas of their business. Even though the impact and importance of digitalization has been ranked as very high, the real digital readiness and capability of chemical distributors is rather on a lower level. Chemical distributors shared a critical self-reflection and rated their digital readiness and capability with a value of 2 out of 5 (1 = not ready; 5 = totally ready).



Prio one for chemical distributors is still to protect the established business model and keeping it up and running. As mentioned above, digitalization is ranked as extremely important, but due to certain internal and external circumstances it seems to be challenging for distributors to get the digital transformation started in their organization. Most of the involved employees who have been nominated to support the digital journey in their organization have dedicated ongoing jobs in logistics, supply-chain, marketing or sales. Therefore, it is challenging to free up such resources who are capable, talented and empowered to drive digital solutions forward besides their daily business. Platforms rated their readiness and capability with a value of 5 which means that they are already fully digitalized. Digital readiness and capability are per definition in their genes and a substantial prerequisite of their business model. That means digital readiness and the related capability is a given fact for platforms. It could be observed during the interviews that talented employees of established chemical companies with a professional digital knowledge got hired by chemical platforms or even started their own business while setting up a new digital platform. Those talents are capable to combine both, the deep knowhow of the chemical industry with the digital mindset of start-ups.



When looking at the real transformation approach in the chemical industry, it turned out that distributors are rather hesitant to leave their comfort zone. They selectively start implementing digital solutions like online shops, mobile applications and e-auctions based on their internal capability. Even though distributors feel the pressure from manufacturers, customers and new market players like platforms, it seems that their focus is rather on quick wins and short-term solutions. This effect is especially true for smaller distributors and corresponds with the fact that chemical distributors don't spend enough budget for the digital transformation. The interviewed business experts confirmed that distributors only spend 2-3% of their annual turnover for the design of new online solutions and the digital transformation. When asking platform owners about the potential to create a business model innovation, they seem to be very ambitious. They envision to develop the existing platforms from a pure search engine to a multi-service market place where companies can connect with suppliers, order products, but also use other value added services like document management, financial services and advanced analytics. Platforms strive for becoming the new "Chemazon" of the chemical distribution industry. Whereas chemical distributors still believe in their traditional business model of distributing chemicals, filling bigger volumes into smaller quantities. They clearly feel the need to develop themselves and to transform their existing business model to the digital age. However, they do not see the development of a totally new business model.

The current business literature of the chemical industry and the evaluation results provided the same output with regards to growth aspects. Both methods echo that



Marketing, Sales and Logistic processes show the most relevant areas for digital improvements. Whereby the interviewed business experts also mentioned that pre-sales and after-sales processes offer a substantial field for digital improvements and growth. Especially the automation of the lead generation processes, cloud based campaign management and automated after-sales communication via chatbots is in focus. But the navigation of chemical distributors and external platforms on this digital transformation pathway is not as isolated as it seems to be. There is an interesting aspect that most of the well-known chemical distributors in EMEA have started to create their own front stores on external distribution platforms. Most of the distributors use this opportunity for promotion aspects and lead generation activities. However, the related processes and especially the connectivity of the systems behind those initiatives is still in the development phase. There is currently no end-to-end connectivity in place which enables an automatic order-to-cash process which is a prerequisite for platform users to fully utilize the benefits of a digital customer journey.

### **Conclusion**

The good news is, whatever digitalization is going to change, chemicals as building elements or as part of any a formulation or application will remain. Chemicals will continue to be the fundamental part of everything we use, consume or demand in our physical world. With regards to the future way of chemical distributors as part of the chemical value chain there is no black and white. On the one side it is unlikely that digitalization will predominantly promote digital business models like online platforms. On the other side it is unlikely that established chemical 3rd party distributors will totally disappear from the market. Whereby it is also unlikely that everything stays analogue like it was in the past. It is also part of the story that a poor business model that does not add real value to customer needs will not be saved by digitalization. Those weak organizations or change-resistant distributors will most likely disappear from the market. As indicated in the introduction of this research paper, the digital transformation in the chemical distribution industry has already started and will definitely influence almost all parts of the established business models and especially the operating models. Whatever can be digitalized, for sure will. Main focus in this digital transformation will be on marketing, logistic and sales processes. Most of these processes will be automatized and standardized to gain efficiency on all levels. In this regard, chemical distributors can learn from chemical platforms and online market places outside of this industry when transforming their existing business model. One key success factor which dropped out of the evaluation is the digital readiness. Chemical distributors need to get ready in terms of having the right resources and the right know-how available. They need to plan enough budget to implement the right solutions and not just the quick wins. Only organizations who establish the right infrastructure and have a centrally organized digital unit in place to coordinate the transformation approach will reach their goals. Lasts but not least, the human factor still remains crucial for chemical distributors on the way of transforming the business model. It is essential that distributors involve their employees in this digital journey. Employees need to understand the “WHY” and “HOW” to avoid internal resistance. Therefore, it is important to complement the execution of the digital roadmap with a proper change management process.

No matter, what individual benefit digitalization for distributors will bring, long-term success is still based on quality, consistency and trust. Distributors who can combine these relevant values of their traditional, analog business with the digital

aspects are able to fully utilize the benefits. Those who keep their waiting position will miss many of the arising opportunities and will either be claimed by the new digital platforms or fast moving and digitalized distributors who already know how to combine the established operating model with new digital solutions. As with all research studies, also this industry paper has its limitations. Not just the sources of industry relevant papers and articles are limited, but also the evaluation existing of eight qualitative interviews with business experts in EMEA has its limitations. There is still room for further research to broaden the research scope to other regions like North America or Asia Pacific and to understand how the digital transformation is impacting chemical distributors in those markets.

### **Bibliography:**

1. BCG, 2018. *Why Specialty Chemical Distributors Need to Raise Their Game*, s.l.: s.n.
2. BCG, 2020. *Innovative Chemical Distributors Gain a Digital Edge*, s.l.: s.n.
3. BISG, 2018. *The Publishing Industry's Blindspot: Technology Spending*. [Online]  
Available at: <https://bisg.org/news/411950/The-Publishing-Industrys-Blindspot-Technology-Spending.htm>
4. CEFIC Innovation; SPIRE cPPP Industrial R&I Advisory Board; PRACE HPC Industrial Advisory Committee, 2019. *Digitalization of the European Chemical Industry*, Germany: s.n.
5. Deloitte., 2019. *Business Transformation in the Chemical Industry*, s.l.: s.n.
6. Deloitte, 2017. *Digitalization in Chemical Distribution - Winners & Losers*, s.l.: s.n.
7. Deloitte, 2021. *Die chemische Industrie im Wandel*, Deutschland: s.n.
8. FECC, 2022. *FECC*. [Online]  
Available at: <https://www.fecc.org/about-chemical-distribution/>  
[Zugriff am 03 03 2022].
9. Grand View Research Inc., 2016. *Chemical Distribution Market - Market Estimates & Trend Analysis*, s.l.: s.n.
10. Grand View Research Inc., 2016. *Chemical Distribution Market Analysis And Segment Forecast To 2025*, s.l.: s.n.
11. Journal of Business Chemistry, 2018. *Digitalization, chemical distribution and the chemical value chain*, Germany: s.n.
12. Mayring, P., 2015. *Qualitative Inhaltsanalyse*. 12 Hrsg. s.l.:BELTZ.
13. McKinsey & Company, 2017. *Digital in chemias: From technology to impact*, s.l.: s.n.
14. McKinsey & Company, 2021. *Creating strong digital B2B channels at industrial companies*, s.l.: s.n.
15. McKinsey & Company, 2022. *How distributors can self-disrupt to win in the new digital world*, s.l.: s.n.
16. Schneider, F. & Hay, G., 2019. *FECC*. [Online]  
Available at: <https://www.fecc.org/about-chemical-distribution/>  
[Zugriff am 03 03 2022].
17. SPIRE cPPP Research and Innovation Advisory Group, 2019. *Digitalization of the European Chemical Industry*, s.l.: s.n.