

IMPULSE

Germany's evolving platform landscape

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Impulse: Germany's evolving platform landscape

This impulse presents the current status of discussions within Plattform Industrie 4.0's Working Group on Digital Business Models. It is meant to serve as a basis for further discussions and cannot be considered final.

Germany and the global platform revolution

Platforms have become an increasingly hot topic in business, industry and beyond. In 2018, the list of global top ten firms by market capitalization is dominated by companies with platform-based business models with more than 80% of the market share. Large parts of this global platform revolution have occurred in the B2C sphere, where platform companies have established marketplaces at the intersection of demand and supply, centralising control over the customer interface in a winner-takes-all fashion (e.g. Amazon). The front-runners during this earlier round of platform development were firms predominantly based in the United States and China, while Germany as Europe's leading economic powerhouse has taken a back seat despite its multitude of world-class companies.

Platform competition is currently increasing in the B2B sphere – with even higher stakes for the German economy which heavily relies on the international market presence of its advanced industrial sector. Whether the German economy will be able to maintain and expand the strength and international influence of its industrial base will partially depend on the success of its leading B2B firms in harnessing the power of platforms. How well though are German companies prepared to respond to the opportunities and threats in the platform economy? Will they continue to follow suit as companies from the United States and China assume leadership positions, or will they be able to proactively shape markets based on advanced platform-based

and data-driven business models? And finally, is there an indication that the B2B platform landscape will mirror the platform business models we see in the B2C space?

To better understand Germany's evolving landscape and company responses, platform initiatives pursued by Germany's top companies by revenue were analysed, supplemented by an analysis of the country's most successful start-up companies in terms of secured funding. To what extent, it was asked, do German companies engage in platform-based business models? What kinds of services do they provide and what kinds of revenue models do they apply? What is the distribution of platforms among industries and the proportion of B2B and B2C platforms? What kinds of value do the platforms create for owners, suppliers and end-users?

We start with an overview of basic metrics regarding Germany's platform landscape such as industry distribution, geographical spread or variances in revenue models. We then zoom into the structural differences among platform initiatives with a focus on how network effects are employed to achieve business model scalability. After that, we analyse value creation by German platforms as well as models for value distribution among platform participants. The impulse paper concludes with a summary of findings and an outlook regarding future opportunities.

Germany's platform landscape – an overview

The data on Germany's platform landscape displays several noteworthy trends that provide valuable context for understanding how German companies are using platforms to position themselves in shifting competitive environments.

Industries, revenue models and company size

Among the analysed sample of 370 companies, 188 platforms were identified.¹ The largest numbers of platform

¹ The sample includes Germany's 250 largest companies by revenue based on the Top500 list provided by *Die Welt* (2017 edition). In addition, the ten largest banks as well as the ten largest insurance firms were analysed. Finally, the list of Germany's top 100 start-ups based on funding as provided by *Crunchbase* (2018 edition) was analysed.

initiatives currently operate in the travel, transport & logistics segment, followed by the consumer & retail sector. The third most popular industry for platform endeavours is the automotive sector, including platform services ranging from vehicle connectivity and fleet management solutions to automobile marketplaces.

Platforms have remained a prerogative of large companies. The country's 50 largest firms by revenue accounted for nearly half of all single-owner platforms while smaller companies being less active. Smaller companies were also less likely to enter into platform partnerships with other firms.

In terms of revenue models, the most common approach involved commission payments to the platform owner, particularly among online marketplaces that tend to charge

for transactions between buyers and sellers. Subscription and pay-per-use models also featured heavily in the dataset and reflect a trend towards usage-based payment options among platforms.

Market orientation: B2B as the key area

In terms of market orientation, nearly half of all platforms in the sample had a B2B focus, while about one third were based in B2C. Most of the remaining platforms followed a mixed B2B/B2C approach. The strong representation of B2B platforms is mainly due to the high number of mechanical and plant engineering companies among Germany's top firms, but also points to the strengths and opportunities for German industry in the field of B2B platforms.

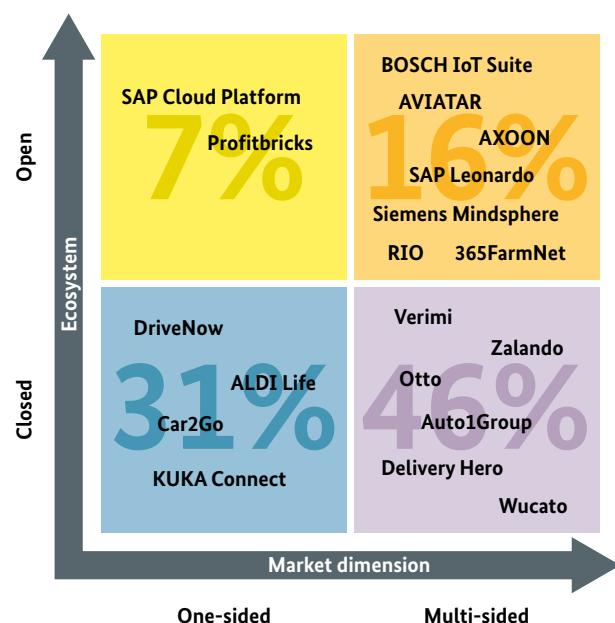
Are German platforms designed to succeed?

Platforms are designed to orchestrate an ecosystem of resources and players and function as catalysts for business adaption and scalable growth. The driving forces underlying scalable platform growth are network effects – the mutually reinforcing interaction of different types of platform participants in which any additional user of a product/service directly enhances the value of said product/service to others. The “multi-sidedness” of market interactions between platform owners and different types of end-users sets successful platforms apart from more traditional “one-sided” business models that neglect the power of network effects and are hence limited to linear growth. A second important driver of network effects among platform-based business models is the level of openness to the participation of third-party contributors such as external content providers or software developers building applications that enhance user experience. *Figure 1* shows how platform initiatives of Germany's largest companies are distributed across these two important dimensions, providing examples for each category.

Only a minority (16%) of platforms in the sample were found to be both multi-sided and open to developers and therefore, by design, allow for scalable growth via the utilisation of network effects. This “platform sweet spot” is largely occupied by industrial IoT platforms which support the automation of production in industry (e.g. Bosch IoT Suite, Siemens MindSphere). These types of platforms digitally connect machinery from different manufacturers

and allow for the utilization of data-based ‘smart services’ that may be provided by third-party developers as part of a platform's ecosystem. A key challenge remains the development of a critical mass of platform users in a currently rather fragmented market for IoT solutions.

Figure 1: Platform market dimension vs. ecosystem openness



Only selected companies are listed in the figure.

Many platforms in the sample (46%) allowed multi-sided interaction between different types of platform users while not providing an open interface for third-party developers or other external content providers. Many platforms in this category are simple online *marketplaces* that match supply and demand for goods or services. Compared with other platform archetypes, marketplaces carry a low risk factor for platform owners due to lower investment requirements and lower management costs associated with comparatively simple ecosystems. Incidentally, marketplaces form the most common platform archetype in the sample, driven by the ambitions of numerous retail companies to transform their e-commerce channels into marketplaces with platform dynamics.

Finally, nearly a third of all platforms (31%) analysed as part of the study were found to be both one-sided in their market outreach and closed to third parties. These initiatives

are mostly marketed as platforms by their mother companies but tend to lack some of the core characteristics of platform-based business models: they obstruct ecosystem development and forego the utilization of network effects. One important archetype in this category is the *mobility platform* providing services via its own infrastructure such as electric vehicle charging stations (e.g. ChargeNow) or car fleets (e.g. Car2Go). Another important platform type in this regard is the *IoT application* that often encompasses a technological platform component for data handling but that neither allows for the interaction between different end-users utilising the same IoT application nor for the interoperability of machinery built by different manufacturers and used within the same production line. While often located at the forefront of technological development and marketed as platforms, the business models associated with many IoT applications by default stand in the way of scalable growth.

How do Germany's platforms create value?

Value creation by Germany's platforms was analysed, as well as the distribution of value across the associated value networks. The main participants in these value networks were the platform owners/operators as well as the platform's end-users/buyers. In the case of multi-sided platforms, platform suppliers such as market place sellers or third-party software developers also played an important role.

From the perspective of platform owners, the most common value proposition is to provide revenue either as an

additional sales channel or as a substitute for existing sales channels. Other platforms that do not immediately generate revenue are used as sources for monetizable data or as vehicles for brand enhancement. To succeed in the market, platform owners must ensure that all participants, including all types of suppliers and end-users, also benefit. Suppliers and third-party contributors, if part of the ecosystem, are to benefit from new digital sales and advertising channels and to quickly reach the market with their products or service offerings.

Conclusion and outlook

Over the last few years, German companies have successfully established a wide variety of platforms competing across all major industries and providing services that range all the way from advanced digital solutions for device connectivity in industrial production to the optimisation of C-part procurement and the provision of identification services for secure online payment. While the range of endeavours is impressive, only a minority of platforms are designed to make full usage of the advantages and opportunities that platform-based business models offer. Most platform initiatives scrutinised as part of this research do not fully harness the power of network effects by strictly protecting the customer interface not only from potentially

harmful competitors, but also from helpful co-operators that could improve the end-user experience by providing valuable third-party services. The prevalent mindset of "platform protectionism" and risk aversion stands in the way of creating business models with truly disruptive impact on existing market structures. This trend may be partially explained by the fact that Germany's platform landscape is dominated by B2B platforms – a realm in which protectiveness of sensitive data is much more common and necessary than in the B2C sphere where end-users rarely hesitate to provide platform operators with personal data if the services received in return are deemed worthy.

As the B2B market remains much more fragmented than the comparatively integrated and increasingly saturated B2C platform playing field, the B2B market will continue to provide ample opportunities for Germany's world-class industrial firms to gain further international market share through platform development. Furthermore, the winner-takes-all premise of the B2C world only partially applies to B2B, as domain-specific knowledge plays a key role and as companies have thus far been much more reluctant to join competitors' platform ecosystems. This will likely allow

for the coexistence of multiple winners with strong industry-specific business models and varied portfolio offerings. Especially companies from Germany's highly competitive plant and mechanical engineering field will have the opportunity to expand their global reach via industry-specific platform initiatives – if they place greater focus on interoperability, deliver enhanced connectivity across value chains and provide secure channels for data exchange between platform ecosystem participants.

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