

In the “Trusted Health Ecosystems” project we are creating a concept and a product vision for a national health platform of the future. This text is part of the overall concept which is published at [www.trusted-health-ecosystems.org](http://www.trusted-health-ecosystems.org).

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## Ecosystem design: Benefits for all

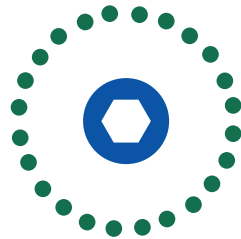
**To thrive in today’s market, digital platform operators need to consider the interests of all ecosystem participants. By delivering benefits and creating advantages for everyone involved, they can unlock the potential of network effects and scalability. This principle holds true even for a non-profit national health platform.**

In successful systems, the user journey or customer journey is designed to ensure optimal satisfaction at every interaction. Each touchpoint is intentionally crafted to meet users’ and customers’ needs as much as possible. It’s no surprise, then, that successful providers tend to prioritize user and customer orientation when developing a new system or service.

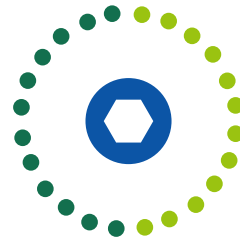
When examining new digital business models that operate on platform-economy principles, determining the precise identity of “the customer” can be challenging. Digital ecosystems like Airbnb, Uber and Schüttflif serve as virtual marketplaces that facilitate the exchange of various “assets” such as overnight accommodations, transport and bulk goods by ecosystem operators. More often than not, these platforms function as multi-sided marketplaces, commonly comprising two sides and occasionally incorporating three or more.

In each digital ecosystem, some ecosystem partners (providers) offer products and services (assets), while others consume these assets (consumers). For example, Airbnb brokers the exchange of overnight accommodations (asset) between private hosts (providers) and travelers (consumers), while Uber brokers transportation services (assets) between private drivers (providers) and passengers (consumers).

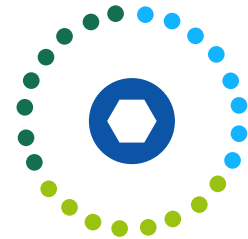
## Different constellations of partner types in digital ecosystems



**All partners of the same type**  
e. g., Parship, WhatsApp  
(Rare constellation)



**Providers / Consumers**  
e. g., Airbnb, Uber  
(Most frequent constellation)



**Multiple partner types**  
e. g., Foodora, Schüttflifx  
(Rare constellation)

Source: Dr. Marcus Trapp, Dr. Matthias Naab

Trusted Health Ecosystems

The vision of a national health platform presented here follows a similar principle, enabling the brokerage of digital information and services between providers and patients.

For ecosystem designers, the diversity of participants and multi-sided market-places involved in such an environment can have far-reaching implications. It's easy to focus solely on the consumer journey, but they would do well to pay just as much attention to providers as to consumers and equally prioritize their respective needs. The very thing that attracts consumers to a digital ecosystem is its large number of providers; conversely, an ecosystem's attractiveness for providers will also grow as the number of consumers increases.

## Balancing participants' interests

Patients take center stage in the national health platform presented here. In other words, benefits for patients will always be the highest priority. Through the curation and consolidation of information and services, the platform seeks to foster health literacy, streamline information management and empower patients to actively engage in their treatment journeys.

However, the only way to actually achieve these vital patient-centric benefits is to make certain that providers of healthcare information and digital services also actively participate in the ecosystem. Consequently, ecosystem operators must ensure an optimal provider journey, one that is as seamless and beneficial as possible. This inclusive approach treats all partners equally, fostering incentives for every participant within the ecosystem.

## Voluntary, not coerced participation

The importance of generating benefits for all participants within an ecosystem stems from the fact that participation is voluntary and no one can be forced to join. Even if it were possible to enforce participation, such as through government authority, experience has shown that this approach is generally ineffective. Those individuals and / or entities forced to participate often find ways to delay processes or obstruct them in some other manner. Conversely, when all participants derive benefits from their participation, this usually leads to good outcomes.

The benefits gained from the ecosystem need not be solely monetary in nature. Other advantages, such as access to a larger market, increased visibility of products and services, and access to key data and analytics, can sometimes be more valuable to participants than short-term financial gains. In a best-case scenario, the advantages accrued by one participant would lead to further benefits for patients. For example, healthcare service providers would greatly benefit from accessing contextual information, enabling them to customize their services to better meet the needs of their target groups.

## Holistic digital ecosystem design

When digital ecosystems emerge, they typically don't introduce entirely new services, but rather utilize their own digital ecosystem service to offer a vastly improved experience in ways that revolutionize entire industries. They usually achieve this improvement by cleverly exploiting digital opportunities in ways never seen before in that sector.

For instance, digital platforms for booking accommodations existed prior to Airbnb's launch, and transportation services were already being organized before Uber was founded. However, Airbnb and Uber have offered participants so many advantages and so much added value that they have both significantly transformed their respective markets.

The art of creating a digital ecosystem lies in implementing a holistic design that takes into account the interests of everyone involved. As these ecosystems usually enter an already established market in its respective business domain, it is important to carefully consider which benefits can be created for all relevant participants so that they are sufficiently motivated to participate in the ecosystem. This step is critically important when considering the design of a national health platform, especially given the partially regulated nature of the healthcare market and the presence of strong, established players.

The introduction of a new ecosystem will undoubtedly transform existing healthcare structures and processes. It's important to acknowledge that not all changes will be universally beneficial, and some market participants may perceive them as

disadvantages. Additionally, there is a risk that the governing organization may exploit its position of power, seeking exclusive benefits from the platform. Such a scenario would undermine the motivation of all other participants and thus endanger the platform's success.

## Ecosystem design in practise

In developing the vision for the digital ecosystem presented here, we adopted a methodological framework that ensures a holistic design and integrates the interests and needs of all participants. In order to gain an overview of the status quo, our first step was to assemble and prioritize the actors relevant to the ecosystem. After that, we conducted anonymous interviews with representatives of these participants. We also reviewed publications and analyses and obtained expert assessments, all in an effort to gain a better understanding of the needs, issues and challenges facing individual actors.

In order to ensure that the ecosystem outlined here generates sufficient benefits to motivate potential participants to actively engage with the system, we created a so-called Motivation Matrix (Nass, Trapp, Villela 2018). (Nass, Trapp, Villela 2018). Our first step was to examine what benefits each individual actor would garner from the introduction of the national health platform, but also to determine

### Tangible Ecosystem Design (TED) method

Digital ecosystems are significantly more complex than software systems operating under the control of a single company. The implications stemming from technology, business, and legal aspects are notably harder to anticipate when designing products and services that will be exchanged across multiple companies and sectors.

The multitude of diverse participant categories results in complex relationships, making it challenging to assess the impact of even the slightest change on the entire ecosystem. This is what makes it so challenging – especially in the design phase – to get a “big-picture” overview of the ecosystem. The big picture, however, is the most important tool when communicating with potential participants about diverse aspects (business, technology, legal) and seeking to form a common understanding as quickly as possible.

The “Tangible Ecosystem Design” method takes on precisely these challenges and encourages cooperation in the process of defining, designing and analyzing a digital ecosystem. Participants take part in workshops where they model a digital ecosystem using Playmobil® toys and other templates, all of which serve to make the concept more tangible and provide hands-on experience in the true sense of the word.

how they could contribute and / or what role they could play in the ecosystem. In addition to benefits and incentives, we also discussed the possible disadvantages that individual actors might encounter as a result of the implementation of the ecosystem and its platform, including disadvantages both real and imagined.

As mentioned above, a benefit analysis highlights more than just monetary gains, chiefly because the idea of benefits can take on so many forms. By drawing on the Motivation Matrix throughout the entire concept-development process, we were able to determine the extent to which the anticipated expectations of various actors interested in participating in the ecosystem could be fulfilled. If and when the expectations of key actors were not met, we redesigned the ecosystem accordingly in an iterative process. The result is a benefit models associated with the national health platform presented here. This model makes one thing quite clear: even in a healthcare system characterized by diverse authorities, significant diversity and special interests, it is possible to craft a vision that generates added value for all participants while also creating tangible benefits and generating welfare effects.

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## Dr. Marcus Trapp and Dr. Matthias Naab

Dr. Marcus Trapp and Dr. Matthias Naab, co-founders of Full Flamingo, an eco-tech startup, aim to leverage the power of the platform economy for the greatest possible impact on sustainability. Before 2022, they held senior executive positions at Fraunhofer IESE, where they played a pivotal role in developing and overseeing the field of “Digital Ecosystems and the Platform Economy.”

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