
Essay on the future of banking

Why traditional banking doesn't matter anymore

New digital platforms

New microservices

New business models



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Why traditional banking doesn't matter anymore

Traditional banking giants with siloed value chains will lose customer relationships through digital ecosystems at a significant pace in the near future. These banks can only remain competitive by establishing digital business models. This requires the integration into digital platforms, a superior customer experience, the unbundling of core banking, and the provision of microservices incorporated into other industries' process chains.

Indeed, it is astounding that very well-known banking giants will soon lose a significant portion of their customer relationships and business. Some banks will even disappear. Consider this comparison: The mobile banking fintech N26 in Germany (founded 2014) already has a valuation of 3.5 bn\$ with approx. 3.5 million customers and 1,600 employees (per 07/19)*. N26 claims their success to be based on having "the best banking experience in the world"*, which investors obviously honor. In contrast, many Eurozone's top banks meanwhile have a market capitalization below 10 bn\$**, a base of 10 to 30 million customers, and up to 100,000 employees.

Other fintech examples are Chime, Atom, Revolut, or Monzo. Besides, there are additional threats coming from tech giants like Google, Facebook, and Amazon who are already working on their own financial services products.

Regulatory frameworks that no longer protect the legacy business are making this situation even "worse". Renewals of regulations like PSD2 and PSD2 XS2A or the Open Banking Framework in the UK are the door openers for new business models in financial services. This would have been unthinkable in the past, and we are now facing the tipping point of this development in 2020.

The question of how technology trends might have an impact on banking business models has often been raised. Here we will look at how banking business models will evolve in the near future and, consequently, how technology, as the source of true disruption, must support this development. In the following chapters we take the focus on:

- ▶ **The paradigm shift in banking**
- ▶ **The main technology principles needed to stay relevant**
- ▶ **Essentials for the way forward**

* Source (in USD): <https://n26.com/en-eu/blog/series-d-funding-announcement>

** Source (in Euro): <https://www.kieconomics.com/eurozones-top-banks-by-market-cap/>

The paradigm shift in banking

In the following figure you see an overview of the paradigms illustrating how the financial services market will develop and an outlook in terms of business model evolution.

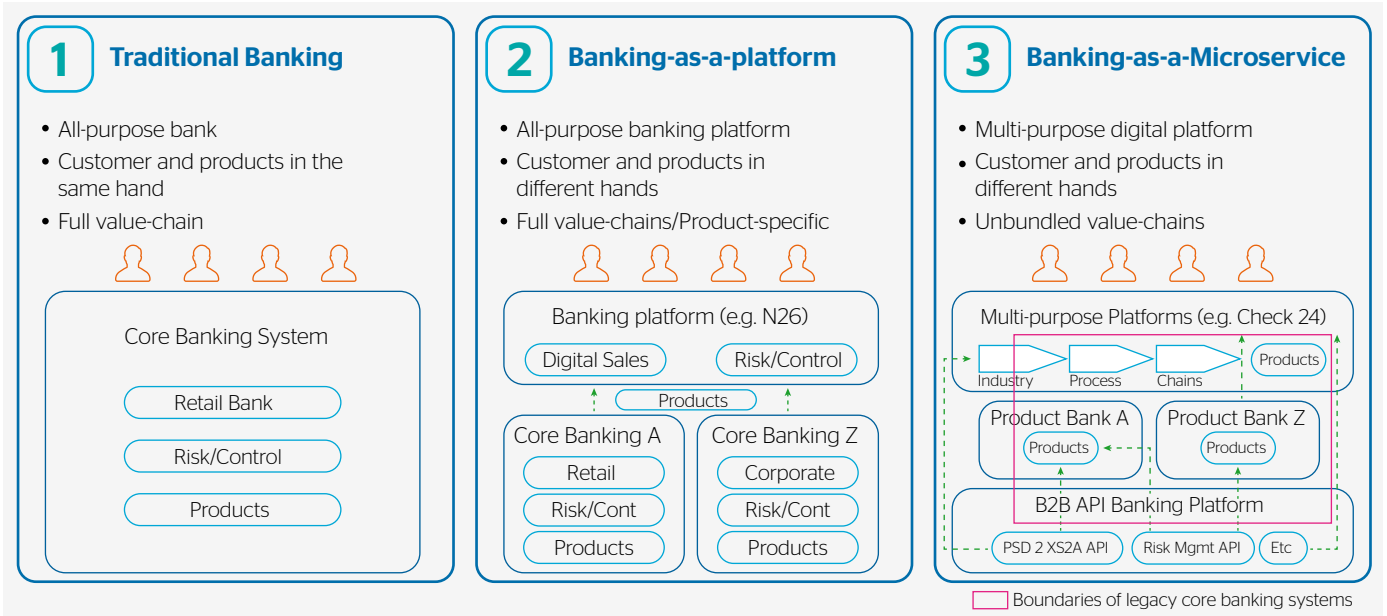


Figure 1: From traditional banking to digital platforms and microservices: Customers can select from various banking service providers and have a better customer experience using digital platforms.

The past paradigm “Traditional Banking”

We see the traditional all-purpose bank with a full value-chain. The bank offers products like loans, deposits, etc., and take the primary responsibility for risk management and selling of products to private and business customers via retail banking channels. On the IT side all the processes are backed by huge legacy core banking systems.

The current paradigm “Banking-as-a-Platform”

We already experience the first customers wandering off to digital platforms. Most products are still coming from traditional banking giants with their full value chains and legacy core banking systems. However, they have already partially or completely lost their customer connection to digital players. Fintechs like N26 initially used white-labeled core banking systems and products behind the scenes. Furthermore, they concentrated on a very small product spectrum in the beginning (deposits and credit cards for N26), with their main differentiator being superior customer experience.

Digital banking platforms continue to enhance their product spectrum in partnership with traditional banks and other product-specific fintechs. In parallel, they also start building their own core banking environments. However, new core banking systems are already being implemented within a composed banking framework using microservices and APIs from different vendors (e.g., Mambu for N26). By doing so, these digital banking platforms keep their superior agile and flexible customer interface even in periods of growth. Meanwhile, traditional banks are losing more and more clients as young consumers and business customers no longer stick to traditional channels. In 2020, the current paradigm will become even more established as a standard model in the market, as we already move to the future paradigm.

The future paradigm “Banking-as-a-Microservice”

We initially expect two further ways in which customers contacts are lost (disintermediation). Multipurpose platforms will replace the specific banking platforms of the current paradigm.

These platforms will probably arise out of digital platform giants like Google, Amazon, or Facebook, or from enhanced banking platforms like N26. This is comparable to what we saw with Amazon, who rose from being a pure book seller to a multipurpose retail platform.

Banking services will evolve to built-in microservices or additional services along with many others on a multipurpose platform. Some experts refer to this scenario as context banking. Alibaba Group with their affiliate Ant Financial is probably the best example and underlines the importance of big techs in this development. What started as payment services on the Alibaba platform has led to external services like mobile wallet, virtual credit cards, digital consumer loan services, credit scoring, and finally to MYbank, a cloud-only bank.

In the next step, we will realize that financial service products like payment cycle solutions are very deeply integrated into other industries’ value chains.

While most of the traditional factoring and B2B payment cycle solutions still work with a lot of manual and interrupted processes, fintechs like Billtrust.com in the U.S. and Billie.io in Germany have developed true benefits like decreased order-to-cash costs through digitization. B2B invoicing, receivable management, dunning, and liquidity management are fully automated and integrated into cross-company value chains via APIs.

Simultaneously, we will realize that traditional value chains in financial services companies are completely unbundling.

On the one hand, this is simply an imperative as banking products and processes must be unbundled as microservices (technically APIs) to be incorporated into multipurpose platforms and industry value chains. On the other hand, this is a necessary foundation for lowering time-to-market as well as costs.

Without unbundling their value chains, financial services corporations will no longer be able to provide their products and services in the required agile and flexible manner at reasonable cost in the future.

As in any other industry facing the need to unbundle value chains (e.g. automotive), we will see a further rise in specialized, second-tier providers, who offer banking processes and functions via micro services (APIs). Those B2B banking API platforms will provide 90% of the future banking value chain in terms of basic functions like customer management, account management, deposits management, regulatory interfaces, risk modules, etc.

Product banks, fintechs, and digital platforms will only make up 10% of the value chain on top of the standardized microservices themselves which are crucial for their unique services, i.e., their USP.

The main technology principles needed to stay relevant

How are traditional banks or fintechs able to shape this new future?

The main challenge of traditional banks in the new scenario is to define their role within new multipurpose digital platforms. This is completely contradictory to their current business model. Let's have a look at the four principles necessary to stay relevant:

Defining the banking digital platform business model

As digital platforms replace major parts of the traditional bank's value chains, we need to take a comprehensive look at the bank as a whole and thoroughly analyze what might be the best future business model in the specific customer, competitive, and regulatory

context. The Business Model Canvas method is the most accepted tool to describe a new business model in the context of disruption and to point out the very specific value proposition in order to make a company successful and sustainable for the future.

Figure 2 provides an example of such a future Business Model Canvas for a financial services provider focusing on payment transaction services, e.g., Wirecard in Germany. The key characteristic here is that this player, let's call him "Payment Bank", doesn't have his own digital platform, but nevertheless is playing a very vital role in other digital multipurpose platforms.

Payment Bank started with white-label banking and other white-label services seamlessly incorporated into a retailer's digital selling processes. The superior customer interface and low attrition rate in the payment process made them very successful. Meanwhile, Payment Bank disaggregated their services into microservices, available through APIs. By doing so, retail and industry customers can use the payment transaction services on the very low level of their process, leveraging their own future as-a-service business models. This is the main differentiator in Payment Bank's value proposition.

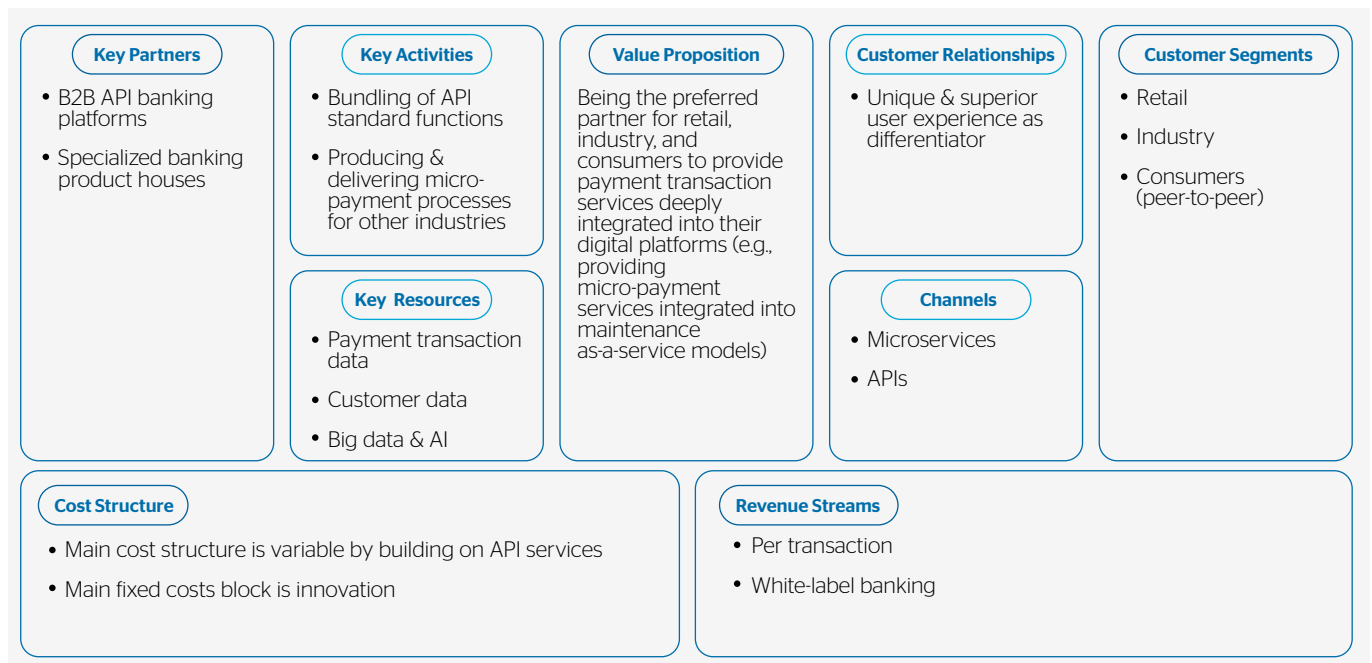


Figure 2. Example of a Banking Business Model Canvas - business model of Payment Bank: Payment Bank's business model is comprehensively arranged to provide payment transactions deeply integrated in other industries' digital platforms.

Superior Customer Experience

Even considering such important factors like products and services, functionalities fulfilling business requirements, and digital ecosystem integration, how you deliver to your customers becomes more and

more important in the digital age. They are already pretty satisfied with the world-class customer interfaces of digital leaders like Google, Facebook, and Apple. The quality of the customer experience really makes the

difference. Providing a barrier-free, intuitive customer interface, world-class functions at a fingertip, and a seamless customer journey will entice customers to test new digital platforms and to stay with them in the future (see figure 3)..

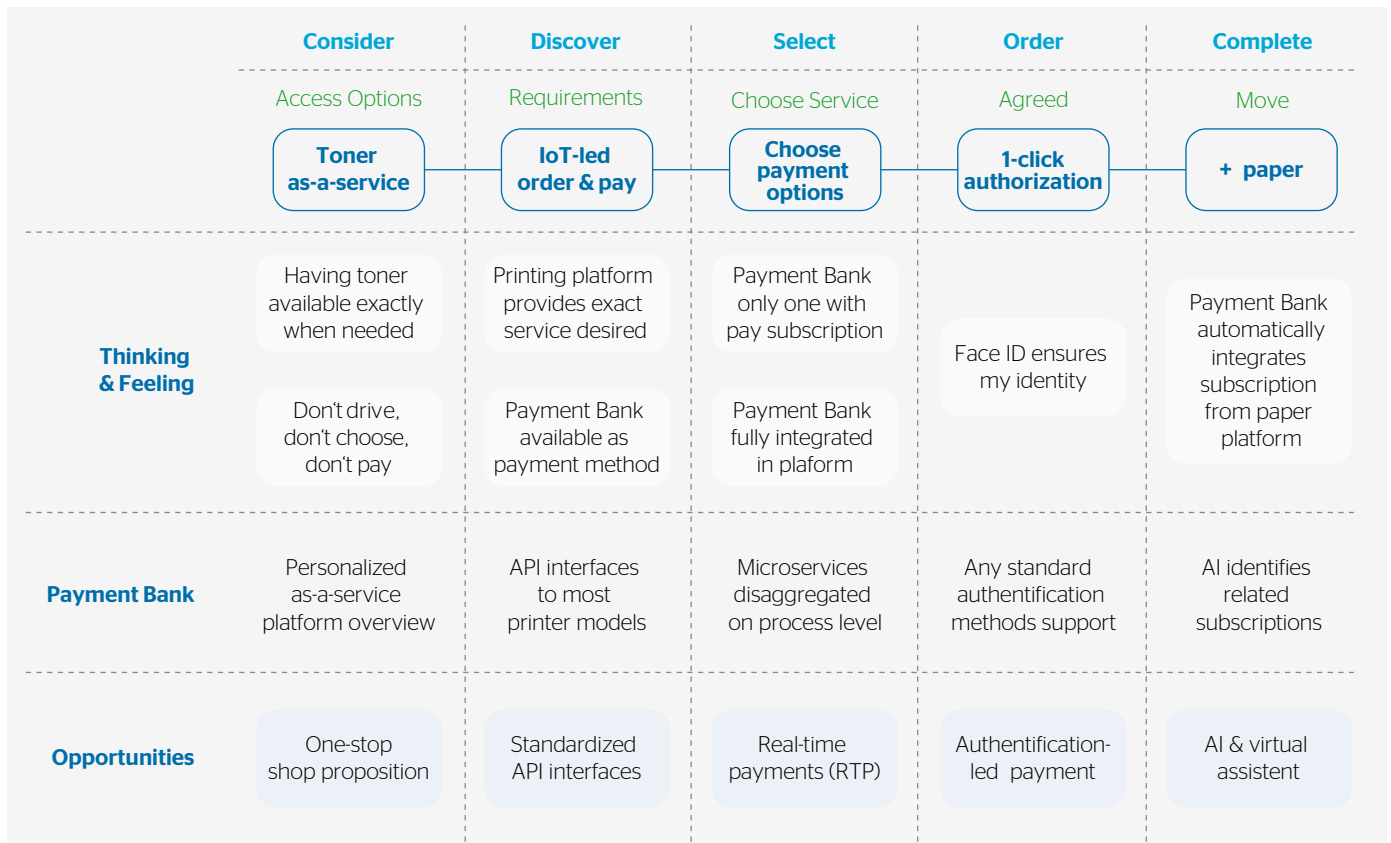


Figure 3: Payment Bank's customer journey map as part of a digital printing services platform:

A customer Journey fully aligned with Payment Bank's value proposition: Being the preferred partner for consumers to provide payment transaction services deeply integrated into their external platforms

Based on customer journey projects with our most successful customers we concluded that the following five characteristics of superior customer experience are key:

- Customer strategy: Connecting the core elements of your business model with customer experience, based on a clear vision and aspiration statement
- Customer centricity: Seeing your company and products with your customers' eyes
- Customer journey: Creating a seamless end-to-end experience, rather than loosely connected touchpoints
- Customer context: Providing a customer experience right where your customers are present most of the time, e.g., Facebook, LinkedIn, etc.

- Customer analytics: Effectively measuring the root causes. Technology combined with huge amounts of data gives you the ability to identify even small differences with a great impact and let you move with speed and agility

Banking microservices incorporated into other industries' process chains

Let us now follow the idea of incorporating banking microservices into industries' process chains with a typical customer of Payment Bank: Fastener Inc. produces stud-bolts for fittings and flanges in refineries, which are not delivered as products anymore, but as an as-a-service model. That means the customer will not pay for the stud-bolts themselves, but rather for the

monthly service to ensure that the stud-bolts are still sitting tightly in the fitting. Sensor technology (IoT) integrated into the stud-bolts and predictive maintenance functions will send information to the central data platform, if the stud-bolts are no longer sitting tightly. In this case Fastener Inc. receives a maintenance note to replace a stud-bolt which then happens along automated processes through Fastener's maintenance team. Parallel to the "not tightened" signal, the Payment Bank's payment system first receives a "no payment" status. The monthly invoicing and payment processes to the customer is interrupted and will automatically restart after the stud-bolt has been replaced. The IoT systems within the stud-bolt posts a "tightened" status again.

These new business model obviously require payment and invoicing cycle solutions deep incorporated into the maintenance processes of those refineries (micro services).

As an example, here is an illustration on the platform concept developed by the author in Germany.

Imagine that the invoicing and payment processes automatically start at exactly the moment when new stud-bolts are going to be implemented and turning green in the IoT system, without any bank manually appearing in the whole payment process.



Figure 4: Payment transaction services deeply integrated into an oil & gas maintenance platform
Payment Bank's payment transaction service is automatically released via IoT and API interfaces after the stud-bolt has been tightened.

Unbundling Core Banking

Any manager in operations or IT of a traditional bank may confirm that unbundling core banking and preparing the IT architecture for the future in banking is one of or probably the most prominent challenge. A lot of traditional banks have already failed with projects to replace their core banking system or even worse their multicore banking landscape. The main question is how to start early and quickly with investing into the new paradigm of digital platforms and microservices while simultaneously replacing or at least preparing to replace the core banking system. Figure 5 will give us an answer on that single and most important question.

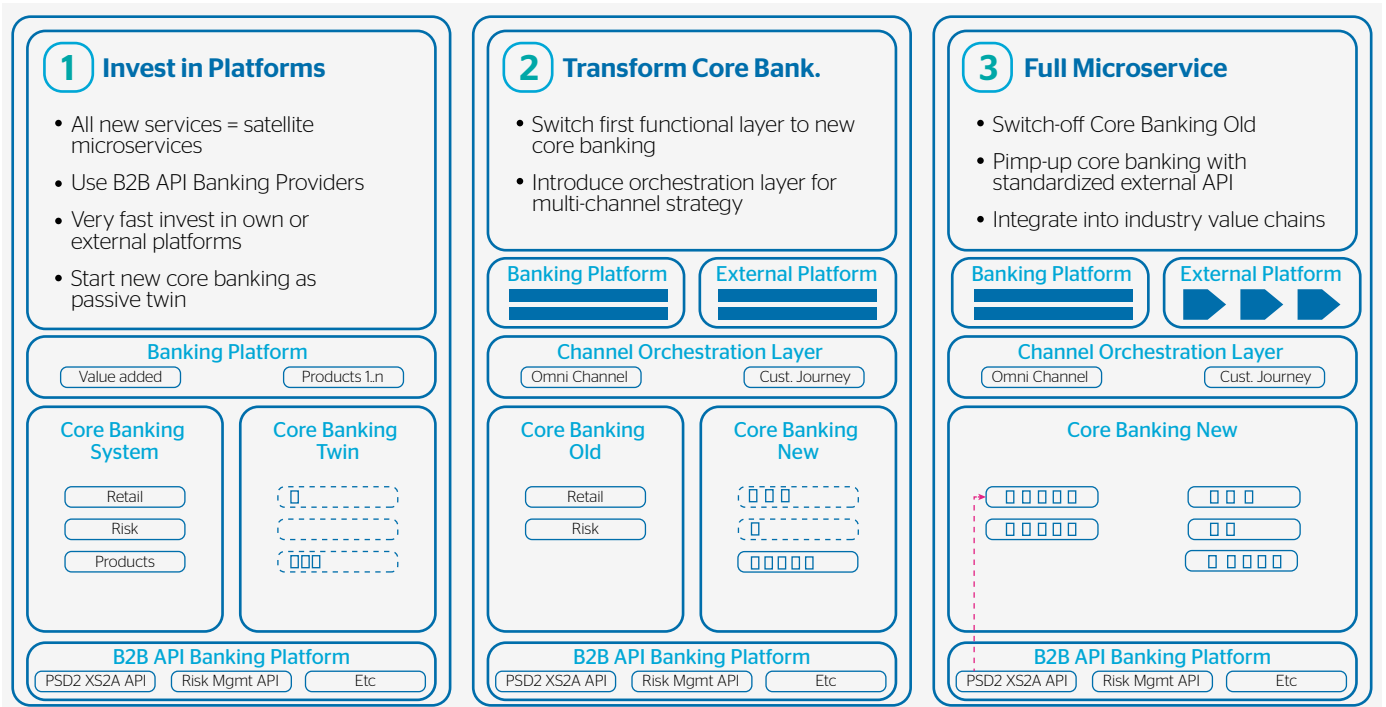


Figure 5: Three steps to replace a core banking system:
While building the core banking system as a passive twin, the bank's business model will be leveraged to meet market needs with the help of external B2B API banking platforms and by investing into digital platforms.

In **Step 1** it is of utmost importance not to lose any time to meet the new market requirements and to quickly gain agility and flexibility. This objective is met by using standard modules from B2B API banking platforms. For instance, it doesn't make sense to build your own PSD2 XS2A module to integrate the products and data from other banks and fintechs. Making your own core banking available via PSD2 XS2A to other market players is a completely different story and can be prepared in a passive core banking twin together with other step-1 modules.

Hence, when building on these new standard APIs together with the old core banking systems, it is mandatory to invest in your own or other digital banking platforms very early. You may do that based on satellite microservices only.

In **Step 2** the first functional layer will be replaced in the new core banking system, purely built upon microservices (i.e., composed banking framework). Most likely this is the product layer, as you need your products available on your own or external digital platforms very early on your roadmap. The new product layer is completely disaggregated into microservices/APIs. This ensures speed, agility, and flexibility as well as the compatibility to external platforms as long as you are following common API frameworks (e.g., the Open Banking Framework in the UK).

Meanwhile, as you are now already on your way to a multi-platform / multi-channel strategy, you may introduce the channel orchestration layer as well in order to separate your omnichannel management from your core banking to be more flexible and to introduce a proper customer journey management across all platforms. The main objective is to provide your customers with a distinctive and seamless customer journey across all channels and platforms.

In the final **Step 3** you will switch-off the old core banking system by transforming all the remaining functions into the new one, still applying the composed banking framework. Further microservices coming from B2B API providers will complete the new core banking architecture.

The new core banking architecture is now pretty much prepared to integrate your value-add microservices into other industry's value chains. This is the final step on your way into the future of banking and to provide your clients with a superior customer experience.

Essentials for the way forward

- Banking will continue to shift to digital banking platforms and to be integrated seamlessly into multipurpose platforms and other industries' value chains.
- Traditional banking doesn't matter anymore - traditional banks matter, as they have the cash, the names, the trust, and the customer base! However, they need to gain significant speed to get ahead of this evolution.
- Big techs will heavily influence this development, as they have cash, trust, and quite obviously the highest technology understanding.
- Fintechs, insuretechs, etc. will function as disrupters in this market development, with the most successful of them being acquired by one of the big techs.
- Building digital business models and integration into digital platforms, superior customer experience, providing microservices incorporated into other industries' process chains, and unbundling core banking are the main principles to stay relevant. Buying XTechs is the fast track.



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