



How much does it cost
to build a new-age
digital bank?



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Introduction

Since the COVID-19 pandemic started the world is getting more and more digital to ensure as many conventional operations can be done remotely. The banks are no exceptions. Although they are yet to discover their full digital potential, banks are slowly but surely entering a digital era.

In this whitepaper we will share with you our insights on how to build a digital bank and how much it will cost you.

A true digital bank, according to [McKinsey&Company](#), is

...a fully integrated mobile experience in which customers use their smartphones or tablets to do everything from opening a new account and making payments to resolving credit-card billing disputes, all without ever setting foot in a physical branch.

Nowadays the industry is lacking such seamless experience, and in this whitepaper we will not give the estimates for a full-scale digital banking solution that does not yet exist. Instead, we will provide the know-hows and the estimates that are based on our real experience of developing digital banking solutions for our clients.

Thus, according to Qulix, a digital bank in 2021 is generally an innovative card product made by a FinTech or a Bank, operating via an API and using a backend of an existing brick and mortar Bank.

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A modern digital bank project includes an above mentioned top-notch card product, a web client, a mobile client and a call center. This is a very simple, but efficient solution that is currently in demand and that this whitepaper describes in detail (including the estimates). On a later stage, loans, deposits, mortgages and other banking products may be added, though it implies heavier administrative load and many successful digital banking products perform greatly in the market without them.

Thus, in this whitepaper Qulix will share with you its insights on a digital bank and will answer the following questions:

1. What is a digital bank and what cost components does it include?
2. How much does it cost to build a new-age digital bank?

3. What functionality a new-age digital banking project may include?
4. What strategic recommendations are out there to enable successful launch and further development of a digital bank?

This whitepaper will be an insightful resource for everyone willing to better understand the transformation of the financial and banking sector. However, it will deliver the most value for the following actors:

- **FinTech start-ups** who are planning to launch their own financial product(-s) to render such financial services as account opening or cards emission, payments, transfers, crowd-funding, tax reporting, loans, etc.
- **Banks** willing to create and launch a top-notch brand-new digital product to better compete under the ever changing market conditions.

Hence, this whitepaper answers all the typical questions that both FinTech companies and banks are facing when planning and implementing their digital banking project.



What is a digital bank?

This Section provides an overview of the topic. It contains basic definitions, problem statement and the high-level description of the solution.

1. What is a digital bank? Definition

A digital bank in a very broad context is

...the automated delivery of new and traditional banking products and services directly to customers through electronic, interactive communication channels ([FFIEC](#)).

In 2021 we are yet far from such an all-encompassing digital product. Digital banking products available today are mainly card products that provide an array of services of the highest demand among the population (cards emission, payments, transfers, crowdfunding, tax reporting). Only few digital banks extend loans and offer deposits or mortgages as those services imply huge administrative burden, in contrast to card issuance and e-money services where licensing regulations are more amenable and starting capital is lower.

Have a look at the [Forbes](#) and [Veriff](#)'s lists of the best digital banks to grasp the idea. Although some of the mentioned banks do offer deposits and even loans in some form or another, this is yet to become an industry standard.

Hence, the most popular type of digital banking is that built around a card product and rendering of the corresponding services. Nevertheless, some digital banking projects do grow in time to include loans, deposits and other financial products.

2. How to build a new-age digital bank?

A new-age digital bank can be delivered in three ways:

1. Through collaboration of a FinTech and a Bank
2. By a Fintech (without a Bank's involvement)
3. By a Bank's in-house IT team

1. FinTech-Bank cooperation

In case a digital bank is implemented through the collaboration of two actors - a FinTech company and a Bank - a FinTech start-up builds a card product and operates on the basis of an existing established Bank. The Bank in its turn exposes its APIs so that the FinTech can use all the Bank's data it needs.

2. A standalone FinTech project

A FinTech can issue its own cards and render financial services on its own through the digital banking that it has developed. In time, such a company may obtain all the necessary banking licenses and permissions and operate online as a full-scale bank.

3. A digital banking delivered by a Bank's unit

A Bank can build its own IT hub or a unit, grow its in-house expertise and develop a top-notch digital bank. Also, it can buy a FinTech (together with its people, product and expertise) which owns the product that is of interest to the Bank.

3. The two cost components of a digital bank

Whoever would be in charge of the product development - a FinTech start-up or a Bank, and whichever services it is going to provide, any digital bank will have two cost components. Those are:

1. Technological component
2. Organizational component (licensing, approvals, etc.)

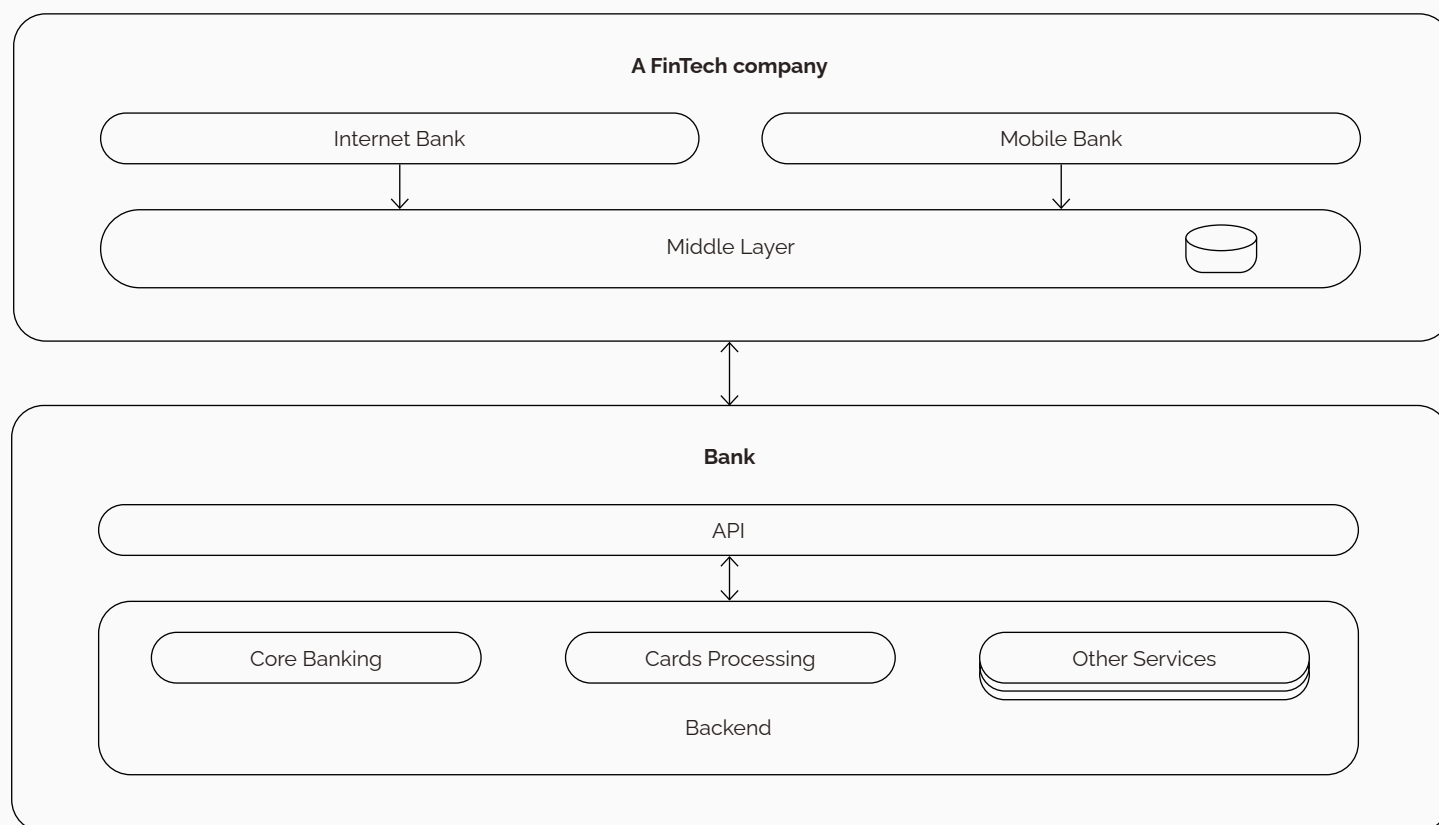
Below we will mainly share our insights regarding the delivery of the technological component and how a digital bank is built from a technical perspective. The organizational component (as well as the corresponding costs) will be given only a brief summary, as operational costs vary significantly depending on the jurisdiction and organizational form of the market actor.

I Technological component

1. FinTech-Bank cooperation

The below picture illustrates the technological component of a digital bank where a FinTech operates on the basis of an existing bank. The FinTech connects with the Bank via a public or private API and the two share the same backend system.

A great example of such a digital bank is [Monobank, Ukraine](#).

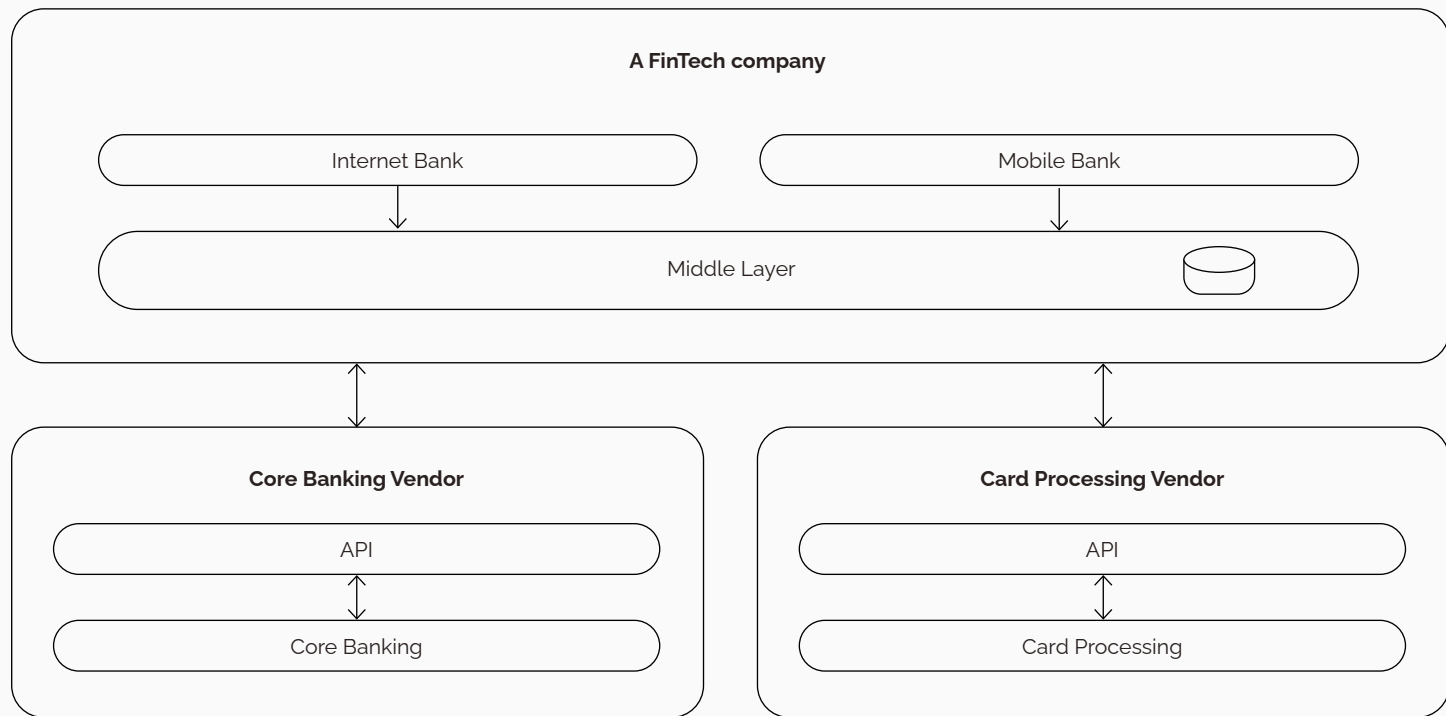


A FinTech-Bank cooperation

2. A standalone FinTech project

If a FinTech company launches a standalone project, without a Bank's backend, it needs a piece of software to render core banking and card processing services. In such a case, a FinTech company buys the components it lacks (core banking and card processing software) from a third-party vendor or uses existing cloud solutions (SaaS).

The below picture illustrates the technological component of a digital bank where a FinTech buys core banking and card processing software or uses a cloud-based SaaS.



A standalone FinTech project

3. A digital banking delivered by a Bank's unit

This option is almost identical to the first one described above. The banks tend to organize their own development hubs/units that function very similarly to the FinTech companies, unless limited in their actions by the parenting company. See picture "A FinTech-Bank cooperation" above for details.

[Raiffeisen Digital Hub](#) and Alfa Lab run their own digital hubs and build and deploy in-house digital banking solutions.

ESTIMATED COST:

- zero for Banks and FinTechs operating on the basis of an existing bank;
- as per servicing agreement with a financial partner for FinTechs using third-party software.

II Organizational component

Licensing, approvals and regulations are subject to variations depending on jurisdiction. Here we provide a brief overview of the organizational load typical for digital banking projects in Europe and the USA.

	E-money (card product)	Banking services (card product, loans, mortgages, etc.)
Europe	<ul style="list-style-type: none"> Capital requirements for authorized electronic money institution — €350,000 EMI License — €1,000 - €5,000 Legal and advisory fees — €50,000 Cannot operate on its own, requires a custodian bank or a financial institution to partner with 	<ul style="list-style-type: none"> Starting capital requirement — €1 - 5 million* Legal and advisory fees — €500,000 - 900,000 (€249,000 for specialized bank) Compliance with general requirements** for a bank formation <p><i>*starting capital varies depending on a bank's type (specialized bank or full service bank)</i></p> <p><i>** bank formation requirement are subject to variation across jurisdictions</i></p>
USA	<ul style="list-style-type: none"> No initial capital requirements for MSBs or small starting capital (US\$25,000), depending on the state of operation Licensing fees — \$150 - 7,500 Legal and advisory fees Local regulations, depending on the state of operation 	<ul style="list-style-type: none"> Starting capital requirement — \$12-20 million Legal and advisory fees Licensing fees Regulatory procedures

ESTIMATED COST:

- e-money (card-product): €455,000 (Europe), \$32,500 + advisory fees (US)
- Banking services (card product, loans, mortgages, etc.): €2,000,000-6,000,000 (Europe), \$12,000,000-20,000,000 + licensing and advisory fees (US).

How much does it cost to build a new-age digital bank?

This Section briefly describes the budgeting process for the digital banking project. Here we also tell how much it costs to develop an MVP and discuss further development costs. Additionally, this Section compares an off-the-shelf customized product with the custom system and gives the approximate estimates.

1. How to do the budgeting for a digital banking project?

A proper budgeting is a key to success for your endeavor. That is why here we outline a few highlights that are crucial to do the budgeting for a digital banking project in the right and consistent manner.

Thus, before you start building a team and designing your system, give a careful consideration to:

- **Initial and follow-up costs**

Although a digital banking era is considered to have started as early as in the 1960's, a true digital banking era starts only in the 2000's, with online banking services becoming wide-spread and easily available. Since then the industry has seen a significant shift toward a customer-centric mindset (see the chart below), which is going to stay a focal point of future digital banking development.

Early 2000's	2020's
✓ Out-of-the-box/custom solution	✓ Out-of-the-box/custom solution
✓ One-time investment (~ \$200,000)	✓ Further system improvements and upgrades
✓ Minimum system support costs	✓ New functionality
	✓ Significant investments for years to come

E-banking comparison chart: 2000's vs 2020's

Thus, what used to be a total sum of the system development, nowadays is only initial costs. To stay a strong market player requires up-to-date digital banking which is evolving non-stop and is client-oriented.

- **In-house team (relevant for the banks)**

To deliver a system, a vendor's team works together with a bank's in-house team. This enables the synergy of expertise to build a truly impressive product. Moreover, after the system goes live, it needs further development and support 24/7/365.

To be independent from the vendor in terms of development and support, banks should build their in-house teams, which also implies month-to-month costs for years on end.

If you lack the proper knowledge as to how to build efficient in-house teams, [contact us for an expertise handover project](#).

Now as you know how to approach the budgeting process, let's move to the digital banking cost items.

2. What costs does a new-age digital bank include?

Considering the above highlights, the cost items on your list will include as follows:

1. MVP
2. Further system improvement costs.

1. How much does it cost to develop an MVP?

To develop a Minimum Viable Product (MVP), a Fintech/ bank may choose from two alternatives currently available in the market: an off-the-shelf system + customization or a custom solution developed for you. In this whitepaper we mention both variants, as

- a. The total cost of the two do not vary significantly;
- b. Each alternative is a great option, they just serve different business needs.

The chart below illustrates the cost break-down of the two above mentioned options accompanied with the foot-notes for better comprehension.

Off-the-shelf digital banking system + customization	Custom digital banking system
<ul style="list-style-type: none"> ✓ Out-of-the-box system — \$100,000-200,000* ✓ Customization (UI/UX design, business processes, etc.) — 50-100% of the ready-made system cost ✓ Backend integration — \$200,000 	<ul style="list-style-type: none"> ✓ 1 PM* 2 BAs 0.5 UI/UX designer 1 architect 2-3 back-end developers 2-3 front-end developers** 2 Android developers 2 iOS developers 2-3 QA engineers ✓ Backend integration — \$200,000
<p>Call center \$100,000 (depending on your outsourcing company rates or salary rates in your country of residence)</p>	
<p>* The price tag varies depending on a vendor and may result as high as \$500,000 (Misys, Backbase, etc.)</p>	<p>*Minimum industry rate — \$5,000-6,000/empl/month; average MVP development project duration is 4-6 months.</p> <p>** For front-end development, React Native can be used, which in some cases allows for parallel development of web and mobile clients.</p> <p>Contact us for more on cross-platform development options.</p>

Costs break-down for an off-the-shelf vs a custom digital banking projects

The given estimates are true for the digital banking system built on the basis of an existing bank or a Bank with an in-house development hub/unit where the backend cost is set by the Bank/partnering bank. For standalone digital banking systems, add up the cost of core banking and card processing software provided by third-party vendors.

ESTIMATED COST:

- a. off-the-shelf system + customization — \$700,000 (up to \$1,200,000)
- b. custom solution — \$840,000

2. Further system development costs

Further system development cost depends solely on your vision of the further system evolution. You can either add up loans, deposits, mortgages, etc. to your card product, or leave the system as is and work on user-friendliness or existing functionality improvement.

The latter option will guarantee your market share growth without bringing additional administrative burden or licensing costs (as compared to adding up other banking services). Yet, keep in mind that the price tag may not be reducing each successive year. That being said, if launching an MVP cost you \$1M, your follow-up costs will be as high as \$1M/year for all the coming years of active development and support.

Basically, existing functionality improvement and system upgrades do not require as substantial investments as in the case with new functionality development. Yet, even though the functionality remains the same, user-friendliness and clean designs require a lot of efforts. Thus, the phase of development continues well beyond the deploy phase, and goes in parallel with the support phase, which results in high bills to pay.

Significant expenditures are due to the parallel support and development activities. Even though the functionality remains the same, the focus is on user-friendliness and clean designs.

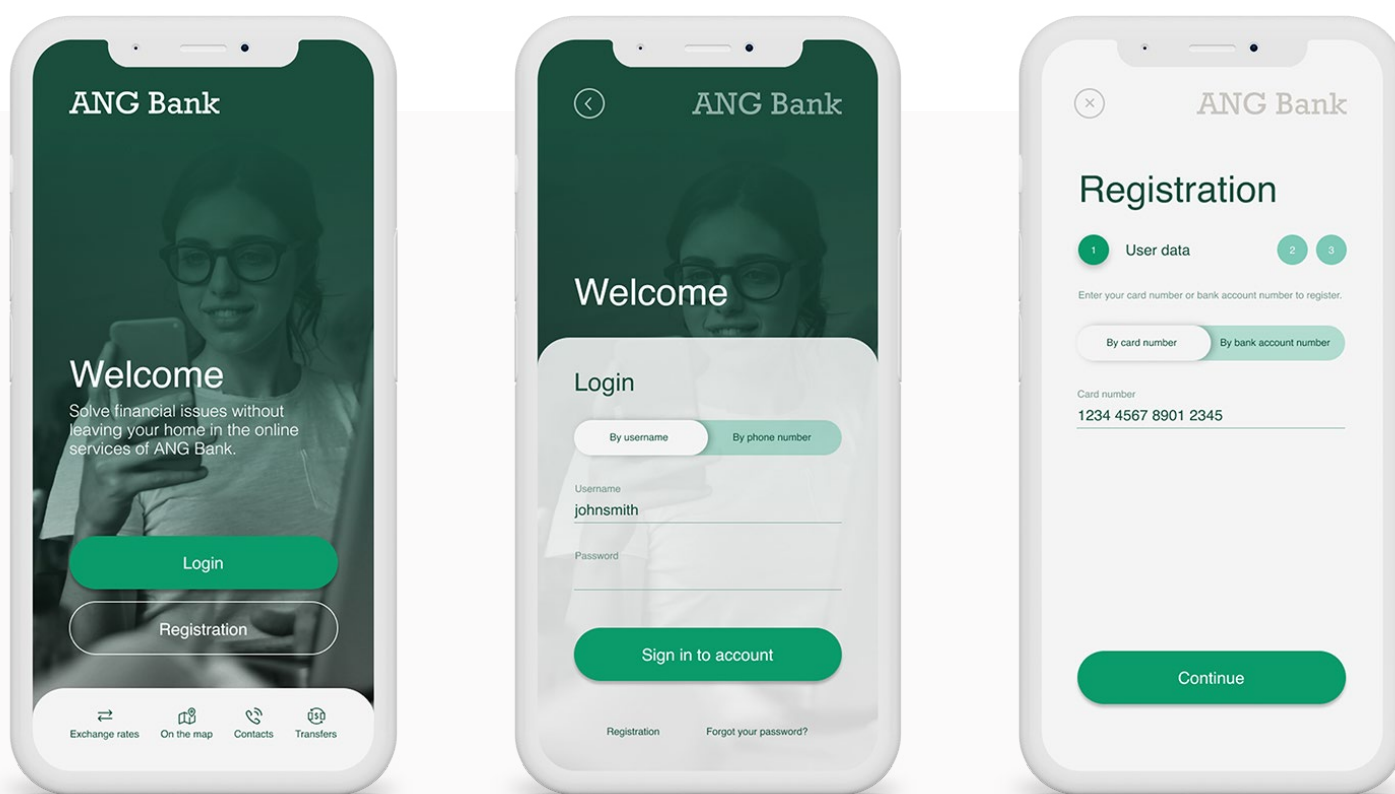
ESTIMATED COST: \$1M/year.

A new-age digital bank's functionality. What do you get for the money you pay?

This Section provides a set of features and capabilities of a to-be system that you are going to get for the money you pay.

1. Client onboarding

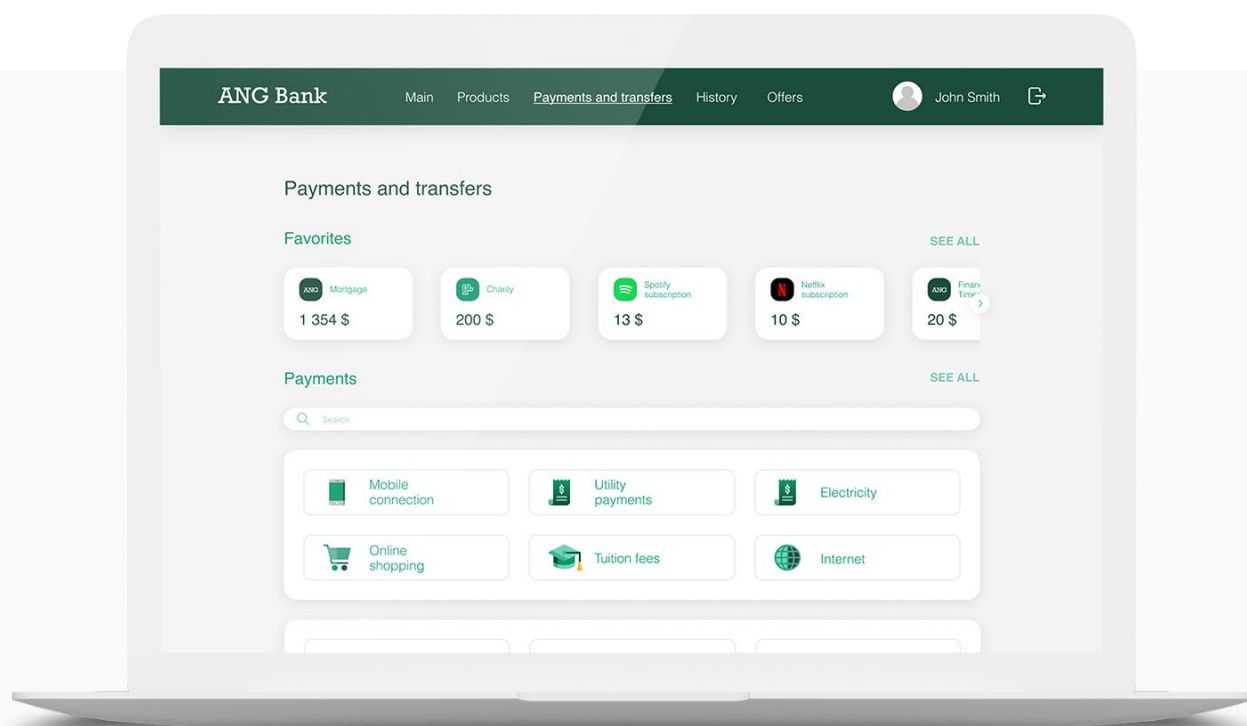
- Collecting of vital information about the client;
- Identity checks as per KYC regulations;
- Account opening.



An example of an onboarding screen for mobile apps

2. Card issue

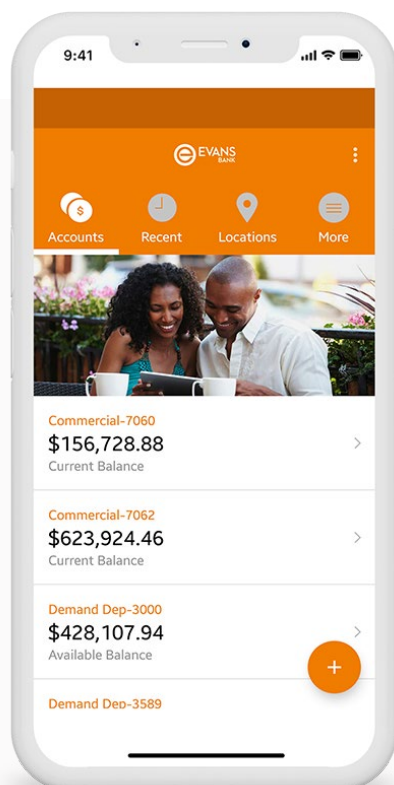
- Payments in national and foreign currency;
- Money transfers between the client's accounts in various banks;
- P2P payments;
- Utility payments;
- Account statements;
- Transactions history;
- Schedule of revenues and expenditures (break-downs as per products, period, etc.);
- Budget management (available for separate categories);
- Account statements, applications, certificates, etc.;
- Add card from a different bank;
- Geolocation (search for the bank branches and ATMs near me);
- Interest on savings;
- Organize your money into separate 'pots';
- Other services.



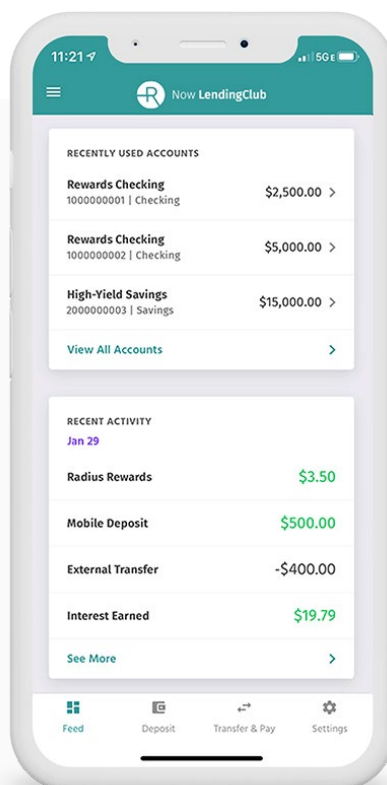
An example of a web application screen

3. Loans, Deposits, Mortgages, etc.

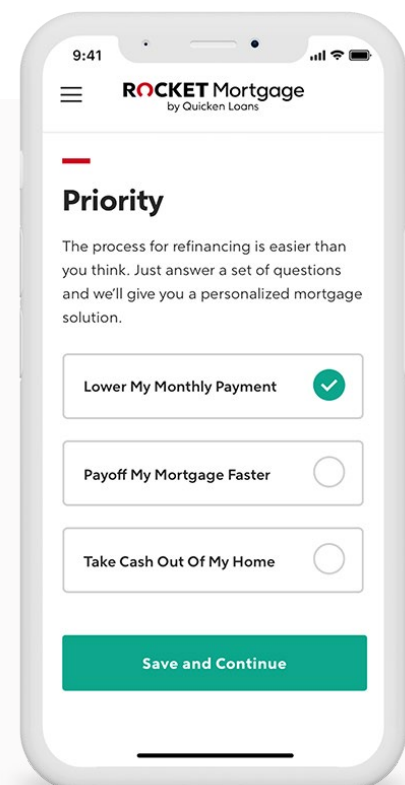
See [Evans Bank](#) for a great example of a mobile loan application. For deposits, check out [Radius Bank](#) and [Quicken Loans](#) for mortgages apps.



[Evans Bank](#)



[Radius Bank](#)



[Quicken Loans](#)

Mind that loans, deposits, mortgages and other banking products bring major profits, but imply heavier administrative load and are still rarely available online. Check out Section I, p. II Organizational component for helpful insights. Also remember to consult your local legal advisors before adding up more banking products.

Conclusion

A quick summary on the topic, final estimates and strategic recommendations before you go.

In this whitepaper we shared with you our insights on the new-age digital banking development and the costs associated with the delivery of such a project. Mind, please, that the provided herein are appropriate estimates which are subject to variation depending on the complexity of your project and the country of residence.

Below are some highlights and strategic recommendations from this whitepaper that we would like to give extra focus before you go.

1. Overall costs

A new-age digital banking project developed on a basis of an existing bank will cost you \$700,000 - \$1,000,000. In case you are a FinTech start-up operating as a standalone organization, add up to this an amount that your financial partner is billing you for core banking and card-processing software. **Mind that those are the MVP costs.**

2. Off-the-shelf or custom?

Your digital bank may be an out-of-the-box solution tailored to your business needs or a custom option, built specifically for you from the beginning. The price tags will not differ substantially, so **choose the option based solely on your business needs, not the costs to expect**, as they are literally the same.

3. Digital banking components and costs breakdown

Any up-to-date digital bank includes two cost components, which are Technological and Organizational costs (those associated with licensing and approvals). The latter are going to be substantial, especially for those willing to add loans, deposits, mortgages, etc. to their digital banking services.

In terms of technical execution, a digital bank will incur an MVP and Further system development costs. **Development does not stop after the system goes live and costs are going to grow in years to come, so be ready for thorough budgeting.**

4. Strategic Mindset

Last but not least.

A successful digital banking project in 2021 is the one that never stops its evolution, is customer-centric and follows top trends. To cater to the client's needs and efficiently respond to the market demands, one needs to **change the paradigm of creating a digital bank**. Thus, building a digital bank is not going to be a one-time investment. Rather, it is a marathon and to finish it successfully you'll need:

- a. A solid in-house team of experts
- b. In-house expertise
- c. Proper budgeting with years of future development in mind.

The most successful banks and financial institutions today pay an enormous attention to the development of digital products and innovation and technology ([JP Morgan Chase](#), [Bank of America](#), [BBVA](#)). These leading market players agree to pay month-to-month costs that do not end in 5-6 months, as a true visionary gets himself/herself ready for successive years of active development.

Hence, answering the question which is the subject matter of this whitepaper - How much does it cost to build a new-age digital bank? - we would say \$1,000,000 (+licensing costs, advisory fees and starting capital). Yet one should understand that where your MVP ends, the further development phase starts, which is as demanding demanding both in terms of efforts and investments.

About Qulix

Custom Software Development Company Operating Globally

Qulix is an international custom software development company delivering high-quality software solutions. Since 2000, we have been rendering top-notch development and QA services to our 200+ clients from all over the world. Our expertise covers all the stages of SDLC, which includes concept design, architecture design, code development, quality assurance, support and more.

Qulix delivers turn-key and custom software projects for banking, finance, insurance, multimedia, IoT and other areas. The list of the services that we offer includes backend and web apps development, mobile and cloud apps development, QA services, UI/UX design, and DevOps.

Find more of our best practices by visiting our [blog](#) or [website](#).

For any further questions, please contact us. We'll be happy to share with you our insights on the topic to help your business grow.

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