

ADNOVUM

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WE'RE THE TECH IN FINTECH®



Dear readers

The subject of fintech is currently shaping the world of information technology. But what exactly is fintech? AdNovum, for example, has developed technology for the finance sector ever since its foundation. Was it a pioneer in doing so, and can this new trend be even considered new at all?

Financial applications have become the standard in the meantime. Of course, ongoing digitization in recent times has yielded further groundbreaking innovations. Who could imagine a world today without apps, for example? They provide the shortcuts that see to our daily requirements; we use them to order taxis, make financial transactions and take out insurance policies. It is also young companies who make it happen, and who bring their ideas to market with the most ease. Through smartphones and the Internet, they not only have direct access to potential customers, but also vast market penetration. This is also exactly what is so attractive about fintech projects.

Switzerland has a real chance to get involved in this market on an international level and to play a leading role. Cryptography experts are clustering together in the "Crypto Valley". So why not combine the best of both new and old worlds? A combination of the traditional Swiss capital market and expertise in cryptography could create real global players.

However, on the journey to becoming this type of global player, young companies must overcome diverse obstacles. In this country, for example, some start-ups run into difficulties in recruiting experts from abroad. Furthermore, having the courage to try out something new is a must for both companies

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and consumers alike. But how do you promote this in a country where almost everything works fine already?

For established banks, there is only one line of approach when it comes to fintech, and that is to move forwards. They must act quickly; otherwise they will see the newcomers pull the rug from under their feet. This is Rino Borini's opinion, and he knows exactly what he is talking about. He began his career at a major bank. After sojourns with different financial service providers, in 2006, he founded a media company and began to engage in matters related to digital finance. At that time, the digital wave was beginning to wash over the worlds of media and finance. How it has changed the banking sector irrevocably is demonstrated clearly by Rino Borini's example of robo-advisors, which are digital platforms for asset management. And with this, we have to admit that the latest trends are already part of everyday life.

If you would like to know how to ensure that your fintech project is a success, how AdNovum manages such projects, and how representatives from the industry view the fintech trend, then go straight to page 3. We hope you enjoy reading our magazine.

Chris Tanner

CEO AdNovum Informatik AG

BRINGING YOUR FINTECH PROJECT UP TO SPEED

All the talk about bringing digital payments to the masses makes fintech one of the hottest topics around. Peter Gassmann, COO, and Martin Nokes, Head of Business Development, share what it takes to succeed with fintech projects from a technological perspective.

by Peter Gassmann and Martin Nokes

Financial Technology, aka fintech, is available in many forms. And the solutions we have developed for our customers are just as varied. Among these are UBS' mobile banking, the award-winning mobile payment systems TWINT and UBS Paymit, and DirectAsia.com's mobile insurance solution. They have one thing in common though: The end product needs to be as robust as the environment in which you embed it. So, is there a list of pre-requisites that bring success to a fintech solution? We've spoken to our experts – who had a lot to share – and put together the following key success factors from an organizational, methodological and technological perspective:

Lead time is crucial

"Lead time", aka time to market, is a driving factor in IT today. The reasons are obvious: The faster you launch a solution, the earlier you start generating revenues. Beat your competitors and establish a network (user base) before they can, increasing their barriers to entry. Then start learning about your users rapidly (see next factor below) and plan the next version before competitors even begin. But since so many project management tools and methodologies are waterfall based, how do you shorten the time to market without compromising on security and quality? Agile methods like Scrum and Kanban will do the trick. Kanban in particular can help to optimize not just your team, but the whole value creation process. You will have to tailor the project methodology to your particular situation. Team experience and setup, involved parties, level of innovation and other aspects need to be considered. You may also need to tweak the methodology to add more structure and governance once you are live.

**«FROM 0 TO MARKET
LAUNCH
IN 16 MONTHS.»**

Thierry Kneissler, CEO TWINT AG

Adapt and learn

Be prepared to learn: User experience (UX) and technical details will not work as expected, and business ideas will have to be adjusted. Competitors and their offerings may also force you to adapt. Your solution might even be used in ways you never intended. Also, don't forget you'll want to take advantage of technical developments (such as new capabilities of mobile devices). In short, you're operating in a highly dynamic, fast-paced environment. Make sure you are set up accordingly. Incentivize and reward your team for adaptability, not for delivering static KPIs defined once a year.

**«EXPERIENCE IS THE END
OF IMAGINATION.»**

Alexander Mazzera, CEO joiz

Listen to the market

Release early, observe user behavior, then adjust and enhance! Remain humble and don't assume you know everything about your users. It's advisable to engage in continuous improvement: You don't have to be perfect from the very beginning. Launch, learn and improve. Continuous improvement requires technological support and the corresponding processes. You need a good suite of automated tests and a release environment which is also reasonably automated. Especially in the banking environment, where real money flows, trust and consequently quality are key factors. Yes, release early, but by reducing the feature set, and never by releasing an unfinished or unreliable product.

**«CONSIDER YOURSELF AS PART
OF AN ECOSYSTEM.»**

Andreas Kubli, Head Multichannel Management & Digitization UBS Switzerland



Peter Gassmann and Martin Nokes are testing mobile payment.

Swift and smooth onboarding

Swift and smooth onboarding of all your users, particularly end users (B2C), is key. This is what they are used to from other digital services, and what they expect from you. Remember signing up for Netflix or Uber? How long did that take you? Easy onboarding needs to address all user groups: For example, in the payments space, both consumers and merchants (retailers) need to be able to start using a system quickly and with the least possible hassle. This lays the foundation for a thriving ecosystem. But keep in mind that dark forces are lurking around, so fraud is just around the corner. You may have to build validations or emergency valves into the system just in case.

«EVEN ESTABLISHED FINANCIAL SERVICE PROVIDERS PROFIT FROM THE FACT THAT FINTECH DIRECTLY INTEGRATES USERS.»

Chris Tanner, CEO AdNovum

Quality over features

Favor quality over features: The most successful solutions cover just a few use cases, but these extremely well. To implement use cases at this level of quality, you have to pay attention to all the details. Is the feature understandable for the user? Is there a seamless workflow? Is it necessary to support special cases or would this only make the user interface more complicated? Is the feature available on all touch points of the user? Be sure to invest in testing and quality assurance. In high-speed projects, the testers may have to take part in the initial discussions of a new feature to fully understand all aspects and implications. Be prepared to strip out features that don't get the traction you were expecting. Removing features may require technical mechanisms, such as backward compatibility if older versions of an app are still in use.

«IT IS CRUCIAL TO IDENTIFY YOUR CUSTOMERS' REAL PAIN POINTS.»

Alexander Bojer, CEO and cofounder Anivo

Pay attention to security

Fintech needs to be secure by design, while balancing security against user experience. Add as much as needed, but not more. In some cases it may be worth explaining security to the users to help them understand why, for example, the log-in process isn't the same as on social media platforms. Doing this can help you gain trust. You may want to explore dynamic security approaches if only a small set of use cases actually require high security. Security is a continuous journey. You are never

done. You need to raise the bar every day. If you don't, your security will be gone before you know it.

«TO BE SUCCESSFUL IN FINTECH, NEVER EVER COMPROMISE SECURITY AND DATA PROTECTION.»

Stefan Arn, Global Head of Technology for UBS Wealth Management and UBS Switzerland

User experience is key

Great functionality hidden behind a bad user interface is useless. Pay attention to aspects such as simplicity, usability and linking the online to the offline world seamlessly. Attractiveness and visuals alone will not make the cut. The interface needs to be designed from the user's perspective, with the user journey serving as the foundation. The visuals will not be perfect during development. When discussing with customers or end users, it is sometimes worth to use a reduced visualization to be able to focus on the user interaction without the distraction of the visuals. Never ask a developer to design because he or she will usually look at it from a technical perspective. Verify what works and what doesn't with real users, in the correct sociodemographic group, using prototypes.

«WE WANT TO BE AS CLOSE TO OUR USERS AS POSSIBLE.»

Robert Plantak, CEO crowdhouse

Prepare for change

Fintech is all about upgrades and innovation. Design your solution so that it can be adjusted easily and swiftly. You will need a continuous and smooth development and release process once you are in production. To deprecate features, you need to look at interface versioning and configurative enabling and disabling of features. Don't keep outdated features too long, they will become a legacy that is hard to manage and increasingly costly.

«IT TO FINTECH PROJECTS IS LIKE THE ENGINE TO A DECENT CAR.»

Cosmin Ene, founder and CEO LaterPay

Go for the MVP

Defining and focusing on the minimum viable product (MVP) will help you sharpen your offering, improve lead time and speed up the feedback cycle. However, the MVP is often not enough to become and remain successful. There is only a fine line between a minimum viable and a worthless product. Also think about the competition: If there are other players in the market who could

implement your MVP features easily in their existing offering, you should look for additional features that are not so easy to copy.

«THE MAIN CHALLENGE OF FINTECH PROJECTS IS TO KEEP THEM CONTINUOUSLY SIMPLE.»

Felix Buschor, Head of Service Center and member of the Executive Board SGK

Usage monitoring

Invest in usage monitoring to understand user behavior. You may be surprised about what you find out! To observe user behavior, the system has to be augmented with additional functionality to capture and analyze how your users use the features. Taking this one step further, you may use the data to build individualized offerings or even to tailor the interface to the user's preferences and history to enhance his or her experience.

Usage monitoring may help you focus on setting feature priorities and make sure measures and improvements work out. Follow the build-measure-learn cycle to drive the features pipeline.

«FINTECH PROJECTS ARE PUSHED BY FEEDBACK FROM THE MARKET.»

Felix Buschor, Head of Service Center and member of the Executive Board SGK

Total customer experience

Total customer experience matters! Operations, help desk, and stability are all part of it. IT is increasingly considered as a commodity: It's just there and running – all the time. Users don't accept outages and expect continuous service. If there is a problem, it should be solved professionally and immediately. Users will not call twice, but rather just delete your app and go elsewhere.

«IT TURNS A PROMISE MADE TO THE CLIENT INTO REALITY.»

Cosmin Ene, founder and CEO LaterPay

Privacy and regulation

Privacy laws and regulation may have a big impact on system architecture and security. Depending on the applicable regulation, you might not be allowed to use cloud services from other jurisdictions. Additional encryption technology may be necessary, or you could be required to present anonymized data on certain views. Use cases such as onboarding may also be strongly influenced.

«MIFID II AND FINSA ARE GOING TO SLOW DOWN CERTAIN DIGITIZATION AND FINTECH INITIATIVES.»

Mathias Wegmüller, founder and Managing Partner qumram

Conclusions

You may have noticed that some of the success factors we've highlighted are not specific to fintech projects, but to most of today's client-/consumer-facing activities. The main exceptions are security and regulation, which are generally more important in the financial industry. Many real-world examples confirm that speed and agility are absolutely crucial, and it is vital that your organization is set up accordingly. You need the right mind-set for your processes and architecture to be designed to support the dynamics. This extends to collaboration and contractual models used with your partners. For example, the traditional approach of specifying a solution in detail and then having a third party build it will waste a lot of money and time in many cases. In other words: It's far better to take an interactive, cooperative approach. ■

Peter Gassmann

As Chief Commercial Officer and member of the Executive Board, Peter Gassmann is responsible for communication, marketing and sales as well as the business unit IT Consulting. Peter joined AdNovum in 2010 as consultant and has since helped to establish IT Consulting as one of the main services offered by AdNovum. Peter holds a Bachelor's Degree in Computer Science from the University of Applied Sciences in Brugg-Windisch. Outside the office the family comes first.

Martin Nokes

Martin Nokes joined AdNovum in 2001. From 2004 to 2008, he played a decisive role in building up the AdNovum branch in Hungary and was head of the subsidiary for two years before relocating to Zurich. In early 2010, he assumed responsibility for establishing the new subsidiary AdNovum Singapore Pte. Ltd. Since 2014, he's been responsible for business development for AdNovum in Switzerland. Martin Nokes holds a Bachelor's Degree in Computer Science from the University of Applied Sciences in Zurich and a Master's Degree in IT Management from the Central European University in Budapest. In his free time he likes to build sand castles with his daughter in Sardinia.



Peter Gassmann and Martin Nokes: combine technology and financial services.

FINTECH: AN INDUSTRY OVERVIEW

To gain an overview of the fintech market, we invited three industry representatives to a round table discussion: John Hucker, president of the Swiss Finance + Technology Association (Swiss FinteCH), Dennis Just, founder and CEO of Knip AG, and Bernard Lunn, founding partner at Daily Fintech Advisors.

Everybody is talking about fintech. There are fintech applications, networks, meet-ups, and a fintech industry. But what exactly is fintech?

DJ: Fintech is about finding ways to better service customers, about using technology such as software, hardware and mobile devices to make it easier for customers to take decisions and stay in control.

JH: Fintech may have become a buzzword now, but it actually has been around for quite a while. What made it really interesting are the developments in the postfinancial crisis. Banks have been seen as especially mature in their industry life cycle. However, in recent years, the ability of the financial industry to generate innovation is increasingly challenged by entrepreneurs.

BL: There are two different parts to fintech: There's one you might call "traditional fintech", where you supply technology to banks as in former years. And there's "emerging fintech" like Knip. You supply straight to the consumer, to small and big businesses. You might have relationships with banks for branding, partnership, and revenue sharing, but you don't depend on the banks. That's what I think is exciting.

WE HAVEN'T PASSED THE FINTECH PEAK YET.

A lot of investments are going into fintech. For example, Knip recently raised 15 million Swiss francs, which is very respectable for Switzerland. Many traditional bankers are worried that consumers are starting to use services provided by start-ups. Is fintech a sustainable development or just a massive hype?

DJ: If you look at the hype cycle, we haven't passed the peak yet. The hype cycle helps us attract a lot of capital, allows us to experiment and learn way faster than banks or insurers can. Of course, we will see things flattening in the medium term.

Does this mean that fintech will require a lot of funding, since start-ups are just experimenting with newfound solutions without actually knowing what they're doing?

DJ: To a certain extent, this is true. Investors tell me they invest in Knip not because of our business model, but because they believe in the team and the people. While in the beginning we did not know how to exactly replace brokers with technology, we can now say that we have made it quite far. Possibly, we can go even deeper into the value chain and target the insurance carriers. We figure out from the consumer's perspective what kind of solution is needed, then adapt. That's the learning curve you can only force by pushing into the market and spending money.

Bernard, the companies you work with are a little further in this cycle. Do they have sustainable models?

BL: They do. I would reckon from Dennis that the hype cycle and the reality cycle are disconnected. The consumers in small businesses who are starting to use your product don't need the hype cycle. What investors are struggling with is that, in earlier days, they could slowly figure out when to enter a business. Today, 50% of the global population has mobile phones connected to the Internet. Once a great idea connects to the market, the scale-up is incredibly fast. We see a ton of businesses fail, but the few that succeed make up for it and even change the world.

John, your daily job has been with a private bank. What impact does fintech have on private banking?

JH: In private banking specifically, we haven't seen massive disruption yet. The Swiss banks still have a great reputation. However, client expectations have started to change. We all use our iPhones, so the simple fact that a bank should be able to interact with its clients on the channel that they're most comfortable with has challenged them to adapt and offer new services. But you can't just recreate the system overnight. You have a lot of constraints and also costs that have to be looked at. Start-ups,

on the other hand, connect great teams with flexible environments and greenfield situations. It's a powerful way of developing new solutions. That's a big role to play, and the Swiss banks are definitely interested in fintech.

You don't think that private banking clients are moving their assets from traditional banks to, for example, True Wealth, Switzerland's first online asset manager?

JH: The relationships in this higher-end client segment are based on trust, reliability, and high-quality services. So, how do you get into this digital world, but maintain a lot of the existing values you had in the private banking world? I don't think we've seen that yet. True Wealth is fantastic, but they have a long way to go to get the kind of scale that they would need.

BL: I fully agree with John. I don't think the private banking market per se is being disrupted. While the private banks tap the advised market, fintechs are getting great traction in the nonadvised market. It may seem small at first sight, but in the aggregate, the nonadvised market is far bigger.

JH: There's a difference between what a bank will give you and what a private bank can officially afford to give you. Looking down the road, it's interesting where wealth comes from. A lot of these folks in the affluent segment don't look attractive when they're 35, but only when they're 60 and have sold their business. Generationally, the banks are ignoring that early end and it will be hard for them to recapture these people in 10 to 15 years when they are more viable.

REGULATION DETERMINES HOW EASILY A START-UP CAN GET TO THE MARKET.

Bernard, your company is doing business worldwide. Do you see any differences in fintech between countries or continents?

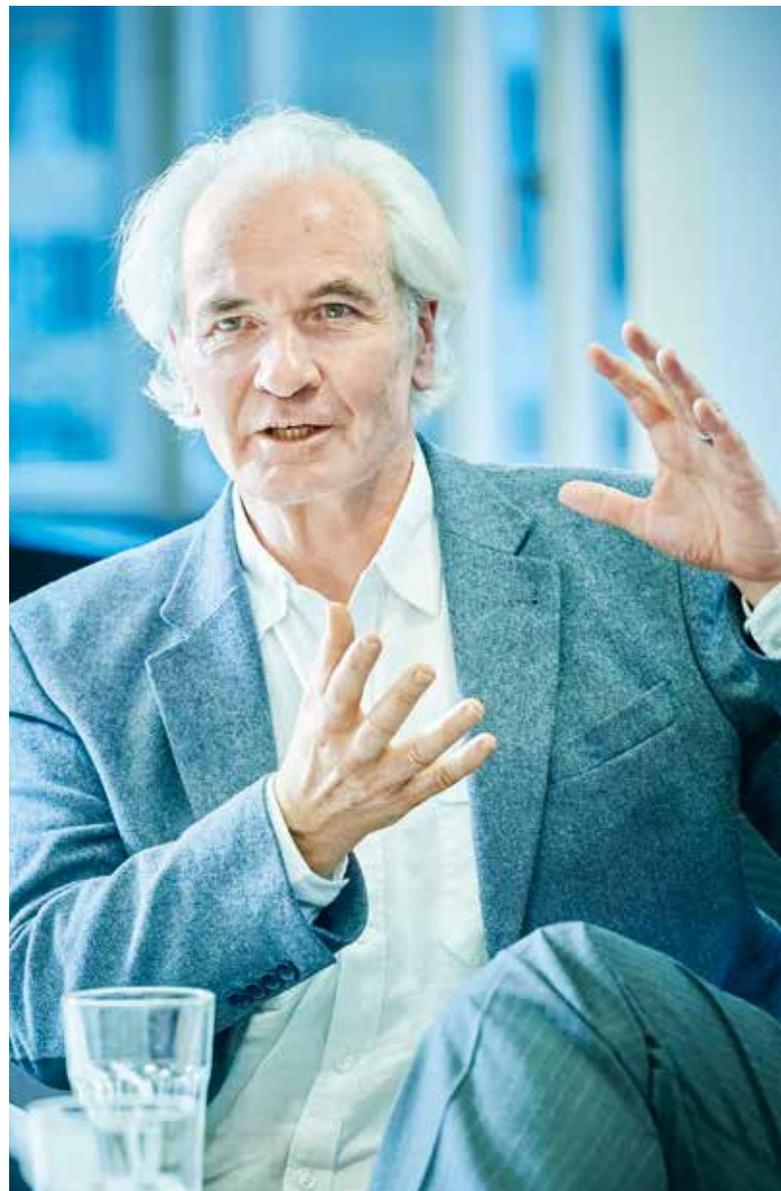
BL: The regulations are very different in the countries. That probably drives a lot of the change because regulation determines how easily a start-up can get to the market. One of the reasons why London is doing so well in this area is that, fairly early on, the UK government took the view that regulation is important. At the same time you don't want to make it so hard for companies to take off. They have found the right balance and that drives economic growth.

JH: The culture around finance is a lot different. I notice this big time when I visit Asia. Payment is a big thing in places like China where people are exchanging lots of little money and are interested in trading rather than being investors. Of course, each location has its own strengths. To me, two fintech hubs are really distinct: Silicon Valley because of the entrepreneurial culture, and Israel, which has a start-up nation culture. The national

security challenges they faced led them to become world leaders in IT security.

Any specific strengths in Switzerland?

DJ: One of Switzerland's strengths is its legal system. Compared to Germany, for example, it is easy to start a company here. In general, the strengths are on the product and the structural side, less on the execution side. CEOs of US companies told us that they invest in something, learn fast and decide whether it makes sense. If not, they may have burnt the money, but at least they have learned what not to do. This is basically how we run Knip. But nobody else in Switzerland does the same because the risk mentality is different here.



Bernard Lunn: advises fintechs across the world.



Dennis Just: stirs up the insurance industry with Knip.

If I want to use Knip, I give you private information about my insurance. As a not so well-known brand, how do you get people to trust you with that kind of information?

DJ: I think we're in a time where it's ok to give private information like an e-mail address or a mobile number. If I buy something online, I do it as well. Knip's main focus is on the service we provide to the client. As for the policies, that data comes from the insurance carrier, not the client. If you really want to use services, you need to provide the data to someone.

To be successful, I suppose you need a certain amount of insurance know-how ...

DJ: Insurance contracts are quite easy to understand. However, I wouldn't provide advice myself; I have the operational and strategic lead. For distribution, we have a number of expert advisors. Aged 29 on average, they have two to three years of insurance experience, but don't want to work in the traditional insurance environment anymore.

JH: Knip is a great example of people who can learn very fast, and their real talent is the entrepreneurship. Currently, fintechs and medtechs seem to be a little different from more generic start-ups: Many of the people who build these things have at least some industry experience. They see where things are broken. Matched with the younger, more innovative attitude, that is the perfect space to be in fintech.

John, where are you now with Swiss FinteCH and what are your plans for 2016?

JH: We try to focus on how we go beyond being one of the voices in the crowd to actually translating what we have built – which we think is really healthy for the people involved. Namely, topics like regulation and improving the conditions are important. We can either focus on the demand side, or on the supply side. The demand side is pretty healthy and there are many reasons for fintech in Switzerland to be drawing international attention. More work remains to be done on the supply side. I'm a big believer that Switzerland has the potential to deliver more fintech start-ups, and also to have more like Knip which are globally competitive. Therefore, we want to leverage that network to make sure more people are inspired to leave the banking industry and start something fresh.

SWITZERLAND HAS THE POTENTIAL TO DELIVER MORE FINTECH START-UPS.

Do you connect with the French-speaking part of Switzerland?

JH: A primary focus of Swiss FinteCH is to be truly national. Many of the philosophies I started with were shared by Alexandre Gaillard, the Vice President of our group and the original lead in the Romandie. If we're going to be an international organization, we have to be present at least in those two places.

In October, Bernard and I were in Singapore together on a panel of global fintech hubs. That was part of the Swift conference where 5'000 to 7'000 people show up each year. They were early adopters of the fintech community and building that up at an international level through what they call innotribe. It happens that in September, Sibos is coming to Geneva. We're going to bring the international community that comes to town into the local community. During the week of the conference, there will be a lot going on.

As a retail bank, do I need to be more worried about the start-ups or the big tech companies such as Google or Samsung with massive resources?

BL: Google not so much. One of the biggest global tech giants moving into the space is Alibaba. If I was a bank, I'd worry about them.

JH: One of Alibaba's outstanding successes was their money market offering, namely the acceleration how things can reach 50 million users. We've never seen an Internet business scaling up like that before. What's quite alarming: A lot of banks look to Asia as being the next engine of growth for their businesses. So a lot of their development and why they're going to do fintech is because people are younger, they're generating wealth and are easy adopters of tech. If you look at the type of competition banks face from local tech giants, it's not exactly a fair fight.

THE COMPETITION BANKS ARE FACING FROM LOCAL TECH GIANTS IS EXTREMELY STRONG.

Recently, FINMA and Swisscom announced online identification as a service. They move a standard process into video, but it still takes a while until I have my account set up ...

DJ: In Germany, there's NUMBER26 – one of the best examples of user experience. Onboarding really creates a wow effect. Within seven minutes, you have a bank account, and within one day, you have a credit card.

Would that be doable in Switzerland from a regulatory perspective?

DJ: There would be slight changes to registration, but it's very close to what is feasible here with the new circular of FINMA.

In the UK, the Financial Services Authority (FSA) is seen as progressive and a benefit for the fintech scene. What's the view on FINMA?

JH: Historically, FINMA was looked at as a real asset for Switzerland. With fintech, they've been a bit late and slow to figure out how to adapt. Part of it is the scale-up, they're a small organization. However, the last two years we've been engaging with FINMA we found those involved to be very open and pragmatic.

DJ: I agree with John that FINMA has always been extremely open. Yet, they're more like a neutral person that looks in the market and tries to push it in the right direction, whereas in the UK, the regulators act as an enabler, actively driving the market.

Bernard, you stated that moving from the minimum viable product to a large-scale deployment/user base happens within

a couple of months, i.e. very rapidly. Could this work in Switzerland?

BL: There are many reasons why you set up a business in Switzerland, for example the jurisdiction or the great crypto experience in Zug. However, the risk aversion is a major problem in doing business here. Employees, partners and talent tend to be more conservative. But more importantly: The consumers are conservative. Because everything works really well, there is little motivation to try something new.

DJ: Recently, I talked to the CEOs of two major Swiss companies about video identification. FINMA's circular is not very specific in this respect. If I were them, I would plug in my own process that is quite close to what FINMA describes and push it into the



John Hucker: builds a roundtable fintech players can connect to.



Martin Nokes: a new perspective on fintech.

market. It's the easiest way to onboard the customer. However, it might also be risky and therefore they are not doing it.

We've already talked about the strengths. Are there things missing that would enable Switzerland to be a leader?

DJ: The legal framework in Switzerland for business owners is good. At the same time, it would be better if one could obtain the necessary permits to hire foreign talent to work in Switzerland at a faster pace. This is why tech companies often struggle when looking for highly qualified personnel within Switzerland or reallocating them from abroad. Knip, however, has offices in three countries, which helps us to bypass this and hire the needed talent for our growth.

JH: We'd like to see continued awareness and green light for people to, say, disregard the risks and seize real opportunities to be doing something in fintech. To get things moving more quickly, Switzerland needs to open up culturally. While due to the federal system you have a lot of independence and all the cantons, we want build that roundtable that regulators, the industry and start-ups can connect to, so that there is a center of gravity. If Switzerland continues to do what it does well, and finally finds ways to solve it quicker, it has great opportunities to become a real innovator in financial services as well.

BL: Where people are going to say Switzerland is the innovator is around "Crypto Valley". In Zug, there's serious hard-core crypto experience and there are many really smart guys. If you combine that with Switzerland's experience in institutional capital markets, you got the makings of some major global players. ■

John Hucker

John Hucker, CFA, is cofounder and President of the Swiss Finance + Technology Association, the center of gravity in the Swiss fintech ecosystem, representing stakeholders from all sides of the community. John is an MD at Taussig Capital. He most recently led fintech engagements for Credit Suisse Digital Private Banking. Prior to that, he held roles at UBS working with UHNWIs (ultra-high net worth individuals) and TD Asset Management working with institutional clients. He holds the CFA designation and an MBA from Saïd Business School, University of Oxford.

Dennis Just

Dennis Just is the founder and CEO of Knip AG, a mobile-first digital insurance broker that makes it easy for customers to track all their insurance policies, premiums, and benefits. The staff is there to advise users on all facets of their policies. Dennis founded Knip in September 2013. Today, Knip has over 100 employees based in three countries. The start-up is registered with IHK, the German Chamber of Industry and Commerce, and certified by TÜV, the German Technical Inspection Agency.

Bernard Lunn

Bernard Lunn is a founding partner at Daily Fintech Advisers. The company consists of a commercial part that works with fintech scale-ups, financial institutions and tech companies, and of an open-source platform written by entrepreneurs for entrepreneurs. Bernard is a serial entrepreneur and has done start-ups, scale-ups and turnarounds in the USA, Asia and Europe. He is a frequent speaker and moderator at fintech conferences.

ORGANIZATION IS TWICE AS IMPORTANT AT THE LEADING EDGE

Fintech projects often research new territory in technology,
but rely on sure ground just as much.

Yet since only one solution will win the race, speed is of the essence.

What does this mean for project organization?

By Kornel Wassmer and Martina Jan

Fintech projects often break new ground in technology. Large projects in particular require a different project organization than “old economy” projects. Guides in form of best practices, methods and processes are either missing entirely or their existence and documentation is basic at best. They need to be developed “on the fly” and parallel to the project. This requires the typical virtues of classic software engineering.

What qualifies a fintech project?

Our inventory refers to “large fintech projects” as software development projects involving several parties, teams and sub-projects and over 30 people. Embedding the solution in a tried-and-tested environment such as the IT architecture, operations, support, backend systems and of course regulatory framework is typically required.

**A SMALL WINDOW OF
OPPORTUNITY MUST
BE USED UNDER
GREAT MARKET PRESSURE.**

The target audience of the new IT solution must also be considered and is essential in the approach. Are they consumers (B2C), professionals (B2B) or internal employees? Developing a consumer-oriented application is the biggest challenge. Here it is not only important to utilize a small window of opportunity under great market pressure, but also to ensure usability, the appeal and the robustness of the application along with the update and feature cadence.

Lastly, fintech projects are typically based on leading-edge technologies. Meaning, these new technologies are the actual initial ignition for fintech. No wonder are the expertise, implementation and operating experience as well as technology management limited in the broadest sense. As already mentioned, best practices are still missing for various issues, after all.

**THESE NEW
TECHNOLOGIES ARE
THE ACTUAL INITIAL IGNITION
FOR FINTECH.**

How about AdNovum's fintech experience?

When we develop fintech solutions, for example a mobile payment app, we use the entire range of engineering skills. During development and supply we are constantly modifying the technical scope within the schedule and typically also the financial terms together with the customer or even completely realigning them – flexibly and ad hoc. The immediate market feedback, user acceptance, competing offerings and the technological foundation are trendsetting in the process. When it is a specific new application, it is also possible that the regulator will become involved during technical development. In this case we need to assess external factors of influence very quickly and, if need be, incorporate these directly into the technical system.

A large fintech project pushes the proven process models to their limits in many aspects. On the one hand, the connection between costs, time and scope needs to become flexible. On the other hand, the entire IT infrastructure of the company providing



Martina Jan and Kornel Wassmer: familiar with both classic and agile projects.

the solution must be willing to deal with these new framework conditions. This is required to meet the original purpose of the IT to make commercial use of the market opportunities.

Large fintech initiatives often turn out to be trial balloons, marketing vehicles, strategic spearheads or innovative market offerings. The client's economic terms consequently also vary: An IT solution may serve to utilize a brief opportunity and thus cannot be assessed as a long-term investment ("throwaway software culture"). Vice versa, an innovation may require a strategic investment in a new issue. This was for example the case with TWINT, the digital wallet launched by the PostFinance subsidiary with the same name in the summer of 2015 with the objective of revolutionizing mobile payment. TWINT entered a market which is on the strategic agenda of all well-known financial service providers.

THE CONNECTION BETWEEN COSTS, TIME AND SCOPE NEEDS TO BECOME FLEXIBLE.

So with fintech projects we are faced with a series of tasks: We utilize top technology, gain experience, practice technology management "on the fly", are agile in adapting the technical scope and only finalize the requirements once they have been tested on the market. Finally, we embed the solution in system landscapes and organizational structures based on professional and well-structured processes. Here we incorporate aspects such as economic terms, software as an asset invested vs. software as a marketing tool, and using resources for "trial and error" approaches.

Proven development process

Complex fintech projects greatly affect the classic strengths of a company such as AdNovum. One of these is an established and proven software engineering process. The ability to implement and provide technology management and life cycle, third-party component engineering, built-in quality assurance and continuous integration "out of the box" is crucial to the success of large fintech projects in particular. Only this allows for the quick yet safe integration of new technologies. Agile project organization which allows resources to be continuously optimized and always using the right people in the right place at the right time is also key. By avoiding or even eliminating unnecessary variances – i.e. questions such as "Which problems do we really want to solve?" – we can focus on the actual problems and the work packages.

Another important factor is having the know-how, experience and brainpower. Here, aside from straight capacity, quality of course is key. Our employees are experienced in continuously dealing with new techniques, technologies, methods, special fields and partners in their daily work. And collaborating in distributed and virtual teams is nothing out of the ordinary. Curious and motivated software engineers with the best education provide the best premises.

EVEN LARGE FINTECH PROJECTS CAN BE IMPLEMENTED QUICKLY AND SECURELY.

Last but not least, large fintech projects require the ability to quickly provide tremendous development capacities. This requires highly efficient and intelligent near- and offshoring. In the process it's crucial to also break the mould, even with respect to working with different locations, and to purposefully utilize the strengths of the individual locations.

Complex but possible

Although the project organization standards are even higher on the leading edge than normal and a number of factors need to come together for successful implementation, experience does show: Even large fintech projects can be implemented quickly and securely. This has been proven by well-known examples such as UBS Paymit and TWINT. ■

Kornel C.C. Wassmer

Kornel C.C. Wassmer, MSc ETH in Computer Science, has been working at AdNovum since 1996. In 2007 he became the Chief Development Officer and, in this function, is responsible for software development. He is a vintage car enthusiast and – in addition to the art of software engineering – tries to convey some savoir-vivre to the juniors. After giving up his career in politics he is able to focus entirely on advancing AdNovum.

Martina Jan

Martina Jan, organizer holding a federal certificate, joined AdNovum in 2012. As a project manager she was responsible for several medium- and large-size projects in various industries. In 2014/15 she supervised the UBS Paymit project, which was based on an agile approach and required flexible project organization. In her leisure time, she is an avid reader and equestrian.

TWINT

What does it do?

TWINT is primarily a smartphone app available for iOS as well as Android. This app allows users to register, load, manage or transfer money and pay via the physical register or online channels. In addition to payment options, TWINT also helps users manage loyalty cards and discounts. TWINT is also a complete wallet for your mobile.

Who's behind it?

The client for the TWINT app is TWINT AG. It is a 100% subsidiary of PostFinance and wants to establish the Swiss standard for a digital wallet. Despite having a well-known parent company, the TWINT solution is purposely open and designed to include other banks and partners. The system is developed separately from PostFinance's systems and is structured and runs as a stand-alone solution. AdNovum supports TWINT in all IT matters related to its "CIO as a Service" initiative – from requirements engineering to software development and integration all the way to complete 24/7 operation.

**IN THE COMING MONTHS
TWINT WILL GRADUALLY BE
UPGRADED INTO A FULL WALLET.**

How does it work?

The TWINT functionality uses a variety of system components, both on internal and third-party systems. The mobile app communicates with the TWINT back end via a JSON-based REST interface. A handshake between the mobile and the beacon via Bluetooth Low Energy (BLE) matches the customer with the point of sales. Both ends verify it via the TWINT back end.

The back end in turn links various internal and external systems using various interfaces: Merchants (or their cash register system), for example, communicate with TWINT via a SOAP-based merchant interface. Banks also use a specific interface to communicate directly.

Other components use the same architecture and to some extent the same interfaces to use the necessary services. For example web applications such as the merchant portal and the administration console as well as the TWINT merchant application developed specifically for merchants where the cash register is not networked.

Where is it going?

TWINT is still new and has a full backlog of ideas. In the coming months the system will gradually be upgraded into a full



Simon Zweifel: development coordinator of the TWINT project.

wallet. The app will offer users targeted promotions which they can take advantage of immediately. The TWINT back end has been and is continuously being updated with other components such as a data warehouse, CMS and a business analytics engine. ■

Simon Zweifel

Simon Zweifel, MSc ETH in Computer Science, has been with AdNovum since 2005. As a technical project manager he has managed several larger banking and e-government projects. He became the program manager for TWINT in autumn of 2014. He coordinates the overall planning and all development activity for the large project. His private life revolves around his young family, which always keeps him on his toes.

UBS Paymit

What does it do?

Paymit is an open system by SIX and several banks which primarily offers P2P payments between individuals via mobile. Once a large group of users had been built with this basic functionality, the system is now being expanded to the merchant-payments sector. The app offered by UBS is also available to non-UBS customers. Payments are debited straight from a bank account or a credit card. Adding funds is therefore not required.

Who's behind it?

Paymit is a product by a consortium of financial service provider SIX and several Swiss banks. UBS and ZKB were on board from the start. More partners have joined since, and others have announced joining. This open approach is a key strength of the system.

AdNovum is responsible for developing UBS' systems. On the one hand, this includes apps for iOS and Android, on the other also the back end integration into the UBS system environment. AdNovum was not only responsible for implementation but also for the business analysis, integration as well as maintenance and support. AdNovum implemented the user experience in close collaboration with UBS and external partners. The UBS design guidelines and international models served as the basis.

**THIS OPEN APPROACH,
WHICH ALLOWS ADDITIONAL
PARTNERS TO JOIN,
IS A KEY STRENGTH OF
THE SYSTEM.**

How does it work?

The UBS Paymit app is based on Cordova, the connections to the UBS back end systems use the proven approach of other UBS apps such as Mobile Banking. The back end at UBS on the other hand communicates with the SIX scheme, which ensures interoperability between various Paymit systems.

The UBS Paymit system is fully integrated into the bank's IT systems. One advantage here is how easy it is for UBS customers to register. On one hand, the big challenge is meeting the high security and data protection requirements of a large bank, and on the other hand to ensure rapid and agile implementation required in such a rapidly changing market.

Where is it going?

Paymit will primarily be upgrading functionalities in the next



Lukas Brügger: drives the development of UBS Paymit.

few months to make it a complete mobile payments solution. The first step will allow customers to pay small merchants via QR code scan. Integration into the SIX terminals is planned for the future. In addition, many more features are waiting to be implemented. The Paymit universe will soon see strong growth again when more partners are integrated. ■

Lukas Brügger

Lukas Brügger, Dr. Sc. ETH, has been with AdNovum since 2013. Holding various positions as software engineer, technical project manager and project manager he was able to gain insight into various projects in the banking and the e-government field. Over the past 18 months, UBS Paymit allowed him to follow the launch of a new app from the fintech field straight from the start.

THE RISE OF THE DIGITAL CUSTOMER

Digitization is becoming ever more common in the financial industry. Young fintech companies are leading this trend, while established providers find themselves in a tight spot.

by Rino Borini



Silicon Valley, New York, London, Berlin, Hong Kong, Singapore, Tel Aviv or Zurich – fintech start-ups are springing up like mushrooms all around the world. There are now approximately 12'000 companies which can be described as belonging to this sector. Not all of them will be able to survive into the future. There are various reasons why their business models do not work – missing banking expertise, lack of a customer base, inadequate capital, bad timing or simply a skewed basic understanding of customers' needs.

Even if not every fintech will be crowned with success, the sector in itself is creating a lot of pressure for the established players with innovative approaches, the use of new technologies and streamlined structures. Additionally, it has understood something that is still not clear to many traditional players – the customers have long been digital. Among the under 35-year-old people, who have grown up with the Internet, very few have ever seen the inside of a bank branch. But it is not only the young people who prefer digital services. The age group which is currently becoming digitized at the greatest rate is the generation of 55 years and over.

Traditional financial service providers in a tight spot

Many banks feel themselves threatened by the pace and the innovative pressure of the fintechs. More and more institutes are noticing that they cannot afford to ignore these new developments. Instead of isolating themselves and defending their lucrative domains for as long as possible, some of them are increasingly turning to cooperation. They do not develop internally but rather work together with the most promising fintechs – or buy them up.

About Rino Borini

Rino Borini is the cofounder and CEO of financialmedia AG. The independent media company puts out various publications in the economic and financial sector (the economics magazine PUNKT, the ETF platform 10x10.ch). The company also organizes numerous events and conferences (the leading Swiss Finance 2.0 & FinTech conference). Rino is also a member of the board of directors of Descartes Finance AG, an independent digital asset management agency. Prior to this, Rino was active in leading positions in the financial sector. The Certified European Financial Analyst (CEFA) has acquired a sound knowledge of banking and capital investments over a number of years.

The pressure is noticeable not only in retail banking but also in business with wealthy customers. They no longer wish to be merely cash cows but also want to profit from the new simplicity, transparency and flexibility. The situation is quite comparable

THE AGE GROUP BECOMING DIGITIZED AT THE GREATEST RATE IS 55+.

with the one 20 years ago, when the first Exchange-Traded Funds (ETFs) came on the market. These passive index products do not require any active management, but rather follow an index 1:1 and are therefore far more cost-effective than active funds. Initially, the fund industry had only a tired smile to offer the new competition. In the meantime, the sector manages 3 trillion dollars and growth is in the double figures. Active funds, on the other hand, have to deal with outflows of assets.

A development which will give additional impetus to ETFs is the rise of the digital asset managers, the so-called robo-advisors, a possible game-changer. They manage customer assets on a mostly automated basis, whereby the risk capacity of the investor is clarified in advance. They are implementing what investment professionals have always proclaimed – managing the assets according to strict criteria and with the complete exclusion of emotions. On the basis of the opportunity and risk profile, they set up a suitable investment strategy. The template is generally formed by half a dozen standard portfolios, which are reproduced with ETFs.

Interaction	Traditional advisor	Discount brokerages	Online investment platforms	Robo-advisors model
Service	Dedicated advisor	Dedicated advisor	Limited to no human interaction	Fully digital (if desired)
Offering	Holistic advise	Portfolio management + advisory	Transactional investment management + minimal advisory	Investment management + automated diversification
Target customers	Ultrahigh net worth and high net worth	High net worth and mass affluent	Across wealth tiers	Mainly mass affluent
Pricing	● High	● Medium	● Low	● Low

Development robo-advisory services. (Source: A.T. Kearney)

Future of robo-advisory services

What will the sophisticated digital platforms be able to do in the future? The customer’s risk appetite is nowadays determined using standardized questions and, based on this, a suitable strategy is proposed. Incidentally, this is what banks also do with many of their customers. In the future, with the aid of behavioral economics and gamification approaches, it will be possible to establish a much better digital profile of the robo-advisory customer. Digitization makes it possible to provide a better and more detailed customer profile and, above all, to adapt it continuously during the whole life cycle.

Moreover, the future digital asset managers are also breaking new ground in investment strategy, as there are no limits to the diversity. As soon as a strategy displays a clear set of rules, it can be packaged in an algorithm and integrated into an automated asset platform. Sustainability, dividend, momentum, risk minimization or value strategies – with robo-advisor 2.0 they can be easily implemented. This is comparable with iTunes, where the user can also compile his individual playlist.

Strong growth predicted

Worldwide, robo-advisors manage approximately 50 billion dollars. In the big picture, that is practically nothing. But this is also due to the fact that many customers are just not aware that such automated asset platforms exist at all. And, in addition, it is first of all necessary to establish trust. According to expert estimates, these digital platforms have the potential to manage more than 2.2 trillion dollars by 2020.

Even customer contact will change and become more diverse. The future belongs to hybrid models, which are already being

implemented by some US providers. A mail or a chat request is sufficient for standard queries. However, when planning a personal pension, most people will certainly prefer to have an in-the-flesh consultation. But, even in this case, a branch office will not be absolutely necessary in the future. It can also be done via video chatting.

This brings up the question of which role the advisor will play in the future. He will not become superfluous; but his tasks will change. He will increasingly become a coach, who sees digitization as an opportunity for simplifying the life of the customers. In the best case, he will become an experience maker. But many people have not yet caught up with digital reality. Just being able to use a tablet is far from implying that a person can think digitally. ■

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