DESIGN

Understanding the value
of design thinking to
innovation in banking

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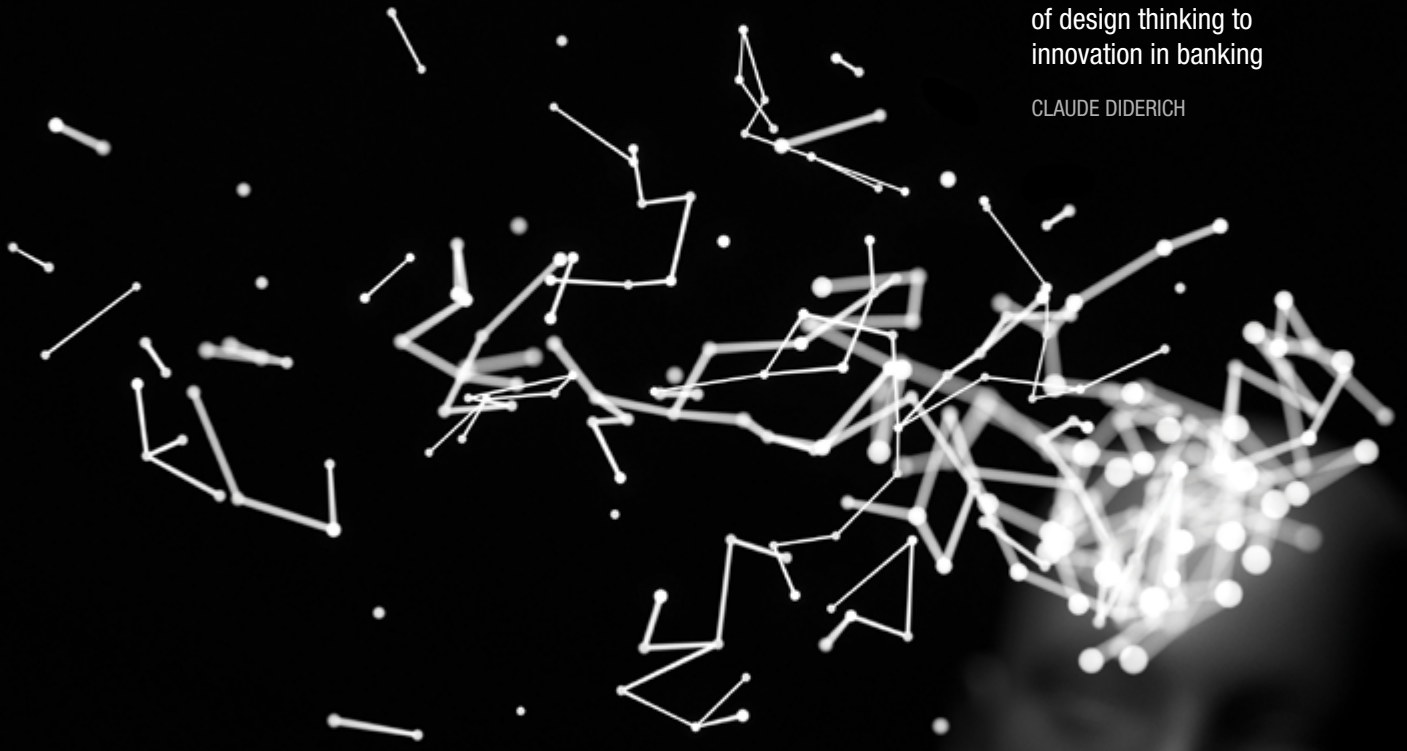
DESIGN THINKING

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DEAR READER,

Design thinking, a collaborative, human-focused approach to problem-solving, is no longer just for the creative industries. It has become an important management trend across many industries and has been embraced by many organizations. Its results are hard to ignore. Indeed, design-driven companies regularly outperform the S&P 500 by over 200 percent.[1]

To date, the financial services industry has not led in adopting this approach. However, leaders are recognizing that important challenges, such as engaging with millennial customers, can be best addressed by using design thinking, through the methodology's exploratory approach, human focus, and bias towards action. This edition of the Journal examines the value of design thinking in financial services.

Design thinking introduces a fundamental cultural shift that places people at the heart of problem-solving, which is critical in a technology-driven environment. If the customer's real problems are not fully understood, technological solutions may fail to deliver the desired impact. In this context, design thinking offers a faster and more effective approach to innovation and strategic transformation.

The case studies and success stores in this edition showcase the true value of design thinking in the real world, and how this approach is an essential competitive tool for firms looking to outperform their peers in an increasingly innovation-driven and customer-centric future. At Mastercard, design thinking has become a part of almost all organizational initiatives, from product development, research and employee engagement to solving challenges with customers and partners. Meanwhile, at DBS Bank in Singapore, a data-informed design model has been firmly embedded into the bank's culture, enabling them to successfully move from being ranked last among peers for customer service in 2009, to being named the Best Bank in the World by Global Finance in 2018.

I hope that you enjoy the quality of the expertise and points of view on offer in this edition, and I wish you every success for the remainder of the year.

Lance Levy, **Capco CEO**

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[1] http://fortune.com/2017/08/31/the-design-value-index-shows-what-design-thinking-is-worth/

UNDERSTANDING THE VALUE OF DESIGN THINKING TO INNOVATION IN BANKING[1]

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ABSTRACT

With the advent of fintech, the banking world has been confronted with the method of design thinking, a proven method for solving wicked problems. Design thinking unleashes creativity and supports developing innovative solutions that are desirable (customers are interested in buying), feasible (banks can deliver upon the promises made), and viable (banks can make a profit). It puts the customer center-stage and focuses on satisfying customer needs and understanding customer jobs-to-be-done. Through its iterative approach, design thinking delivers differentiated and superior solutions, both from a functional and an emotional perspective. By observing customers in their natural environment, prototyping and validating ideas, design thinking ensures that developed solutions work. This article discusses how design thinking can aid in making banking more innovative.

1. INTRODUCTION

Many banks have understood over the recent years, specifically since the advent of fintech, that innovation is necessary for success. It is not uncommon for larger institutions to have named a Chief Innovation Officer or launched diverse innovation projects. Unfortunately, most of these initiatives have yet to unleash their full potential. A mistake often made is to assume that innovation predominantly belongs to IT. Another reason for their limited success is that banks tend to foster innovation inwards-out, focusing on business process improvements, cost reducing digitization, or product engineering. A third reason for the lack of accomplishments can be found in the inherent business model of banks – intermediating financial assets in a highly regulated environment, like cash deposits to loans,

equities to investments, or payments. Indeed, exploring regulations to come up with creative ideas that offer added value to the parties involved in intermediation is a wicked challenge.

If you have ever been involved in an initiative to develop and launch a new product or service, the following characterization probably sounds familiar to you. Gyro is a bright banking employee who has come up with a groundbreaking idea for a mortgage product where customers can dynamically adjust the interest rate exposure, rather than having to wait for the loan to mature. He started by preparing a PowerPoint presentation describing the idea and presented it to his manager. As the idea was not killed right away, he presented it to multiple committees, each time embellishing the PowerPoint presentation in a different way to meet the

target audience's preferences. Throughout this process, his idea got watered down and drifted away from his initial vision, without really improving upon it. After he finally succeeded in convincing all those committee experts and getting a business case approved, he no longer deemed it necessary to seek formal feedback from customers. Then, with limited involvement of Gyro, IT launched a project to develop the supporting systems. Typical waterfall project management methods came into play. After double the time planned, and significant budget overruns, the new mortgage product was finally launched, just to find out that customers didn't understand it and failed to see the added-value in it.

" If traditional banks want to survive in the ever faster changing environment, they must become better at defining and exploiting their competitive advantages. "

At least since the latest financial crisis, how banks approach innovation has come under pressure from fintech startups, like Betterment, Revolut, or LendingClub, as well as large non-financial players, like Apple, Amazon, or Alibaba. These competitors exhibit superiority in four key areas:

- They do not have to worry about legacy systems and are therefore more agile.
- They own superior capabilities in exploiting economies of scale.
- They focus on addressing specific customer jobs in a superior way, rather than trying to offer everything for everyone.
- They apply a distinct method to problem solving, leaving linear, business case-oriented planning approaches behind, and focus on agility.

When analyzing why banks have such a hard time competing in the innovation space, three categories of root causes can be identified:

1. Technological: many banks still rely on legacy IT systems to support their core banking operations. The technology know-how of these platforms is hidden in an

oversized IT division, resulting in senior management not getting the full clarity and transparency of information required for efficient decision-making. This leads to cumbersome IT projects as well as a lack of business focus and customer-centric use of technology.

2. Cultural: even more prominent than technological aspects, are cultural reasons deeply rooted in the banker's DNA, hindering innovation. Typically, banks are risk averse, which reflects itself in a change-averse culture. The argument "but it worked fine in the past" predominates. Another key objector is the existing silo mentality and the "not invented here" syndrome. Finally, the cultural belief that banks know what the customers need better than they do results in not-so innovative solutions and not-so meeting real customer needs.

3. Business model: the third category of reasons that hinder innovation in banking are their approaches to doing business. The business model of a typical bank has not changed over the years. Banks are very slow to embrace new trends, hoping they pass by, as business cycles do. Limited number of new to the market products have been introduced. In addition, the market driven characteristics result in banks floating on the waves rather than riding them.

If traditional banks want to survive in the ever faster changing environment, they must become better at defining and exploiting their competitive advantages. The most prominent competitive advantage that banks have over startups is that they own trusted customer relationships. Indeed, various fintech firms have learned the hard way that acquiring new banking customers is much harder than acquiring typical consumer business customers.

But no customer relationship lasts forever. Banks must re-learn nurturing their customers' trust by focusing on

- solving real customer problems, rather than selling off-the-shelf products,
- offering a compelling customer experience that fosters trust, and
- focusing on delivering value for money, as perceived by customers, rather than the bank.

Being successful in banking requires putting the customers center-stage and supporting them in getting their jobs done [Christensen et al. (2016)].

2. DESIGN THINKING

In recent years, design thinking has become a valuable method for solving wicked problems. But what is design thinking, and why does it address the challenges faced by today's banking industry in a superior way?

Design thinking is a human-centered, iterative method for creative problem solving that draws from the designers' and architects' toolkits by integrating:

a. the needs of people, including customers – ensuring **desirability**,
b. the possibilities of available capabilities, including technologies – ensuring **feasibility**, and
c. the requirements for business success, that is, profitability – ensuring **viability** of the solution. [derived from Brown (2009) and Kelley (2001)]

Design thinking takes a different approach to looking at the world. It focuses on "doing in a collaborative way," rather than "planning in corner offices." By learning from creative people, design thinking focuses on developing and improving solutions in an incremental and iterative way. At the core of design thinking stands **abductive reasoning,** starting with a set of abstractions and seeking for the simplest and most likely solution. The initial solution is then improved upon through inference towards a great solution. Unlike deductive reasoning, abductive reasoning does not assume that the solution is contained in the premises of the problem. It is based on Einstein's saying, "we cannot solve our problems with the same thinking we used when we created them".

But design thinking is more than just a problem-solving method, it is a **problem-solving ecosystem fostering innovation**. This ecosystem, which defines the design thinking culture, is made up of three key characteristics:

1. A design team, and its members, exhibiting diverse traits and bringing varied expertise and experience to the table.

2. A location where the team can be creative and thrive, sometimes a garage, a loft, or a lab.

3. A method and associated frameworks supporting the creative process by giving it structure, focusing on combining divergent and convergent thinking.

2.1 Teams

Design thinking is based more than any other creativity or problem-solving method on teamwork. Putting together a great design team is a challenge, the first of many faced on the journey to success. Team members should cover the diverse skillsets that innovation requires and include visionaries (rising above the status quo), troubleshooters (fixing short-term problems), iconoclasts (challenging the status quo on any occasion), pulse takers (those who can obtain the perspectives of stakeholders through formal and informal channels), craftsmen (offering expertise in building and prototyping), technologists (functioning as subject matter experts), entrepreneurs (great in thinking and doing but needing freedom to thrive), and cross-dressers (enthusiasts that are always open for something new) [Kelley (2001)]. Teambuilding is about leveraging diversity, sameness is not the goal.

Just assembling the right people, building a team with a great spirit, is not enough. To be successful in design thinking, team members must be fully committed. How often have you been in a team meeting when a key player left half-way though because they had a different, more important, meeting to attend. In design thinking, this must not happen. Solving the challenge at hand must be the design team members' top priority. Design thinking is not a part-time job. And it is especially not a bandwagon on which one can hop-on and hop-off. Design team members must be engaged throughout the whole problem-solving process. This does not mean that anyone involved must be fully committed. It only means that those not fully committed cannot be part of the core design team. Their role reverts to one of stakeholder, like a customer, a risk manager, or a back-office employee, providing an opinion. In design thinking, they are called informants.

2.2 Location

A team, by its mere definition, requires individuals working together toward a common goal. This implies collaboration. Although today's technologies allow collaborating from remote locations, successful design teams interact physically, most of the time. Technologies, like Skype, Conceptboard, or Google Hangouts, are great for interacting with informants, but not for creative problem solving.

In addition to being present in the same location, creativity needs a unique working environment. This environment must allow designers to interact and brainstorm, as well as provide quiet places to think. This does not mean that every bank needs to transform their offices into a Google-like playground. It means that windowless cubicles do not work. Depending on the challenge to be addressed, different working environments are most appropriate. Sometimes a large meeting room with blank walls and lots of flip-charts and post-its will do. Sometimes more evolved setups are needed. Ideally, the design team members should be able to configure their own working environment. Banks should view offering their creative minds a compelling work environment as an investment, rather than an expense. Combined with the right team, it will pay off multiple times through increased productivity. According to Kelley (2001), creating a great working environment is nearly as important as hiring the right people. Both are indispensable.

2.3 Method

The design thinking method, which finds its roots in Simon (1968), is based on iteratively combing phases of divergent and convergent thinking, working towards a feasible solution. Work by Arnheim (1969), McKim (1973), Lawson (1980), and Cross (1982, 2011), amongst others, refined the method over the years. A diverse set of design thinking method variations have emerged, from e.g., Stanford's d.School, University of

Virginia's Darden School of Business, the MIT Sloan School, the Hasso Plattner Institute of the University of Potsdam, or the University of St. Gallen. Although each of these variations of design thinking includes different terminologies and sometimes different steps, they all follow the same philosophy, that is, observe to learn, prototype ideas, and validate designs with real users. The design thinking method illustrated in this paper is based on the double diamond approach of the British Design Council. Figure 1 illustrates the four steps of the design thinking method, primarily supporting service design. Each of the four steps i) observing, ii) learning, iii) designing, and iv) validating, focuses on a specific outcome and builds upon the findings from the previous steps. If the input at any step is insufficient or inappropriate, the design thinking method iterates to fill the identified gaps.

2.3.1 OBSERVING (DIVERGENT THINKING, FOCUSING ON UNDERSTANDING THE PAST)

Observing is where design thinking starts. It focuses on objective fact-finding. Its goal is understanding the challenge to be addressed and screening the solution space from different perspectives. Observing aims at gaining a comprehensive understanding of the environment in which to design a solution, including identifying constraints and opportunities. This means that typical, as well as extreme, informants, those that have a strong positive or negative bias towards the challenge, should be observed.

Figure 1: Linearized representation of the design thinking method based on the double diamond approach
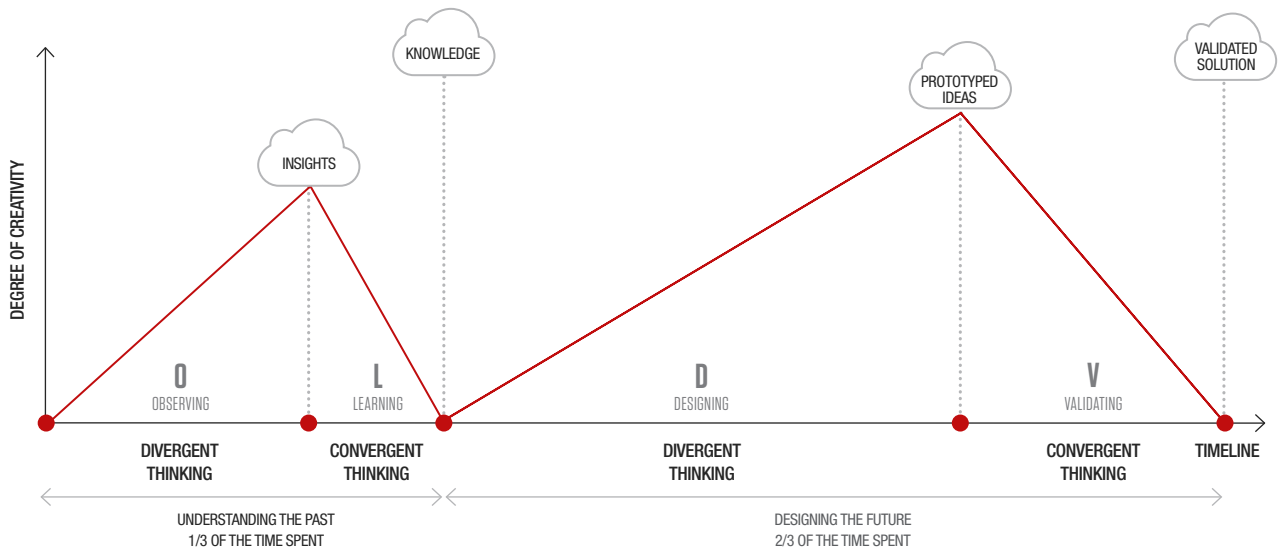
In contrast to the typical problem-solving techniques, design thinking does not start with asking questions and interviewing informants. Indeed, the so-called Henry Ford trap[2] must be avoided. Design thinking is based on passive observation of informants, primarily customers, in their natural environment. No a priori root cause or potential solution should be assumed. Successful observation proceeds iteratively in a top-down manner, focusing on both functional and emotional aspects, which make up the actual insights universe. The focus is put on those observed insights that are deemed most relevant. Techniques developed in ethnography [Spradley (1980)] come into play.

Typically, observing wealth management advisory clients would involve focusing on what they are doing with the investment advice received. Are they reading the reports received or are they only browsing through them? Who do they involve in decision taking? How do they translate the advice received in a quantified transaction? What kind of feedback do they seek from the bank's advisor before trading? Observations to find answers to these questions and more are important for designing an advisory offering that best serves the customer's way of addressing their job-to-be-done, that is, investing. Facts matter more than opinions!

To complete the picture obtained from passive observation, exploratory interviews are conducted [Spradley (1979)]. Good exploratory interviewers spend about 20% of their time asking questions and 80% listening to the informants. At the end of the observing step, the design team has collected many objective insights around the challenge at hand.

2.3.2 LEARNING (CONVERGENT THINKING, FOCUSING ON UNDERSTANDING THE PAST)

Learning in design thinking means structuring the insights gained to obtain valuable knowledge that can be used as the basis for ideating, prototyping, and designing innovative solutions. Learning is about extracting knowledge in an agile way. Mastering the learning step is one of the secret ingredients of successful design thinking.

Learning starts with selecting one or more frameworks to structure the insights gained. Typical frameworks that come to application are personas [So and Joo (2017)], the customer journey map [Liedtka et al. (2014)], the

Figure 2: Summarized customer journey map derived from observing the persona Jenny, a new customer, while opening a bank account

DESCRIPTION	Identifying a bank	Visiting the selected bank	Getting advice about the offering	Completing paperwork	Returning home
RESPONSIBLE STAKEHOLDER	Jenny	Jenny	Bank advisor	Jenny	Jenny
INVOLVED STAKEHOLDERS	Friends and family	Bank support personnel	Jenny	Bank advisor	
FUNCTIONAL INSIGHTS	• Searches for banks on the internet • Asks friends and family members for suggestions	• Checks opening hours • Drives to bank • Looks for a parking spot	• Waits for the next available advisor • Listens to the advisor explain the offering • Ask questions • Looks at brochures handed over	• Decides which account offering to chose • Scans documents • Asks additional questions • Signs documents • Asks for copy of documents	• Returns home by car • Informs her employer of the new bank account to be used for salary payments • Waits for the credit card to be delivered by mail
EMOTIONAL INSIGHTS	• Is unsure about the bank chosen • Questions the trust in the bank identified	• Does not know what time is best to visit the bank branch to minimize wait time • Assesses bank based on greeting received	• Is somewhat lost with the large number of options • Feels reluctant to move forward because of a lack in understanding	• Feels pressured to sign documents • Does not understand the legal writings	• Feels relieved to finally have a new bank account

[2] Henry ford is often quoted as saying "If I had asked what customers want, they would have said faster horses. And we would never have invented the car." Although there is no factual evidence that Ford actually said this, history indicates that he was most likely thinking along these lines; that is, believing in the apparent inability of customers to formally state their unmet needs.

business model canvas [Osterwalder and Pigneur (2010)], and the value chain [Porter (1985)]. Frameworks help categorize insights, as well as separate the relevant from the irrelevant. Figure 2 illustrates a summarized version of the customer journey map used to describe opening a new bank account. As can be seen, the customer journey starts the moment they identify the job-to-be-done, that is, wanting to open an account at a new bank, looking for a bank branch to visit. Important knowledge, like how the persona Jenny assesses trust when arriving at the bank branch – namely through how she is greeted, rather than focusing on the building appearance or furniture – is identified. Another important learning documented in the customer journey map is that Jenney is having a hard time with the legal documents she must sign, providing a design opportunity to improve upon.

> " Just because a prototype looks promising to its designers does not mean that it will be accepted by customers. "

2.3.3 DESIGNING (DIVERGENT THINKING, FOCUSING ON DESIGNING THE FUTURE)

Designing is where creativity is unleashed. Based on the knowledge gained so far, novel ideas or novel combinations of existing ideas, are generated. The popular ideation method, brainstorming [Osborn (1963)], is mostly used for ideation. Alternatively, more recent and more elaborated methods, like anticonventional thinking [Baumgartner (2015)], collaborative structure enquiry [Baer et al. (2013)], or the what-if-wall method [(van der Pijl et al. (2016)], may be applied. There is no single best ideation approach. Whichever method is used, design thinkers must avoid the trap of falling in love with their first idea.

During the second part of designing, ideas are transformed into solution prototypes. Prototypes may be physical solutions, mock-ups, conceptual illustrations, sketches, role plays, or even mental models. Prototypes do not have to be complete. Optional features should be left out. The only requirement that any prototype must fulfill is that it is sufficiently realistic to allow for testing

its validity. Prototypes must allow the users to find out what works and what does not. Prototyping should follow the basic principles – keep it simple and focus on the essential. It is not uncommon, it is even typical, to iterate between ideation and prototype building. The LEGO® SERIOUS PLAY® method [Kristiansen & Rasmussen (2014)] allows for combining ideation and prototyping in a 3-D world.

Storyboarding may be used to describe how a customer can open a bank account purely online. Each illustration would focus on one process step, like the customer showing their passport or ID card to the webcam allowing the bank employee to identify them, or the customer signing documents with their finger on their mobile phones.

2.3.4 VALIDATING (CONVERGENT THINKING, FOCUSING ON DESIGNING THE FUTURE)

Just because a prototype looks promising to its designers does not mean that it will be accepted by customers. The validation step is a key feature of the design thinking method, not found in other problem-solving approaches. Not only does validation ensure desirability, feasibility, and viability of the prototyped solution, it also helps remove grid-lock discussions, often encountered in boardrooms [Liedtka et al. (2017)], by exposing decision making to field experiments.

Validation starts by formulating assumptions underlying the developed prototypes. Assumptions are prioritized based on their relevance for success and their complexity to validate. Validation experiments are designed and executed. The outcomes are used to improve upon the designed prototypes. In the context of business model prototypes, iteratively improving prototypes is called pivoting [Ries (2011)]. Validation is as much about learning from failure in a controlled way, as it is about mitigating risks. It is important to understand that validation in design thinking is different from hypothesis testing in statistics. Validation is forward-looking based on experiments involving actual and potential customers, whereas statistical testing is backward-looking and reliant on historical data. In addition, the goal is different. Validation is about supporting decision making, whereas statistical testing is about t- and p-thresholds.

Figure 3 illustrates a typical experiment card used to document a design thinking experiment, focusing on validating the assumption that millennial banking

Figure 3: Typical experiment card documenting a validation experiment about millennials' preferred communication channel with banks

ASSUMPTION	Millennials prefer to communicate via standard messenger apps rather than contacting a call center
EXPERIMENT	Pose a typical challenge to the test participants and offer them the option to contact the bank via WhatsApp (a proxy for a standard messenger app) or via call center to address it
TEST POPULATION	Millennials (initial test population size of 100 participants, add 50 participants per additional test round)
METRICS	• Measure which channel is preferred by the test participants • Measure which channel leads to getting the challenge addressed • Measure how many test participants switch from WhatsApp to call center after they fail to initially address the challenge
DECISION THRESHOLD	Accept the assumption (all conditions must be met) • 70% of the test participants chose as first communication channel WhatsApp • 80% of the test participants get the challenge addressed via WhatsApp Reject the assumption (any condition) • 70% of the test participants get their challenge solved by contacting the call center, either as a first or a second option • At least five test rounds have provided inconclusive results Inconclusive result • Perform an additional round of experiments

COSTS	RESOURCES	IMPACT
Low • Reward test population with small gift	Low • Agents answering challenge questions via WhatsApp and calls to the call center	High • Communication preference is determined • Satisfaction (challenges solved) is included in experiment

customers prefer using messaging apps, like WhatsApp or Facebook messenger, over communicating with their bank through an anonymous call center. The focus of the experiment is getting enough insights so as to be able to decide whether to offer messenger app-based or call center-based support to millennial customers.

3. PRACTICAL PERSPECTIVES

To illustrate key traits from using design thinking in a real-world setup, I consider the case study[3] of a medium-sized retail bank seeking to attract new customers. They wanted to extend their customer base with new entrants into the labor market, so-called millennials, receiving their first salary and no longer living with their parents. The challenge to address was formulated by the bank's board as introducing a new 100% mobile phone app-based banking offering for millennials. Any interaction with the bank should go through the to-be designed app. This challenge is a typical wicked problem ideally suited for design thinking. It focuses on a specific customer segment and its jobs-to-be-done: mobile banking. Although a lot has been written about millennials, it

remains an open question how they, and not the bank, define mobile banking, especially with respect to need-to-have features. Applying design thinking in a purist way would have addressed the decision to go for a mobile phone app-based offering as part of the design process, based on observations and validated through experiments, rather than as a given.

3.1 Team

The first challenge the bank addressed, once the project got board approval, was to build a team. A review of available internal resources and capabilities concluded that significant external expertise was needed. They decided to assemble a core design team of around a dozen people, including strategy consultants, user experience designers, and software developers proficient in app development as well as back-office integration. The bank decided to staff the project office, including the overall project manager, with in-house employees. Very important to success, the board was tightly associated with the project. Coordination meetings with key board members and the design team were held on a weekly basis. The tight interaction with the board ensured critical buy-in at the most senior level of the organization. In addition to deciding on the next steps and guiding the project, the coordination meeting was authorized

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[3] The presented case study is based on a real-world application of design thinking. It is presented in an anonymized way to be able to describe the highlights and challenges faced more candidly. The description is solely based on publicly available information. Neither the author, nor its employer, was involved in the described case.

to release fund and resources, if and when needed. Although this may worry some managers accustomed to thorough business cases and annual budgeting processes, design thinking embraces allocating funds and resources in a just-in-time way, notwithstanding a sizable and focused case for action. This agile way of handling budgets is key in design thinking due to the agile nature of the method.

3.2 Location

The bank decided to co-locate the core design team in a so-called war room,[4] allowing for optimal interaction. The war room was based at the headquarters of the bank, ensuring quick communication with major internal stakeholders. An alternative would have been locating it at a branch currently well frequented by millennials. The board prioritized closeness to internal stakeholders over closeness to customers. This decision is sound as the bank is not designing a solution focused on face-to-face interaction, but rather an app-based servicing model. In addition, all partners not part of the core design team, like software developers or user-experience designers, were required to have their offices within less than two hours of traveling time and speak the same language as the design team. The reasons for these decisions were ensure speedy and smooth interactions.

3.3 Method

As most design team members were new to design thinking, the team decided to use ethnographic interviews with target customers as the primary means of identifying insights, rather than relying on passive observations. After interviewing around 100 informants, the design team, during the learning step, came up with a list of jobs-to-be-done sought after by millennials. The offering must:

- include a current account to which the employer of the millennials can wire the salary,
- offer the ability to pre-allocate cash to different spending goals, like paying the rent or the electricity bill, and savings targets, like buying a new snowboard or going on a trip to Vietnam,
- allow for transferring funds to friends and share part of the funds with their partner or other millennials living in the same residential community,

- support retrieving physical cash (yes, millennials still want to have the option to withdraw cash, as some locations they frequent, like music festivals, only accept cash) and paying via their mobile phone,
- permit paying bills via wire transfers,
- and, very importantly, millennials are not willing to pay for getting their core banking jobs done, although they expressed a willingness to pay for additional, more sophisticated added-value services.

Most of these are standard banking jobs. Especially interesting is the need for specific budgeting and savings functionalities. This shows that millennials have a very structured approach to handling their cash assets. Interesting also is the lack of requirements for international functionalities, like handling SEPA wire transfers. The requirement for a free offering led the bank to strategize around freemium business models [Kumar (2014)] in the context of banking privacy constraints. But the decision was deferred to a later stage, focusing first and foremost on new customer growth. Although unusual in the banking world, it is quite common in internet business models to defer the profit formula question to after having achieved a certain customer base.

Based on the identified jobs-to-be-done, the design team developed an initial minimum viable offering specification. By iterating through four steps, at times on a weekly basis, the design team evolved the concept of a mobile banking app offering into a launched product.

1. Build and extend a prototype of the mobile banking app, adding specific functionalities one at a time, rather than focusing on delivering a fully functional app.

2. Make the mobile app prototype available to a selected group of target millennials for testing.

3. Collect feedback from the test users by conducting individual interviews, focusing on issues identified, ideas for improvement, and suggestions for prioritizing new features.

4. Adjust the minimum viable offering specification, incorporating the feedback received.

5. Iterate back to step 1 until the mobile banking app is considered good enough for launch by the test users.

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[4] Sometimes war rooms are also called greenfield or lab rooms.

Positive feedback from the target millennial users was considered a necessary condition to adjust the app or add new features to the prototype. In addition, any changes were screened for consistency with the business strategy associated with a 100% app-based banking offering. A typical feature that was included based on user feedback was the possibility to associate a personal photo with a specific budget position; for example, associating a picture of a snowboard to the associated savings positions.

Due to the tight and iterative design schedule, various functionalities were included as building blocks from third parties as is, rather than customized for the prototype. This led to one key challenge not being fully addressed ahead of the launch. The credit card provider used, which is the one the bank uses for non-app customers, does not allow loading the credit card on the mobile phone and use Apple Pay or Samsung Pay. This led to the offering having to include a physical credit card, departing slightly from the 100%-app based offering goal.

The offering was launched after only ten months and exceeded, according to the bank's own estimates, its expectations. Rather than consider the offering being completed with the launch, the bank decided to continue iteratively improving the mobile banking app and adding additional features, using the same four design thinking steps, although at a slower pace than during the pre-launch period and expecting to do so for quite some time in the future.

4. REFLECTIONS

Design thinking has proven itself as a successful method for solving wicked business problems. Nevertheless, it is important to note that not all business problems require a full-fledged application of design thinking. For some problems, where the solution is clear, using design thinking is even counterproductive. Sometimes, only individual steps, or elements from those steps, are necessary, like, for example, validating a solution with real users, rather than assuming the project team knows best.

While reviewing numerous design thinking projects, I observed five key insights that need considering when applying design thinking to problem solving:

1. Applying design thinking to solve challenges found in banking requires a business strategy beforehand. No problem-solving method can overcome the lack of strategic directions. As the cat said in Lewis Carroll's Alice in Wonderland [Carroll (1865)], "If you don't know where you want to go, it doesn't matter in which direction you go." This may sound trivial, but many challenges observed in banks exist because of a non-existing, unclear, or poorly communicated strategy.

2. The composition of the design team and its location environment are as important as the design thinking method itself. Getting either wrong significantly increases the chances of failure. Without people willing to think out of the box and embrace change, no design thinking project will succeed.

3. Design thinking is about customers and their jobs-to-be-done. Unless target customers and their jobs-to-be-done are well understood, design thinking projects will fail. Taking a customer-centric approach is the only way to address customer pain points and their thought-after gains.

4. Design thinkers will get it wrong the first time! Failure must not discourage. It should support learning from mistakes and improving in subsequent iterations. Design thinkers get multiple chances to succeed, but only if they are willing to learn from and understand failures. Iteratively moving toward a sound solution is at the core of design thinking.

5. Without decision makers, usually executives or board members, involved, design thinking projects will most probably fail. Ideally key decision takers should be an integral part of the design team. If this is not possible, the design team should at least involve decision makers in experimenting during the validation step.

5. CONCLUSION

Whether it is fintech, new regulations, or increasing customer demands, banks need to rethink the way they address wicked challenges related to designing and launching value-adding products and services that meet current and future customer needs. Design thinking has emerged as a highly effective and customer-centric method for solving these types of business problems. It is based on observing customers in their natural environment, prototyping ideas, and validating them with real customers in an iterative way, working towards the best possible solution. It helps banks to target their innovation activities towards profitable creativity around customer needs and avoid being disrupted by incumbents.

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