

Lessons from Building the
First ASEAN Digital Bank

DRIVING DIGITAL TRANSFORMATION

Dennis Khoo

“What makes this playbook particularly valuable is that it is written by Dennis Khoo, one of the sharpest minds in the industry.”

– Mary Huen, CEO, Standard Chartered Hong Kong

Traditional banks are facing unprecedented disruption from challenger banks today. So why aren't more of them launching challenger banks of their own? Well, two high-profile examples – JP Morgan's Finn and RBS's Bo – were launched with much fanfare, but both shuttered after less than a year.

In light of this, the success of TMRW digital bank by UOB, launched in Thailand in 2019 and Indonesia in 2020, is astonishing. Dennis Khoo, who created TMRW, shares with us the thinking behind the design of this revolutionary undertaking. At every step of the way, he and his team went against established paradigms and bucked conventional wisdom to build ASEAN's first digital bank.

Filled with visionary analysis and on-the-ground guidance, *Driving Digital Transformation* demonstrates how this success can be replicated across all industries. For any leader or organisation starting on a major digital initiative, this book is a must-read.

As group head of TMRW Digital Group, **Dr Dennis Khoo** was responsible for the strategy, growth and delivery of TMRW digital bank, which won Global Finance's Most Innovative Digital Bank in Asia Pacific award in 2019. Dennis holds a PhD in Business Administration and a Doctor of Philosophy for his work in International Business. He is a WABC Registered Corporate Coach and has mentored and coached many successful executives.

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Driving Digital Transformation

Lessons from building
the first ASEAN digital bank

DENNIS KHOO

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CHAPTER 5

The allDigitalfuture Playbook™: A step-by-step guide for any digital transformation

When we set out to build TMRW, there wasn't any set methodology for us to follow. Even when we hired the top management consultants to help us, they didn't follow any specific methodology, and to my knowledge they don't do so today either. That isn't to say they didn't have the required toolkits for the different situations we encountered, but more that there was no playbook we could adapt to our situation to make the journey easier. A playbook that could delineate the key dimensions we would need to consider, how the dimensions interact with one another, and thus surface the trade-offs that we would need to make. Such a playbook would also have established a common language and approach to guide us through the difficult early days.

In hindsight, it was easy for me to synthesise what our playbook should have been. This work has become **The allDigitalfuture Playbook™ (TaP)**. It represents what I think every digital leader would want at the start of their transformation. Although it is built on my experiences in banking, I have created the playbook to allow it to operate in any industry, not just in financial services.

Why do you need a playbook? The answer is simple. While spending on digital transformation has skyrocketed globally, research shows that few digital transformations achieve their desired results (Bendor-Samuel, 2019; Boutetière et al., 2018; Deakin et al., 2019; Kitani, 2019; McKinsey & Company, 2016; Rogers, 2016; Solis, 2020; Sutcliffe et al., 2019; Wade, 2018). According to IDC, worldwide spending on digital transformation technologies (hardware, software, and services) is expected to be more than \$2.1T in 2021. Yet, of the \$1.3T that was spent in 2018, it is estimated that \$900B went to waste (Tabrizi Behnam et al., 2019).

To avoid this fate, we need to understand **why the majority of digital transformations fail**. Thomas Davenport and George Westerman, writing in the *Harvard Business Review*, had this to say: "Digital is not just a thing that you can buy and plug into the organisation. It is multi-faceted and diffuse and doesn't just involve technology. Digital transformation is an ongoing process of changing the way you

do business. It requires foundational investments in skills, projects, infrastructure, and, often, in cleaning up IT systems. It requires mixing people, machines, and business processes, with all of the messiness that entails. It also requires continuous monitoring and intervention, from the top, to ensure that both digital leaders and non-digital leaders are making good decisions about their transformation efforts" (Davenport & Westerman, 2018).

Many transformations fail, therefore, because the organisations vastly underestimate the complexity of the many dimensions, elements and considerations involved. In particular, it is the **circular interactions** between these multiple factors that gives rise to severe complexity.

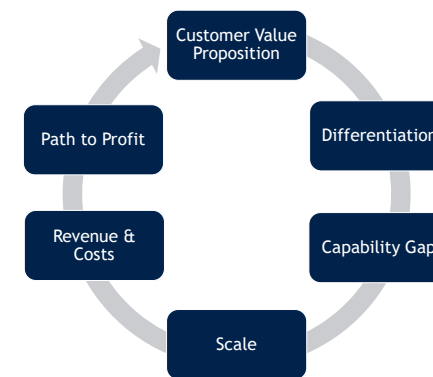


Figure 43 – Circular interactions cause severe complexity

Figure 43 illustrates the interactive nature of the challenge at the heart of any complex issue or system. For example, developing a strong customer value proposition naturally provides more differentiation, but that usually means potentially a bigger gap between the core competences you have and those you need to develop. This in turn increases both the risk of execution failure and cost of the transformation as the capability gap is large. But yet if the differentiation isn't strong enough due to a weaker proposition, it may result in an inability to scale, affecting the revenue and profit in turn. Exposing and managing circular interactions is one of the unique approaches found in TaP that can help improve the success of your digital initiative. By exposing these interactions, TaP makes it easier for you to identify the trade-offs required.

In order to manage these complex interactions, you have to look at your initiative from a **systems approach**, which means looking at all important dimensions like customers, business, capabilities, people and leadership – the four TaP dimensions – and within each dimension, elements such as target segment, gaps in expectations and unmet needs, path to profit, differentiation, new methodologies, etc.

In highly competitive and commoditised industries like banking, because there are **few big singular breakthroughs left, you need the patience and attention to detail to sweat through the finer points** and be very fussy about the eventual experience for both customers and staff of the new bank. Banking tech has very little that can actually be considered proprietary intellectual property. It's not the deep tech that you find in LCD displays, where the drive for better resolution cannibalises older models, e.g., 1K TVs giving way to 4K and now 8K resolution in a matter of a few years, or in mobile phones, where having the technology to shrink the size and weight whilst increasing the battery life is paramount.

So, innovation is still needed to build a digital bank, regardless of whether you are an incumbent bank looking to buy insurance against an uncertain future, a neo-bank looking to expand regionally quickly or a digital challenger bank looking to build the new model bank for the digital era, but it's a different form of innovation vs deep tech. The innovation, in my view, is mostly about breaking out of the existing paradigm of the industry, designing and implementing a new business model and creating a different way of thinking and working. Most digital transformation initiatives in many industries are likely to fall into this category.

Our starting point is a better understanding of innovation in the context described in the prior paragraph. Borrowing from the concept first made popular by IDEO, and now universally adopted by the majority of design practitioners, I define innovation as “a novel proposition that is desirable, feasible and viable” (Fenn & Hobbs, 2017; Jeffries, 2011; Osterwalder, 2017). **The world has plenty of ideas but few innovations, because unlike ideas, innovations must meet the desirable, viable and feasible criteria.** Novel indicates that it must be something new, so no matter how small, there must be a new twist in the way something is done, e.g., disposable one-time-use superglue would count as a packaging innovation, whilst the invention of superglue itself would qualify as a product performance breakthrough.

Desirable establishes that it is only an innovation if customers want to pay for it, and this is linked to viability, because if no one pays for it, then eventually the idea cannot be turned into an innovation that can sustain itself. Even stuff that's free isn't really free. A good example is Google search. Google search was free from the start for the individual customer so that Google could quickly ramp up the number of customers using it, and once there were enough customers using it, Google could monetise search by charging advertisers and companies for lead generation. Freemium games work the same way. They attract players with free games who get addicted and are then enticed to buy the additional power-up or weapon to progress faster in the game.

So, in the context we are addressing, the customer must want it and must be willing to pay for it. The amount the customer is willing to pay for it is an indication of how desirable it is, and also how viable it is, given that there must be enough

customers who are willing to pay that price for the whole proposition to make sufficient profit. This leads to the second criteria, i.e., it **must be viable in that it must be profitable and able to sustain itself.** And finally, the **innovation must be feasible to execute and bring to life.** In order to achieve this, a clear idea of the capabilities, people and leadership required are essential. All this sounds simple enough, but it quickly gets very complex as we move one level down and look at how to bring the innovation to life and tick the boxes on all three criteria.

The four dimensions of TaP (Figure 44) are: Customers, Business, Capabilities, and People & Leadership.

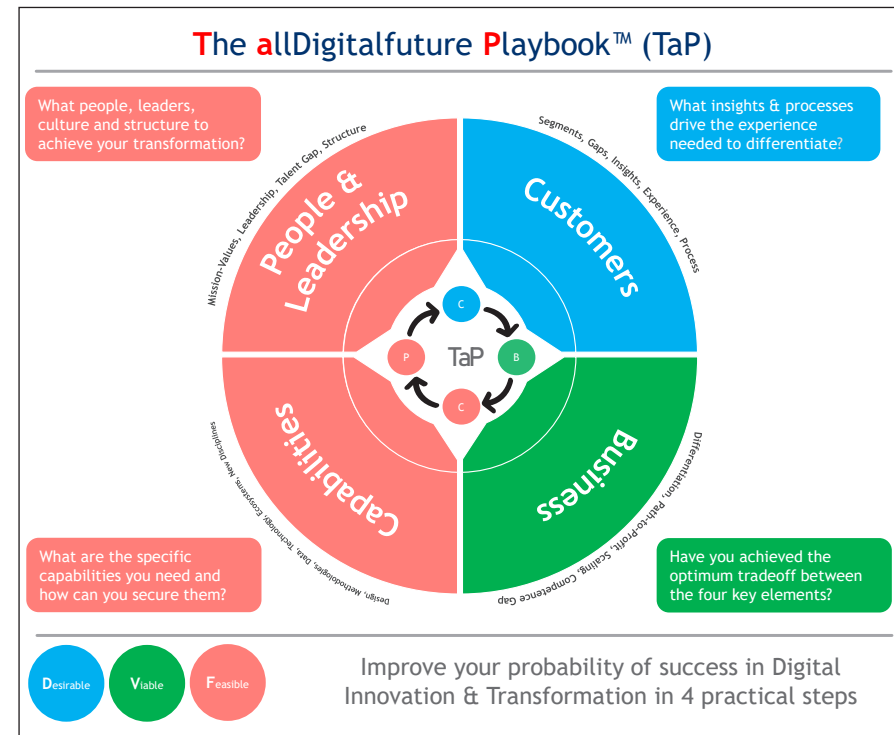


Figure 44 – The allDigitalfuture Playbook™

1. The **Customer** dimension examines the rationale behind the target customer segment chosen and the gaps as dictated by their behaviour, habits, pain points, unmet needs and expectations. An analysis of the size and attractiveness of the segment and other target segment options should also be completed to fully ascertain both the profit pool and desirability of the proposition. The output of the customers dimension is the **customer value proposition**.

- The **Business** dimension examines four important elements that determine the viability of the proposition, namely, path to profit, differentiation, scaling and alignment with the current core competence of the business. The output of the business dimension is the **business model**.
- The **Capabilities** dimension looks at the enablers required to deliver and bring the proposition to life. Here the focus is on the design of the proposition, consideration for new disciplines, e.g., in analytics, instrumentation, or specialised manufacturing, ecosystems that can help the business produce the proposition or scale up the adoption. Technology to digitalise the proposition, the use of data and the introduction of new methodologies like design thinking, lean thinking, agile delivery, etc., would complete the elements needed to make the proposition feasible. The output of the capabilities dimension are the **business enablers** you need to succeed.
- The **People & Leadership** dimension is the last but arguably the most important dimension, as in the end, it is the people and the leaders that bring the initiative or proposition to life. The output from this dimension are the **people enablers** you need to design, build and deploy the transformation.

In the following chapters, we will delve into each of these dimensions in turn. Just remember that everything is interconnected. There is sometimes a tendency in digital transformations, when faced with all these interconnected interactions, to believe that there must be a simple way out. Yes, there is a role for simplicity, especially in the offering, the messaging and the design and use of the product or service. But there are also **severe shortcomings in thinking that everything is simple**, because it is not. Figure 45 shows how the four TaP dimensions spin off into further depth, providing a map of how to navigate the crucial considerations and interconnections. Trying to initiate, design, build and run a digital transformation initiative within an incumbent business of scale is a complex problem, period.

In addition, what makes TaP truly ground-breaking is how it integrates traditional business strategy practice with **human-centred design**, continuous improvement, ambiguity, design considerations and methodologies like design thinking, Lean Six Sigma, agile. There is no other playbook out there with such an integrated approach that can significantly increase the success rate of your digital innovation initiative.

As I reflect on what factors most contributed to our ability to produce a world-class digital bank platform in TMRW, this one stands out most. I concentrated my time and attention on connecting the dots, and ensuring that before we acted on one dot, we fully understood the impact on all other dots. This is very hard to do. But there is no other way. If there were, we would have taken that path.

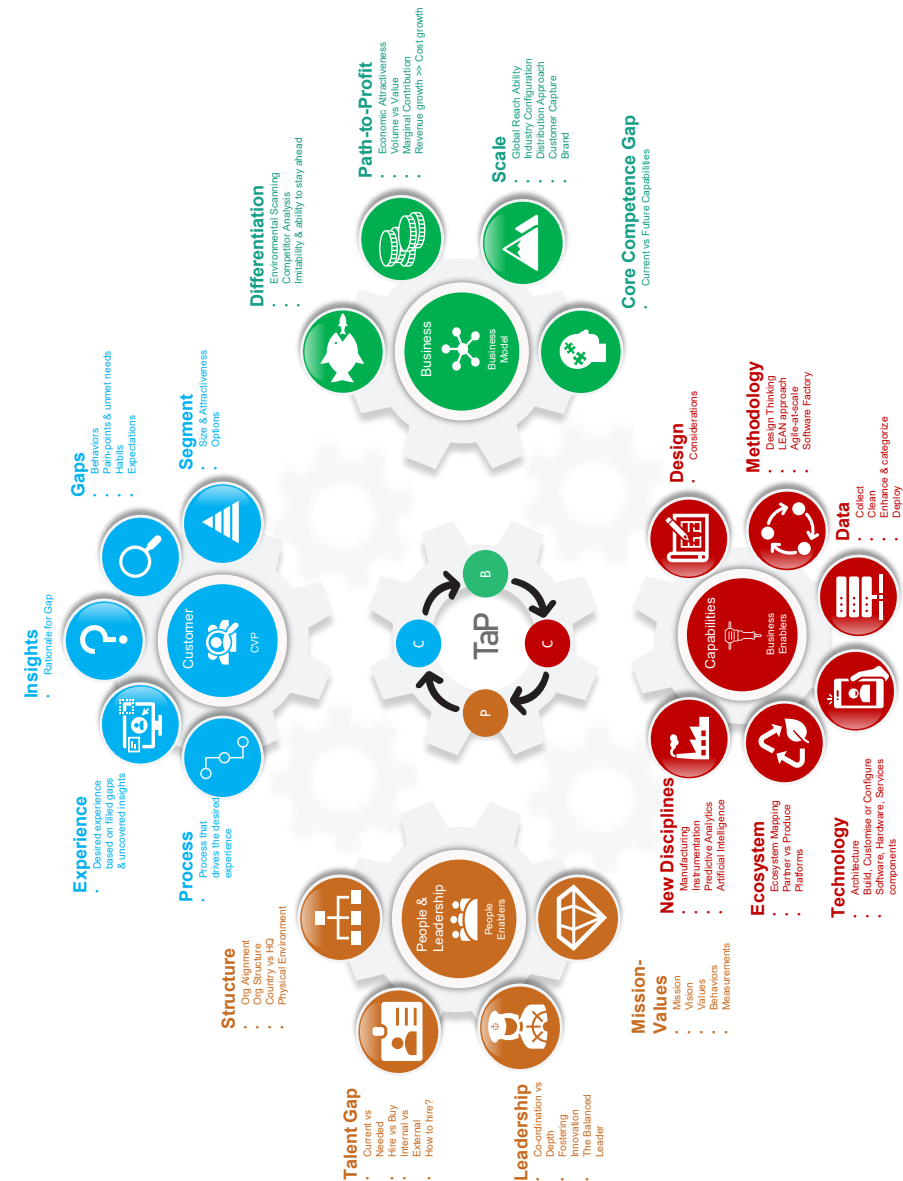


Figure 45 – Dimensions, elements and considerations

Customer dimension

Let's start with the first dimension, Customers. The Information Age, powered and enabled by the World Wide Web, has placed unprecedented power in the hands of consumers. The ordinary consumer is now able to gather all the knowledge he needs to understand and analyse almost any topic he desires – at his fingertips and even on the go (Perkins & Fenech, 2014; Umit Kucuk & Krishnamurthy, 2007).

It is thus apt that **desirability** is the starting point of my playbook. Desirability leads us to first connect with and understand who we want to serve and identify what gaps exist. This allows us to exploit these gaps to serve these customers better, so that they will desire our proposition and offerings over the competition.

The more successful a company is, the more they tend to think they know what the customer wants, but in actual fact, **as companies get larger and more successful, they tend to become more organisation-centric and less-customer centric** (Innovation, 2018; McGovern, 2013; Morgan, 2019; Williams, 2019). My advice is to never start with the capabilities first – a simple rule but a hard one to follow. If you go to any conference, the discussions are usually around the solution and what it can do. Executives attend these events and come back excited with Artificial Intelligence (AI) or predictive analytics or design thinking, but without a clear understanding of their segment of interest or the patience to understand and frame the problems their customers are having. Without understanding what customers are willing to pay for, these are just solutions looking for a problem. I have always felt it's better to have a question you don't have an answer to than to have a solution without knowing what the problem is.

Segment and gaps

As shown in Figure 46, the very first step is selecting your target segment. A quantitative analysis will tell you the size of the segment, their wallet size and the share you could potentially capture. It's a good idea to have a few target segments as options, so you can select the most suitable amongst them. Segment selection, gap analysis and insight generation are iterative. Thus, you might not quickly find a segment opportunity big enough, with obvious unmet needs that customers are willing to pay for, that can bridge you to your target share of wallet, in order for what's desirable to be viable. This has obvious linkages with the viability of the business model, which is the second dimension in our playbook.

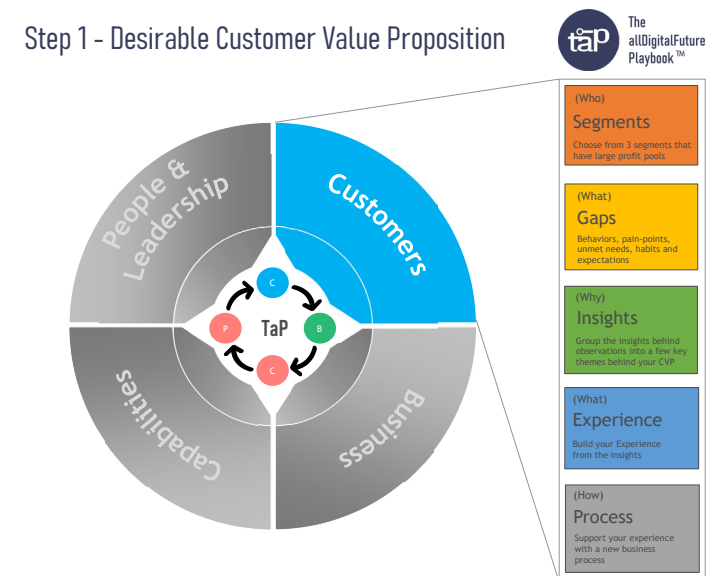


Figure 46 – Designed for customers

The young professional and young professional family or millennial professional was the segment of choice for TMRW. As the goal was to create a truly mobile digital bank, we needed to tap into an audience that was **already highly connected and mobile-first**. We also wanted to start with simple products so that we could grow with our customers as their product needs changed and grew. Millennials

have simple banking needs and expect everything to be seamless and on-tap due to their experience with their mobile phones. Having a product that they desire would entice them to switch main banks, making them the easiest segment to acquire and eventually turn into main bank customers.

The alternative was to target the affluent, but the affluent are well-served, and because they are older, we would need to design TMRW as an omnichannel offering, which is an expensive proposition. Since the traditional offering was already targeted at this segment, focusing on the millennial professional would allow us to design and build a lower-cost model that was mobile-only. The general mass market was ruled out as a target as the path to profit would be harder given the smaller size of their disposable income.

We saw the potential of capturing the millennial audience early on. We believed that the future of consumer banking lay in serving millennials. Already, millennials (as well as the subsequent younger generations) make up more than half of the world's population. By 2025, they will account for 75% of the global workforce, bringing in a whole new set of demands and expectations, and shaping the digital economy. This is evident in ASEAN, which has a very young population and the third-largest concentration of millennials globally. **Millennial professionals have generally been treated as mass-market consumers by traditional banks and are under-served in relation to their potential.** The reason for this is that most millennials lack high disposable incomes.

Another reason is that millennials' priorities and aspirations are starkly different from those of their predecessors. Having children, buying homes, and other traditional "success markers" are trumped by other priorities, such as travelling the world or making a positive impact on society. It's not that the traditional success markers aren't important. Millennials still have these aspirations, but they tend to make financial life decisions on a different timeline compared with baby boomers. Also, the millennial generation is the one that has challenged traditional banking the most over the years. They have a low perception of banks due to the latter's inability to be simple and very transparent. And their highly mobile and tech-enabled nature has pushed banks to make all their services fully digital.

There are downsides to serving this segment. Their current income potential is low, and this makes the ability to recoup the large upfront investments needed to build a millennial bank hard. We estimated the ASEAN millennial banking revenue pool to be worth S\$10B, but much of this potential is likely to be happen later, when their incomes rise. In spite of this, it became imperative that we tap into this market not for their current investment potential, as they currently have less spending power, but because they are likely to be **early adopters of the mobile-only digital bank, are under-served, have greater affinity for a millennial branded experience, and finally, will have much higher future lifetime value (LTV) in time to come.** As

this segment ages, their incomes will rise exponentially, and thus could potentially provide huge returns in the future. If we are able to capture this audience early on and engage them sufficiently to turn them into loyal advocates of the bank, we will be able to foster more transactions from them in the future and reap the benefits. But it is obvious that a lot of patience is needed, as the costs come first, and the revenues are backended.

Sometimes, you just don't realise the issues your customers face till you speak to them close-up. And many senior executives also do not experience their products the way their customers do, as they are placed on VIP lists that get special treatment. Let me provide a simple example. Before the ubiquity of videoconferencing during the Covid-19 pandemic, many companies used teleconferencing. The teleconference details in your calendar were a real pain. First there is the conference phone number, then the meeting identifier is some long string of digits and so is the password. The only way to enter it properly is to copy it down. There should be some way to trigger the whole string of digits into the conference facility rather than copying it down so you can see it whilst entering the digits. This problem has been in existence for a long time but likely has not been big enough of a pain for customers to report. As a provider of the teleconferencing service, you might therefore not be aware of this pain point unless you speak to a customer and ask him how he uses your product or service. In fact, there is a solution that allows you to auto-dial by entering, for example, 1800555555,,123456789# into your calendar, where 123456789 is the access code for the conference call. So, as part of the onboarding process to any conference service, this should be a standard instruction or briefing. How many of you are aware of this?

To understand such gaps, one has to interact with the customer. A variety of avenues exist to do this. Having conversations directly with customers and observing how they use and interact with your products and services (or your competitor's) would be the best. It's time-consuming, but it is truly enlightening. Instead of asking customers "How would you...", which might elicit a theoretical answer, this form of research allows you to ask, "Show me how you...", which is more observational in nature. The latest thinking in customer research encourages you to embed yourself in the environment of your target customer – what's called **ethnographic research** – rather than relying solely on standard focus group research (Baxter et al., 2013).

In fact, many experts recommend using both methods in combination (Agar & MacDonald, 1995; Baxter et al., 2013; Davey, 2013). Baxter et al concluded that "Ethnographic research is rated as the most effective method for identifying customer needs and it can also help to identify hidden needs, i.e., customer needs which are previously unmet and unarticulated. This makes ethnography particularly well suited to answering the broad questions that can lead to radical innovation". Agar & MacDonald concluded that "focus groups can show a research some new

territory, but it can't tell you much about what it is you have just seen".

After agreeing on TMRW's segment of focus, we delved into the nuances of these customers through ethnographic research. This involved speaking to them – and in a way becoming them – to understand them well, followed by many lengthy discussions on what our segment truly needed. We began with the three markets we wanted to tap first: Thailand, Indonesia, and Vietnam (Figure 47). These three markets stood out for their high banking penetration growth potential, high retail banking pool sizes (which will get even larger as they have large populations that have large unbanked segments who are moreover receptive to digital banks), and supportive banking regulations. Thailand, for example, initiated the national digital ID (NDID) project that allows individuals to confirm their identities online as a part of their aggressive Thailand 4.0 initiative. Indonesian regulations allowed digital banks to onboard customers using videoconferencing. Entering these markets would be a good proof of concept for the TMRW digital bank launch.

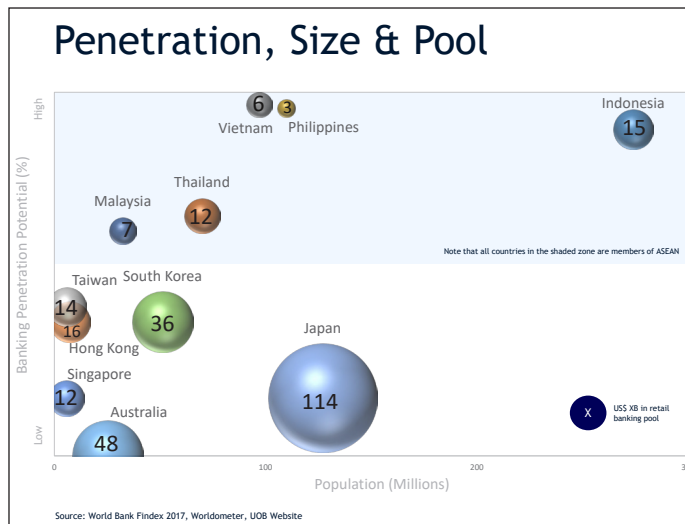


Figure 47 – Most attractive ASEAN markets for digital bank

In building TMRW, we interviewed hundreds of customers to understand their needs in detail. This portion of the work cannot be skipped regardless of how long you have been in the business. At the very least, talking to customers when they are using your solution or your competitor's solution to understand the issues faced must be completed. **Qualitative research is exploratory**, and helps you observe and understand your customer's underlying motives, beliefs, behaviours, pain points, unmet needs, habits and expectations. These are essential information to document your gaps in understanding of your customers' needs and wants. Qualitative

exploration can consist of in-depth interviews, ethnographic research, focus groups, content analysis (where you analyse words and images from a variety of content related to your target segment) and diary-keeping (where your target segment updates a diary of thoughts and actions related to the subject matter of interest to you).

Once you have sufficient qualitative input to uncover key insights that can help you design your desired experience, you may have to use **participatory design research** to involve the customer in the design of the solution. This helps you to identify what's most important to them, and why they are important. When high-fidelity prototypes are ready, eye-tracking analysis is commonly used to test the friendliness and usability of your digital solutions, such as your app. Here, your target customers put on a camera, which shows where their eyes focus on when they are looking at your UI, for example. An aggregated eye-tracking map that is very dispersed means that each customer is looking at something different on the UI, and thus may be confused by the content or instructions.

Once the proposition is clear, **quantitative research should be used to gain statistical confidence** that sufficient numbers of customers are willing to pay for the new experience you are going to bring about, so that you can meet your business goals.

5.1.2

Insights, experience and process

The big prize in the consumer dimension that you are after isn't the gap itself, but the insight that drives the gap.

No	Observations ("what I observed")	Insights ("why I observed it")	Unmet Needs ("what customer wants but doesn't get")	Ideas/Possible Solutions	Experience design & test	Customer Journey Mapping Process
1	Removes pretty bank notes as a way to save.	Finds this a fun and easy way to make small savings	No easy means to save	Design a game to help customers save that is fun and easy	A. Map out the low fidelity prototype to test the game with customers to see how it feels. B. Is it too simple? C. Or too complex?	A. Map out the detailed step by step customer journey. B. How does the actions in the game result in changes to the savings balance?
2	Doesn't want to apply for more credit cards	Fear of overspending with too many cards	No easy way to prevent overspending	Allow customers to set limits for online spend, cash withdrawal and to lower their card limits	A. Test out the changes to the limits in a wireframe prototype to see if it's easy to understand and use. B. Is it clear or confusing. C. Iterate till it's good and clear	Map out the detailed step-by-step customer journey and figure out all the inputs and outputs needed for the frontend to backend host interfaces
3	Finds his bank's menu design confusing	Menu's force users to navigate in a standard way	No easy way to get task done	Design a banking app that has very few first order menus, e.g. don't need to ask from which account if there is only one transaction account		Ensure that the final instructions, data inputs and outputs are in the right sequence, and that the UI design is stored as standard libraries in the design system
4	A. Younger customers are very worried about overspending. B. Some have been burnt as a result of not being able to pay their debts	A. There is a cultural aspect to this as there is peer pressure to look good and be seen to have the latest. B. Many customers are prone to impulse buy and don't have the discipline to stop or budget	No easy real-time method to avoid overspending. All existing methods report at month's end.	Allow customers to set a budget for a category and whenever a spend occurs in that category, alert the customer as to how he is faring against the budget	When the alert comes, what is the customers reaction to how he is doing against his budget? Does this make the customer more careful and less impulsive about the next purchase?	A. Map the entire journey the customer takes before the alert and after the spend alert. B. How and where will the real-time data about the customer's spend be obtained and what is the longest permissible delay? C. If the payment is made but the transaction not transmitted by the merchant till later, what problems will it pose?
5	Customers speaking to their phones instead of typing	Some languages are hard to type as they are not easy to represent as alphabets	No easy way to communicate without a two-way call	Make this a standard feature for all phones and default to voice.	What kind of customer would prefer voice versus text?	A. Map the onboarding journey and figure out where a decision needs to be made if the default mode is voice or text. B. Should we default all logographic and non-alphabetical languages to voice?

Figure 48 – CVP creation checklist

Figure 48 summarises some of the examples mentioned earlier in the book. You can see that if the insight is not known, the idea is merely a suggestion, with no understanding what is driving the behaviour. So, in both observations, to understand the problem and apply ideas to solve the problem (that is, if the problem is clear in the first place, see Chapter 3.3), the key is to discover the insight, as it is the insight that allows us to make the correct path towards a breakthrough innovation. My experience has been that there are **too many people chasing for breakthroughs without looking for new insights**.

Breakthroughs no matter how small, but especially so in highly competitive industries, require you to have the mechanisms in place to spot the insights that allow you to uncover the underlying reasons customers behave the way they do.

This is often linked to unseen problems customers have in performing their jobs. This will allow you to focus on new pain points rather than putting too much emphasis on giving your customers additional benefits and hence dilute your profitability without actually solving any of their problems. This approach is not only wasteful but also is highly imitable by your competitors.

Figure 49 illustrates **the five key ingredients of a good insight**. First, a good insight should explain an observation about a behaviour that most people may not have heard before, i.e., not common-sense or expected. Secondly, the observation must be connected to a customer problem or delighter which they are likely to be willing to pay for. The insight should offer a simple, clear, and elegant explanation for why a customer behaves the way he does, and you should be able to act on and exploit the insight to derive a proposition that can differentiate your offering. Finally, you and others around you should feel the "eureka moment" when the insight forces you to turn conventional wisdom upside down.



Figure 49 – How will you know if you have a great insight?

Deriving a good insight is an art rather than a science. You know it when you see it, when everything comes together, and the magic happens. Here are three examples of valuable insights that meet all the criteria:

- 1. Peloton (exercise bikes):** When the brand first launched, it offered 45-minute classes, because that was standard in the industry. But by carefully gathering customer feedback through many channels, including a very active Facebook group, Peloton decided to offer shorter rides that run at 20 or 30 minutes (Segran, 2017). The reason was that when you travel to the gym, it takes time to get there and back, and so it makes sense to have a longer session. However, Peloton connects high-bandwidth large screens to their bikes where you can

have classes live at home. So, this didn't apply to them, and cutting the time to 20 or 30 minutes made sense for both Peloton and their customers.

2. **Three (telco)** - Customers used 71 times the amount of data they would have used had they been charged as normal – most of which was used to post holiday snaps on social media, rather than waiting to use free WiFi at the hotel or other locations. The increased volume could allow a decent profit even at reduced roaming charges (Michon, 2021).
3. **TMRW (bank)** - Customers don't want information for the sake of information; they want to act. Hence all budgeting should be real-time as you spend rather than a report at the end of the month, when you have already spent everything and can't act. This became one of the key proof points of proactivity that differentiated TMRW.

Once you have sufficient insights, you are ready to design the desired experience for your target segment. This incorporates all the observations you have gathered in your gap analysis, with clear indications as to the insights you have discovered. As shown in Figure 48, observations and insights are the output of the customer research. The key difference is that **observations are "what I observed" and insights are "why I observed it"**. Knowing "why" is vital in that it allows you to understand the real motivations driving customer behaviour, rather than just what you observe. Most times the insights are not immediately obvious but come later when you are reviewing the transcripts, notes and video recordings of the customer interactions.

Framing what the real problem is a vital step in this process. If you get the problem or "unmet need" wrong, then you will be working on the wrong thing for the rest of the initiative! For example, in Figure 48, item 4, the observation from customer research is that they have a fear of overspending. Without the insight that they often have peer pressure to own the latest gadgets or accessories, the assumption might be that the interest rate is too high. This would lead to the design of a lower-rate product solution. But with the insight, the conclusion that a real-time category expense tracker might be the solution, instead of a more affordable loan, becomes apparent. Similarly, item 5's observation that some customers like to speak instead of type might lead to the idea that it should be done for all users, if the insights that users whose languages are logographic find it harder to type was not uncovered.

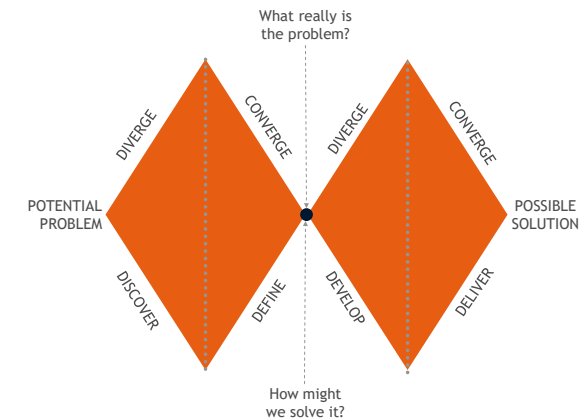


Figure 50 – Double-Diamond method

A good way to begin to formulate the ideas or potential solutions is to use the **double-diamond method** shown in Figure 50. **Diverge** is the answer to the question "What else might the problem or solution be?", and **converge** is the answer to the question "Which of the options (problem or solution) might be most appropriate answer, and why?" So, in diverge, you don't knock out any options, but keep trying to expand the repository of possible answers you have. This often reveals the true nature of the problem. If asking why this problem occurs leads to the discovery of yet another unseen problem, this provides a valuable tool to frame the real problem at hand.

In converge, you start to identify which answers are a better fit for the problem or solution at hand. Most people spend little time thinking through the problem, and in my experience, they end up solving the wrong problem. This is actually worse than the right problem with the wrong solution because you can then pivot to the right solution. But when you have the wrong problem to begin with, no amount of pivoting is going to help you. The double-diamond method is a good way to be more certain that you have indeed identified the right problem.

There is also a perennial temptation to suggest a "hot and hip" solution, like AI or gamification, without thinking through clearly what is the actual problem the customer is facing. For example, someone might suggest traditional personal financial management (PFM) as a solution to item 4 in the table. From the insights, however, you note that the cause of the overspending is mostly attributed to impulse buying. Traditional PFM is typically presented to the customer at the end of the month, but impulse control needs to happen during the month, when the actual purchase happens and before the bank statement comes in.

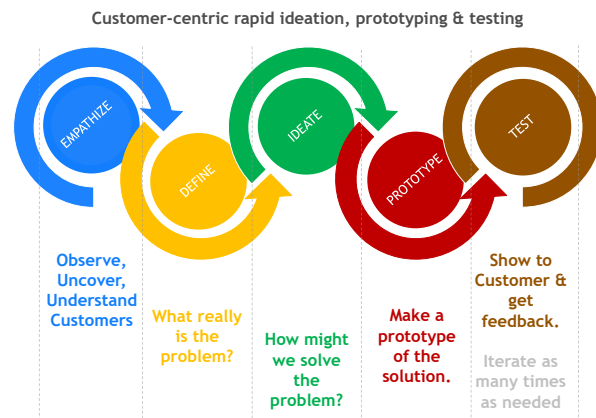


Figure 51 – Design Thinking approach

Once the possible solution is identified, you can now adopt a human-centred or design thinking approach to **build a prototype and then refine it in an iterative manner**. This method is shown in Figure 51. The first prototype may be a low-fidelity prototype using pen and paper or just simple wireframes that can be quickly done with tools like Figma, Adobe XD, etc. (Myre, 2018; Newnham, 2020). If you are not sure what a wireframe is, here's a quote: "A wireframe is a visual mock-up that outlines the basic structure of your website, app, or landing page (Myre, 2018). Traditionally, a wireframe is fairly simplistic. Basic shapes and elements are used to block out where each piece of content and UI element will go. And the power of the wireframe lies in that simplicity: Elements can be rearranged quickly and easily for iteration and approval before moving on to a higher-fidelity prototype." The prototype is tested in an iterative fashion, improving the solution with each iteration, as the customer's feedback is evaluated, and improvements are made to the solution to make it more effective. Doing so now, avoids costly mistakes later when the functionality is already built, only to find that customers don't really appreciate it.

At this stage of the development of the customer value proposition (CVP), you should begin to have a sense of **how differentiated the CVP could be**. The more differentiated the CVP, the more difficult it is for current competitors to replicate or new entrants to imitate. However, the more differentiated it is, the more existing capabilities need to be enhanced; and if the new core competences required differ significantly from current competences, then the executional risks will be larger, and the feasibility of the innovation might be affected. So, as you can see again, the TaP approach exposes the complexity that originates from the interaction between the dimensions and elements, and highlights the need to balance them so that you maximise the desirability, viability and feasibility simultaneously.

Creating and testing higher and higher-fidelity prototypes dramatically reduces the chances of failure of your innovation. It is remarkable that more organisations don't leverage this means of de-risking. If you don't think even high-profile and successful companies have expensive duds in their innovation track record, look no further. Figure 52 illustrates some of the biggest failures in innovation in recent times.

	Innovation	Company	Year of Launch	Units sold	Amount spent	Desirable	Details	Feasible	Details	Viable	Details
1	Edsel	Ford	1957	116000	\$250M	X	gas guzzler	✓	colorful	✓	if sold enough
2	Post-it Notes	3M	1977	50B per year	not disclosed	X then ✓	not strong	X then ✓	didn't work	X then ✓	when used for restickables
3	QuickTake Camera	Apple	1994	not disclosed	not disclosed	X	no viewfinder	X	awkward, ahead of time	✓	if sold enough
4	Iridium	Motorola	1997	not disclosed	\$5B	X	bulky, costly	X then ✓	but took too long	X	no demand
5	Segway	Segway	2001	140000	\$100M	X	looks cool but accidents happened	✓	performs	X	too high end
6	Fire Phone	Amazon	2014	35000	\$170M	?	no apps	X	buggy	X	no demand
7	Galaxy Fold	Samsung	2019	recalled	\$130M	✓	looks cool	X	screen problems	✓	if sold enough

Figure 52 – A sample of the biggest failures in innovation

Don't be frustrated if it takes many iterations to come up with something that is desirable. If it's difficult to do, then others will also find it difficult, and you will have less competition. Rushing through – or worse, reverse engineering what you already have in mind – is a bad start. If the customer doesn't desire it, and you spend a lot of money to create it, then it's an absolute waste of resources. Remember that for every hit product or service innovation you name, many others were unsuccessful. The rigorous application of The allDigitalfuture Playbook™ will improve your chances of bringing your innovation to fruition. For more information on the experience and process elements, refer back to Chapter 4.1, where I talk about examples from the building of TMRW.

At the end of the Customer Dimension, you should have a very clear understanding of the segment you have chosen, the gaps you observe from their behaviours, pain points, unmet needs, habits and expectations. From these observations, you need to extract the insights or the fundamental reasons why customers behave this way or have such needs. Using insights to inform strategy isn't new, although we think it is because of the recent adoption of design thinking in creating digital businesses. My favourite management article about strategy, which in my view remains the seminal work on applying strategy to business, is a 1997 article entitled "What's wrong with Strategy?" (Andrew & Marcus, 1997). I make this a recommended read for all my students when teaching strategy. The main difficulty in crafting and implementing strategy is that **objectives, tactics and strategy have a sequencing problem**. Do you first set an ambitious goal – what some may remember as a BHAG

(Big Hairy Audacious Goal) from Jim Collins' book, *Built to Last* (Jim Collins, 1994)? Then set the strategy to achieve that goal and then the tactics? What Andrew and Marcus highlight is a problem I have encountered time and time again in developing a winning strategy:

"The strategy to develop new products faster and more effectively than the competitors is only viable if the manager can envision the tactics for its implementation. If the manager knows where to recruit additional staff, see parts of the product development process that can be streamlined and have ideas about how to involve customers and suppliers more fully in product development, then the strategy is viable. If not, the strategy may not be realistic. Tactics need to be worked out before the strategy can be determined and the strategy needs to be clear in order to define the objectives."

A similar conundrum exists with strategy and objectives. If the leader sets a BHAG, "then realism enters into the discussion". In other words, "how would the management team know if the objective is realistic, unless they can generate a strategy for reaching the objective"? Therefore, the authors recommend that "the solution to such impasse is to understand the fundamental building block of good strategy: insight into how to create more value than competitors can". Such insights into value creation can be found through a deep understanding of suppliers, customers and employee behaviours, needs, pain points, habits and expectations.

In addition, separating strategy from tactics is also generally not a good idea. This is because most of the insights required to generate good strategy are often found in the heads of staff responsible for operating the business, because it is they who know the suppliers, customers and employee behaviours, needs, pain points, habits and expectations. And so often when leaders set strategy amongst the leadership team without involving them, they get it all wrong! Andrew and Marcus raise another interesting point: "Tactics are not only about implementing today's strategy but also about discovering tomorrow's strategy. Tomorrow's insights arise from today's operating experiences. Unless implementation is also viewed as being part of strategy development tomorrow's strategy is likely to be short on insights."

The customer dimension focuses on discovering the key insights from your customers, illustrated in Figure 53 with an example from the TMRW digital bank's customer dimension. The customers could be (1) internal customers, i.e., your own employees; (2) external customers, i.e., the clients who pay the bills; or (3) partners and suppliers – because the techniques are the same. Once the insights are obtained, the desired experience can be designed, and then tested and refined using the double-diamond and design thinking techniques. Finally, you need to ensure that you have in place the right business process to deliver the experience.

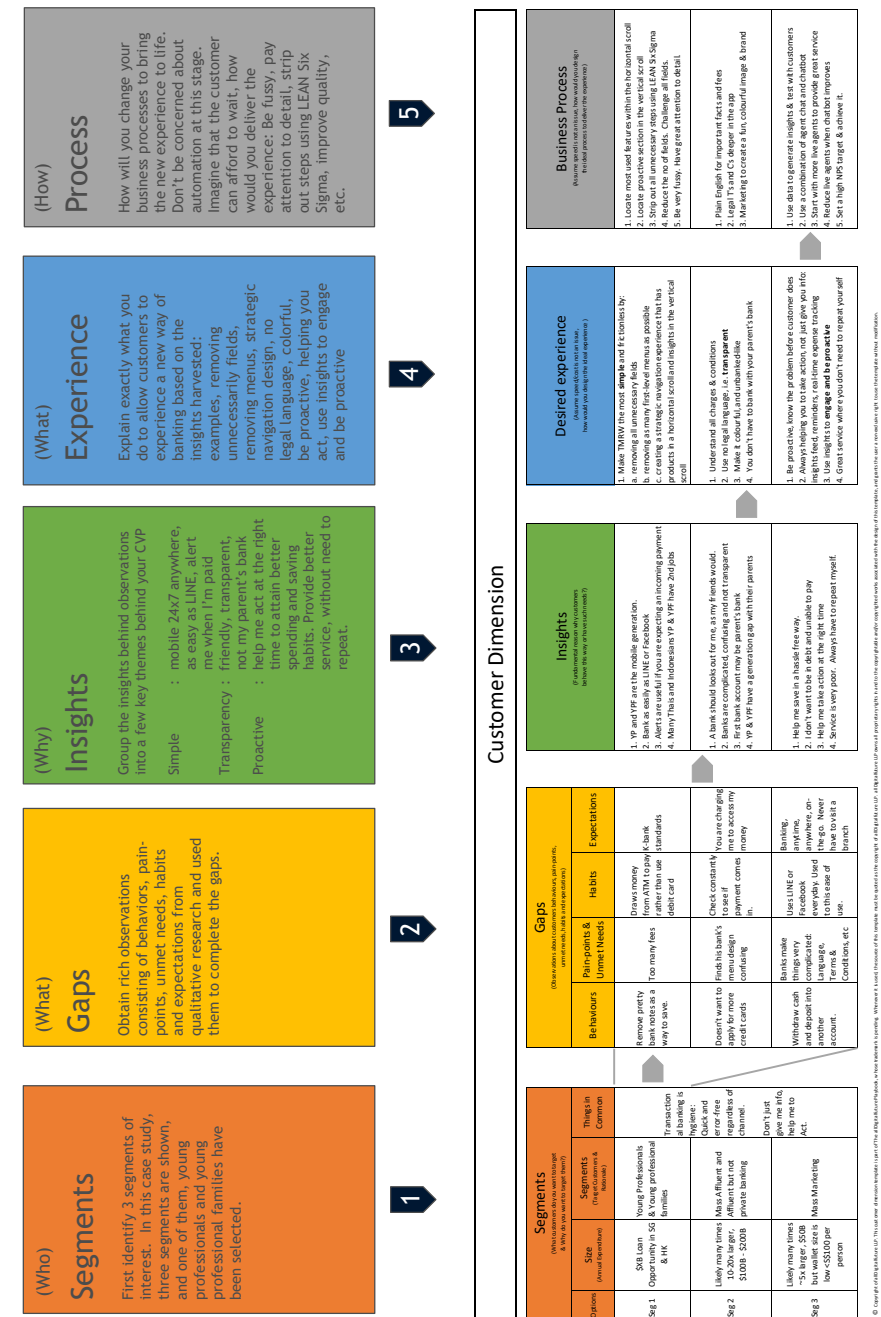


Figure 53 – Customer dimension template

When designing the business process at this stage, assume that speed and cost are not constraints. How would you go about designing the ideal process to deliver the experience? You do not require any technology at this stage. You must be able to do this with pen and paper because if you can't then technology can't help you anyway as technology's role is simply to make the process run much faster. Business process is introduced here and not later, so that if you find that some experiences require significant capabilities that are non-trivial or require collection of large amounts of data over time, or capabilities that take time to build up, there is a trade-off to lower the desired experience to fit current feasibility. **If this is only done much later, then the feedback loop is too large and takes too long, introducing too much back-and-forth in the design of the proposition.**

Figure 54 introduces a flow, from your segment of choice, to uncovering their gaps – comprising their behaviours, pain points, unmet needs, habits and expectations – and then extracting the insights, leading to the design of the desired experience and required business process. **The key to doing this well is to focus on the flow.** This flow makes it easier to see how the different elements in the customer dimension are interrelated, and how by focusing on aligning them, you can derive a stronger proposition for your customers. This customer dimension flow is a new creation I derived from my experience building TMRW.

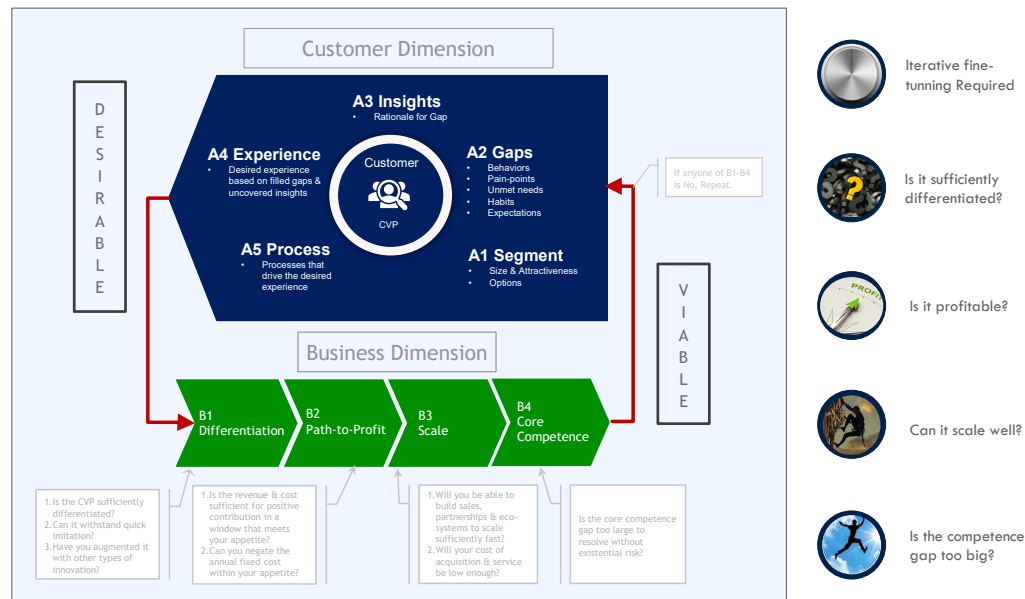
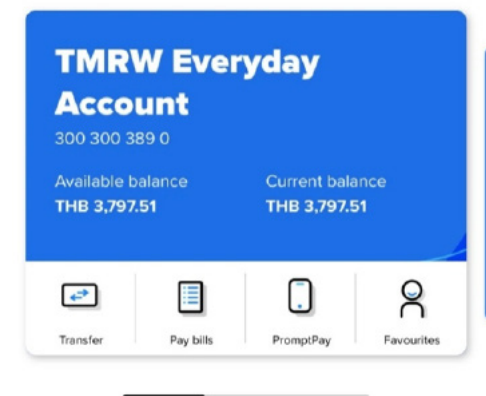


Figure 54 – Customer and business dimension interaction

The magic in deriving a differentiated CVP lies in how you translate the right insights into the right experience. For example, the insight that YP and YPF want to bank as easily as using Line or Facebook may be viewed as obvious. However, the experience of having very few first-level menus to make navigation very simple is directly connected to this insight. When combined with removing all unnecessary fields and introducing a strategic navigation experience with horizontal and vertical scrolling, suddenly the experience becomes very different. Getting to the best flow is currently more art than science. You are likely going to have to iterate many times before you discover something that is highly differentiated. Most people don't do this step well. Don't make this mistake. No matter how well you think you know the customer, don't skip this step!

If the insights are "Why the YP and YPF behave the way they do", the desired experience is "What you are going to do to address this and why", then the business process answers the question "How you are going to make it happen". So, the complete flow now looks like:



Insight: Bank as easily as LINE or Facebook
Experience: Remove as many first-level menus as possible
Process: Locate most-used features within the horizontal scroll (shown above)

Using this new customer dimension flow technique, you are more likely to be able to derive many small breakthroughs in your customer experience similar to the example above.

To ensure that the new customer experience and journey are properly designed and documented, a cross-functional team of designers, product managers, process mapping experts, staff with knowledge of the data required and technical staff who will translate the stories into code should work on the customer journey together, and map the journey and data required to fulfil the journey. In parallel,

there is the internal business process mapping which details how the processing is done, especially when it is not a flow that is “all green”, meaning that it’s not 100% digital because exception handling of some form is required. Lean Six Sigma techniques should be used here to design processes with low friction, low hand-offs and low error rates. These methodologies that can help you design the best journeys and processes are described later in the capabilities dimension and under the methodologies.

At this stage of TaP, you should have a proposed experience as well as a business process that can help deliver on it. But how will you know if it’s sufficiently differentiated for you to win customers and scale, yet not so heavily differentiated that the costs will significantly outweigh the revenues? Figure 54 showcases this dilemma, which may require several loops before you resolve it and reach a position where the **differentiation, path-to-profit, scaling ability and core competence gaps are all optimal**.

You may have to navigate this loop by iteratively using the customer dimension flow tool to refine your insights, experience and business process, but also stack the customer dimension output against the business dimension considerations by answering the questions shown in Figure 54. If any of the answers to these questions is “No”, then you will have to iterate again until they become a “Yes”. Resolving circular interactions is part of what’s different in TaP. This is the first of the three circular interactions that we will examine. The other two circular interactions can be found later in Figure 64 (customer, business and capabilities) and Figure 83 (customers, business, capabilities, people & leadership).

Let’s now explore the business dimension in greater detail.

Key takeaways

- The more successful a company is, the more they tend to think they know what the customer wants, but in actual fact, as companies get larger and more successful, they tend to become more organisation centric and less customer centric.
- Never start with the capabilities first, a simple rule but a hard one to follow. Without understanding what customers are willing to pay for, these are just solutions looking for a problem.
- It’s better to have a question you don’t have an answer to than to have a solution without knowing what the problem is.
- Segment selection, gap analysis and insight generation are iterative. Thus, you might not quickly find a segment opportunity big enough, with obvious unmet needs that customers are willing to pay for, that can bridge you to your target share of wallet.
- To understand such gaps, one has to interact with the customer. A variety of avenues exist to do this. Having conversations directly with customers and observing how they use and interact with your products and services (or your competitor’s) would be the best. It’s time consuming, but it is truly enlightening.
- Qualitative research to uncover key insights that can help you design a desired experience that is truly differentiated.
- Participatory design research could involve the customer in the design of the solution. This helps you to identify what’s most important to them, and why they are important.
- Once the proposition is clear, quantitative research should be used to gain statistical confidence that enough customers are willing to pay for the new experience you will bring about, so that you can meet your business goals.
- The big prize in the consumer dimension that you are after isn’t the gap itself, but the insight that drives the gap.

- Insights are often linked to unseen problems customers have in performing their jobs.
- A great insight has five characteristics – something, you may not have heard before, connected to a customer problem or delighter, offers a simple, clear and elegant explanation, you can act on and exploit the insight, and it generates a eureka moment.
- Observations are “what I observed” and insights are “why I observed it.”
- Most times, the insights are not immediately obvious, but comes later when you are reviewing the transcripts, notes and video recordings of the customer interactions.
- Framing what is the real problem is a vital step of this process, as if you get the problem or “unmet need” wrong, then you will be working on the wrong thing for the rest of the initiative.
- A good way to begin to formulate the ideas or potential solutions is to use the double-diamond method.
- Once the possible solution is identified, you can now adopt a human-centred or design thinking approach to build a prototype and then refine it in an iterative manner.
- The TaP approach exposes the complexity that originates from the interaction between the dimensions and elements, and the need to balance them so that you maximise the desirability, viability and feasibility criteria simultaneously.
- Creating and testing higher and higher fidelity prototypes drastically reduces the failure of your innovation.
- Don’t be frustrated if it takes many iterations to come up with something that is desirable. If it’s difficult to do, then others will also find it difficult, and you will have less competition.
- Designing the business process to support the experience based on the insights you discovered can be done on pen and paper because if you can’t then technology can’t help you anyway as technology’s role is simply to make the process run much faster.

- The Customer Dimension Template, showcases a flow from your segment of choice, to uncovering their gaps comprising their behaviours, pain-point, unmet needs, habits and expectations, and then extracting the insights, leading to the design of the desired experience and required business process.
- Using this new customer dimension flow technique, you are more likely to be able to derive many big or small breakthroughs in your customer experience.
- A cross-functional team of designers, product managers, process mapping experts, staff with knowledge of the data required, technical staff, etc., should work on the customer journey together.
- You may have to navigate the customer and business dimension loop by iteratively using the customer dimension flow tool to refine your insights, experience and business process, but also stack the customer dimension output against the business dimension considerations by answering key challenge questions involving the four elements of the business dimension.
- If any of the answers to these questions is “No”, then you will have to iterate again until they become a “Yes”.