DESIGN

Empathy and co-creation in capital markets operations – insights from the field

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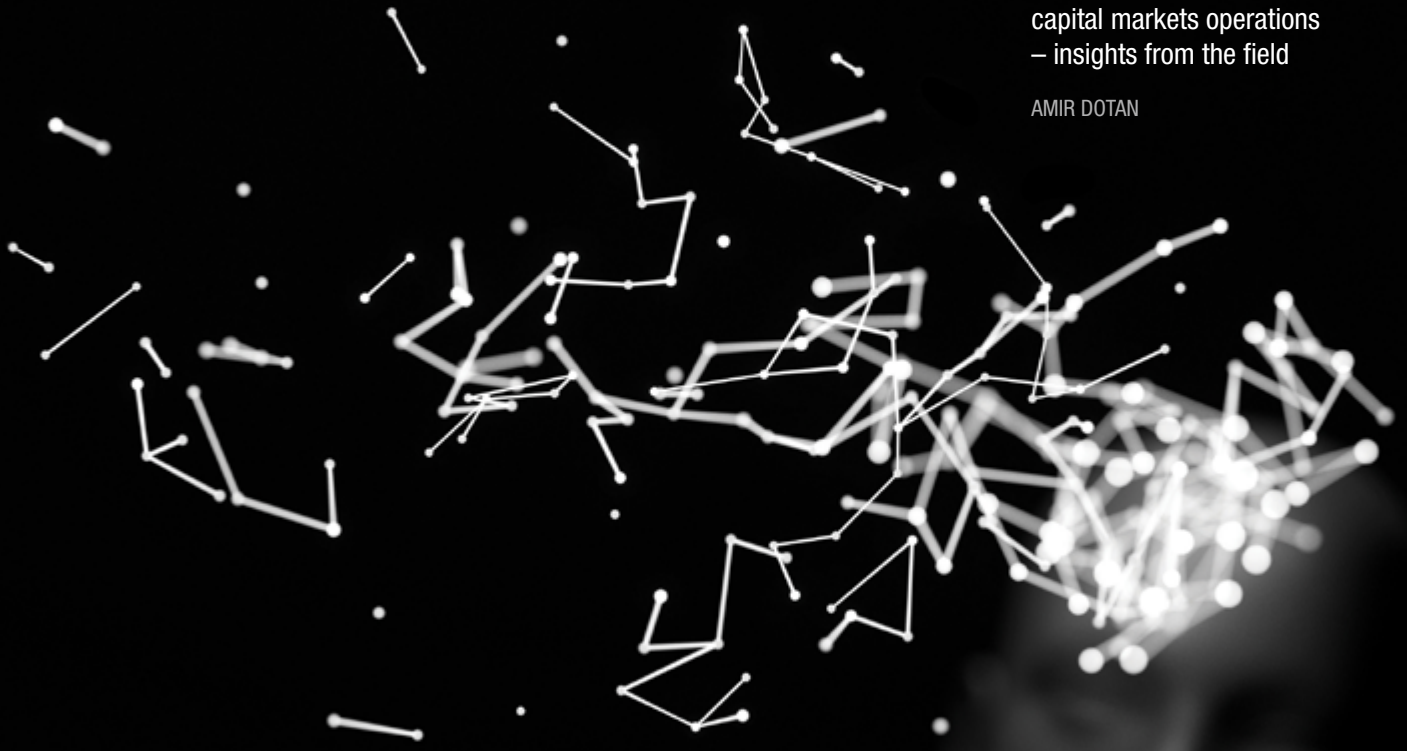
DESIGN THINKING

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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/

EMPATHY AND CO-CREATION IN CAPITAL MARKETS OPERATIONS – INSIGHTS FROM THE FIELD

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ABSTRACT

Co-creation and empathy are fundamental principles of design thinking that enable teams to collaborate and solve user problems at pace. Cross-functional collaboration and deep understanding of end-users help to break down barriers between organization silos, resulting in an aligned vision and more holistic, user-centered solutions. However, the geographically-dispersed nature of investment banks can make co-creation and empathy-building challenging. Remote access to end-users makes it difficult to be immersed in their environment, and it is not always possible to instigate hands-on, face-to-face design workshops to foster co-creation. Leading design thinking projects in capital markets operations, we have observed that despite these constraints and limitations, the mindset and its application as a methodology to deliver solution definition can have significant benefits in an area of investment banking, which often lacks creativity, agility, and a user-centered mindset when defining strategic solutions. This paper provides an overview of the benefits and challenges of applying design thinking in capital markets operations, based on two case studies from Tier-1 investment banks, where we applied the approach to run solution-definition projects over a 12-week period. We share our experiences as design thinking practitioners and provide recommendations for achieving effective co-creation and empathy-building in a challenging work environment that has a lot to benefit from these two aspects of design thinking, and the mindset in general.

1. INTRODUCTION

Investment banking operations is a function that is constantly seeking to innovate and improve processes and operating models to meet key objectives such as regulatory compliance, reduction in operational risk incidents, and operational costs, to name just a few. Legacy processes, sub-optimal operating models, and ageing applications often result in inefficient, labor-intensive workflows that increase costs and risks. They are also costly to maintain and support, especially in a dynamic landscape that is affected by changing regulations and macro events like Brexit.

While some problems in operations have a clear and obvious solution – such as a fragmented data landscape that needs to be consolidated into a single source to be managed better - others may have the potential to be solved in a few different ways; sometimes without a technology component. However, in our experience "change management" initiatives often involve lengthy and detailed "current state" analysis and heavy technical documentation, which is not conducive to a holistic and creative process that explores a spectrum of options effectively to yield innovative, user-centered solutions.

In our experience, solutions are sometimes defined upfront, typically by technology stakeholders, with little to no consistent involvement of end-users in operations.

Figure 1: A common linear change management operating model in capital markets operations

TIME

DETAILED CURRENT STATE ANALYSIS   DETAILED TARGET STATE ANALYSIS

END-USERS   Requirements   Comments   CHANGE MNG.   Requirements   Comments   TECHNOLOGY
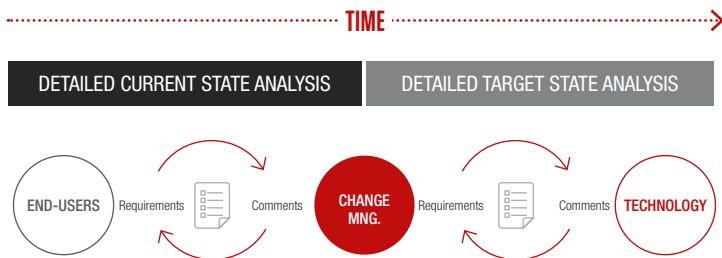
Figure 2: A design thinking approach brings stakeholders together to solve problems as a dedicated "solution team"

TIME

EMPHASIZE   >   DEFINE   >   IDEATE   >   PROTOTYPE   >   TEST

VISUAL THINKING   END-USERS   DESIGN THINKER   CHANGE MNG.   TECHNOLOGY   USER JOURNEYS AND MOCK-UPS
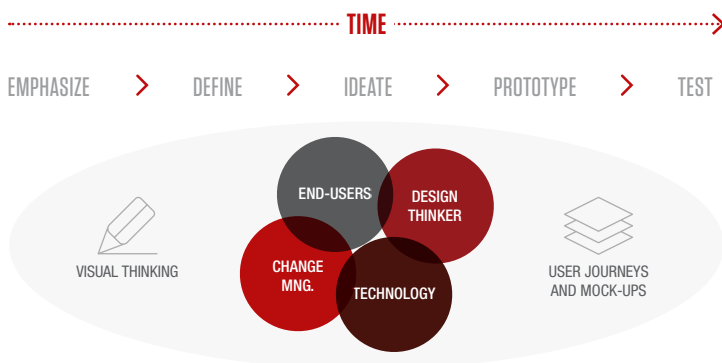
These could lead to solutions that are defined in isolation without a deep understanding and appreciation of the operational environment in which they are intended to be used to deliver value. A technical-led and highly-siloed approach to defining a solution, which we have consistently observed in Tier-1 operations, can limit the opportunity to effectively explore a range of creative ideas while leveraging diverse perspectives. As a result, the potential to innovate may not be fully realized.

It is in this context that design thinking, in our experience, can offer a more effective approach to innovation and strategic transformation, when tackling open-ended problems that have a strong human component. Applying design thinking to a solution-definition project can help break down barriers between internal silos to define - in a relatively short space of time - an agreed, long-term creative vision that is shaped very much with the end-users in mind throughout.

We have been engaged in several design thinking initiatives in Tier-1 operations in the last 18 months,

where design thinking was applied to solve strategic problems in areas such as collateral management and cash settlements. Using the case studies we have worked on, we provide an insight into the day-to-day design thinking efforts in Tier-1 investment bank operations, focusing our description on empathy building and co-creation. For each we describe examples, challenges encountered, and lessons learned.

2. DESIGN THINKING – INTRODUCING A CULTURAL SHIFT AND NEW WAYS OF WORKING

While design thinking might conjure images of a group of people collaborating in a colorful space filled with post-it notes, user-journeys, and prototypes, the reality is that when working with multinational large organizations, such as a Tier-1 investment bank, the problem-solving process needs to be facilitated effectively across multiple locations - often remotely. Building empathy effectively with busy professionals around the globe, who execute highly complex processes, presents different challenges to engaging and immersing in the end-user's own environment.

The application of design thinking as a timeboxed innovation project within change management requires a different mode of operation than the one we typically encounter. As will be described in this paper, such an approach represents a considerable cultural shift that promotes strong cross-functional collaboration, iterative and creative approach with considerable focus on the human component of the problem and possible solution.

For someone who has not worked in an investment bank, such aspects may seem common practice and a prerequisite to driving the definition of innovative, user-centered solution. The reality is that introducing a mindset that champions co-creation and empathy within a multinational, complex, and often conservative organization can be challenging as it requires significant adaptation on the part of the firm.

As we will describe, getting stakeholders to adopt a mindset that can be radically different from their existing one poses logistical and cultural challenges. Injecting a design mindset into a risk-averse organization, and "change" function more specifically, is much more than simply introducing deliverables such as personas, user-journeys, and clickable prototypes. It fundamentally changes the way stakeholders engage with each

other and end-users for the duration of the project in order to accelerate an exploratory process to define a holistic solution.

3. THE CASE STUDIES

In this paper we describe two case studies where we have applied design thinking to solution-definition projects to solve strategic problems and deliver a long-term user-centered solution. As a mindset, design thinking can be applied in many different ways for different types of projects. Our focus is on projects within "change management" that are meant to produce long-term strategic solutions before the solutions can be implemented and delivered.

Case study 1 – collateral optimization

Optimizing collateral effectively is a top priority of "funding and liquidity management" to meet objectives such as cost reduction, as sub-optimal collateral is more expensive to deliver. While some aspects of collateral management are automated, others are manual and require the operations teams to carry out tasks such as contacting stakeholders via email or phone to initiate "collateral substitution" or execute collateral booking in response to receiving a margin call.

The initial, high-level business problem we were presented with was: "How can we optimize collateral without increasing operational headcount or creating unmanageable work for the current team?" Apart from the human component that needed to be acknowledged, understood, and considered, in the future collateral optimization solution, the optimization logic also needed to be envisaged and agreed by stakeholders from "technology," "operations," and "funding and liquidity management". Design thinking was chosen to bring people from relevant areas of the bank (operations, technology, change management, and corporate treasury) to shape a user-centered strategic solution for collateral optimization.

Case study 2 – equity swaps cash settlements

Equity swap is a highly bespoke and complex financial product, which can involve complex operational processes that require constant interaction between multiple internal teams and external stakeholders. Inefficiencies in the process and manual touchpoints contribute to operational risk incidents and reduced ability to ensure a smooth operation, whereby trades settle on the day they are expected to without any friction due to an array of possible problems. Troubleshooting such problems can be a time-consuming and challenging task depending on an individual's level of experience and familiarity with equity swaps and specific stakeholders.

The initial high-level business problem we were presented with was: "How can we improve the equity swaps cash settlement process in order to enable operations to better prioritize and manage their work, while reducing risk incidents and improving likelihood of settling trades on time?" A combination of factors, such as high attrition and the inability to effectively manage an increasing volume of work, meant that a long-term solution and a better understanding of the root causes of the problems experienced by operations were required.

4. EMPATHY

End-users are at the heart of the design thinking process as we aim to define solutions that will resonate with the target audience and address their problems effectively. The ability to put oneself in the end-users' shoes, relate to them, and feel their challenges, and not simply asking what they do and want, is a pivotal starting point. It ensures assumptions and bias are removed from the process in favor of uncovering people's real problems and context before possible ideas and solutions can be considered. Such level of understanding and appreciation requires effective immersion in people's environment to observe, learn, and gain deep insight into problems that need solving.

Abandoning assumptions in favor of "empirical thinking" (i.e., observe and learn) to build empathy is of particular importance in a professional, complex work environment like capital markets operations, where stakeholders outside the operations team often have very limited view and understanding of the nuances, idiosyncrasies, and challenging reality of day-to-day operations work. End-users can too easily be seen and defined narrowly by their role and responsibilities, e.g., "The collateral disputes analyst manages and resolves disputes on margin calls."

There are many qualitative aspects and layers to that person's role that are important to appreciate and recognize when aiming to solve a problem and define a solution that includes that person in some way. For example, the analyst works in a highly-social environment

Figure 3: People are a fundamental pillar of an operating model

Figure 4: An "empathy map" is a useful tool to help stakeholders build empathy with end users

4.1 Empathy in enterprise environment

The need to start the problem-solving process with empathy is for the most part obvious when designing a consumer-facing proposition. User Experience (UX) and Service Design are well established concepts in personal banking, for example. However, when dealing with complex internal processes, especially in capital markets operations, terms like "empathy" and "user-centered design" are far from being as ubiquitous as they are in other parts of the financial services industry in our experience.

In such enterprise environments the end-users are a "captive audience". They are paid employees who are trained and tasked with executing tasks as part of wider operational processes. There is a constant drive by investment banks to improve operational processes by leveraging new technologies, for example "robotic process automation" (RPA) and "machine learning," which are expected to result in, among other benefits, freeing up people's capacity or making their role redundant altogether. In that sense, end-users can too easily be considered by some as a "moving part" in a complicated machine. The exact opposite of an empathetic perspective.

4.2 Starting with people

It is in this technology-led environment that design thinking introduces a fundamental cultural shift that places people as heart of the problem-solving process. The rationale being that people are a key component of a target operating model alongside systems and processes and, therefore, if people's real problems are not fully understood upfront, an expensive technological solution may fail to have the desired impact if it does not address real-user problems and challenges.

From what we have observed in the industry, typical change projects in capital markets operations tend to start with a technological solution in mind that is expected to deliver certain benefits, such as headcount reduction or increased throughput. End-users are contacted at the beginning of the project, typically by a business analyst, to provide input about how things are done currently, i.e., the "current state," as well as voice any requirements they may have for the future, to help form the "future state".

as part of a team of four, all sitting next to each other. As part of her day-to-day activities, the analyst spends an hour compiling end-of-day reports manually and running macros in Excel every 20 minutes to get an up-to-date view of prioritized disputes that need to be resolved.

Such actions are not only time-consuming and potentially risky from an operational perspective, but the low-level, mundane, and repetitive nature of such activities can be demoralizing. Being empathy-driven ensures that we do not lose sight of such important aspects when we define problems and explore solutions.

While this traditional "current state/future state" analysis approach may surface useful user requirements, it is not structured or executed as a user-centered exploratory process that focuses on generating insights rather than requirements. As a result, the output from such activities could lead to a narrow scope for innovation that is based on "what people say they do" and "what people say they want." In contrast, empathy makes it possible to develop a broader and richer understanding of people's situation and circumstances. As no solution is assumed at this early stage of the design-led problem-solving process, the empathy building activity is concerned with helping to generate useful insights to feed into the definition of the users' problems, rather than yield future requirements to a solution.

Listening to people's stories and experiences of their day-to-day work in operations - work that can often be confusing, stressful, and overwhelming - makes us not only informed but also emotionally invested. Empathy not only helps ensure stakeholders across the different functions have a clear understanding about what user-problems need to be solved and why, but they are also energized by the prospect of coming up with a good solution because they can relate and consider how different solutions may or may not fit the end-users' environment and solve their problems.

4.3 Empathize to break down barriers between silos

Despite the fact that an empathy-driven design thinking mindset is not common in capital markets operations, we have found that senior stakeholders were quick to acknowledge the importance of starting an innovation project with getting to know the end-users in order to keep an open mind, remove assumptions, and ensure that problems and context are thoroughly understood before potential solutions can be considered. This is a radical departure from the typical mode of operations, whereby a business analyst is tasked with creating detailed "current state" process flows diagrams as a starting point based on end-user input.

Moreover, in our opinion, enabling stakeholders from different areas of the bank to empathize with operations teams helped break down barriers between silos, by giving those teams faces, voices, and experience that made them far more than a functional role description. Investment banks are typically very siloed, both organizationally and psychologically. Empathizing with

colleagues in different areas can be effective in softening the barriers between silos to enable more communication and collaboration when needed.

4.4 Case study 1

Approaching collateral optimization, it was key to get to know the work that was being performed by the operations team to understand the potential impact of optimizing collateral on an industrial scale. The engagement was designed as a 12-week process, with the first two weeks dedicated to "empathy building".

The aim was not to spend precious time documenting detailed workflows, but rather to form an impression of the work and identify key themes and areas that are most likely to be relevant to shaping a future collateral optimization solution. As a design thinker may not be a subject-matter expert, and given the limited time available, light-touch immersion to provide sufficient evidence and understanding of big issues (explicit and implicit) is all that can be realistically produced when dealing with a complex business domain in a short amount of time.

The relatively rapid nature of the design thinking engagement, compared to the more traditional analysis approach described earlier, meant that the initial discovery efforts had to be focused on useful and tangible outputs that could trigger empathy. During the 2-week period, we embedded ourselves within the team, implicitly observing the dynamic and initiating conversations with team members on an ad-hoc basis to clarify findings as we built our knowledge gradually. Sitting amongst the team, we were able to observe first-hand nuances, interactions, events, and conversations that are not likely to be captured in traditional business analysis methods.

Through daily conversations and observations, it quickly became clear the work was highly manual and attempts to optimize collateral on an industrial scale could likely increase this workload considerably, to the extent where it becomes unsustainable. For example, introducing a collateral optimization algorithm was expected to increase the number of requests for collateral substitution, which would need to be sent to external stakeholders by the team manually as things stood.

Whereas the team was typically tasked with processing 5-10 such requests for collateral substitution, it was plausible an optimization engine could initiate hundreds

Figure 5: Summarizing the end-users' application landscape in a simple visual way helps to empathize with the complexity and realities of day-to-day operations work
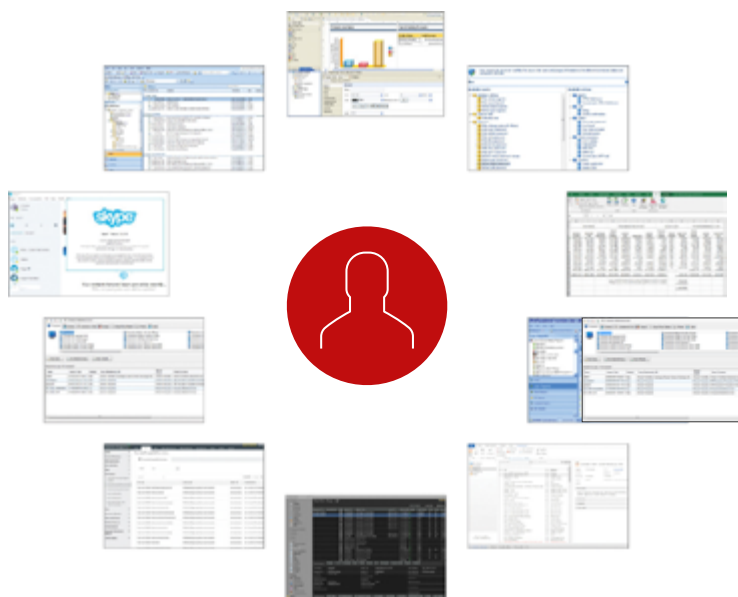
of requests, depending on how it was configured. The team's tasks were labor-intensive and members relied heavily on emails to communicate with internal and external stakeholders, alongside an array of disjointed applications. Any significant increase in the volume of items that would need to be processed daily would result in a major operational bottleneck.

Getting stakeholders to empathize with the end-users was achieved in part by highlighting some of our findings and sketching high-level user-journeys that communicated the nature and essence of the work that were important to appreciate in the context of possible future collateral optimization.

Being curious is key to effective empathy building in our opinion and looking around the end-user's environment can be very informative. For example, we observed that calculators were used during various workflows, whether physical or digital ones. This anecdotal finding brought to life very effectively the day-to-day manual work we observed, which was not familiar to the stakeholders outside the team. It served as a powerful reminder of some of the operational challenges that needed to be addressed in order to successfully optimize collateral on a grand scale.

Findings such as physical calculators not only made the work of the team feel very real for people that were not familiar with the work involved, but also emphasized the considerable gap between the sophistication the collateral optimizer represented, and the current manual operational work that would need to be considered in the overall solution. It left a lasting impression throughout the engagement - even in later stages of the project, senior stakeholders referred to it as an effective reminder of the end users' context. It is worth noting that taking photos in an investment bank has to be approved beforehand due to data security concerns. While it can be very impactful, it is not straightforward like it may be in other industries to video and photograph the end-user's environment.

4.5 Case study 2

Compared to the collateral optimization project, redefining an equity swaps cash settlement process to address strategic problems presented a different, more complex challenge for building empathy:

- **Multiple locations:** whereas the operations team in collateral optimization was based in London, the end-users in this case were in several locations around the globe. This meant that getting to same level of immersion and frequent contact would be impossible without traveling and spending time in each location.
- **Domain complexity:** equity swaps are highly complex and bespoke financial products with many moving parts. As a result, the operational process was significantly convoluted, involving many scenarios and workflows.

Building empathy with a global team under such circumstances may seem like a daunting task, especially given the 2-week timeframe to conduct the empathy building activities. We chose to conduct remote interviews with screen sharing to avoid losing time due to travel. Budget was also a consideration. While being physically present in the end-users' environment can be very insightful, given the number of locations traveling was deemed undesirable. In a sense, having limited contact with the end-users in this case (typically an hour interview and a shorter follow-up conversation) allowed us to focus on the high-value issues and aspects of the complicated work rather than getting caught up in low-level, tactical details.

Through the conversations with the operations team, a picture emerged of a situation in which work is carried out in "near-zero visibility conditions" as team managers were often pulled into work that took them away from managing, putting them in the dark about what team members are working on and why. As a result, they struggled to prioritize, plan, and manage effectively. Screensharing during the interviews was essential to bring to life the highly fragmented work environment, showing us the multiple systems involved in workflows that are often not documented clearly and need to be "learned on the job".

4.6 Recommendations for empathy-building

As described above, empathy can be very powerful to ensure that efforts to innovate focus on the right areas and that solutions are designed with the end-users' environment, context, and needs in mind. When approaching empathy in capital markets operations we recommend the following:

- **Look for stories, not just requirements:** when meeting end-users and talking to them about what they do, it may be tempting to note down in detail every step of every process that is being executed. Instead, empathy is more likely to occur when you approach the conversation with the aim of capturing the end-user's stories and anecdotes. These can be very powerful to convey the essence of the job and the big problems individuals face on a day-to-day basis. It requires good active listening skills and genuine curiosity to ask insightful and follow-up questions. You know you are successful in your efforts when you feel passionately you want to solve the end-user's problems because you understand the impact they are having.

- **Create impactful visuals:** conveying to others what you have discovered about end-users so that they can also empathize can be challenging, which is why creating impactful visuals (e.g., photos, illustrations) can be very effective to tell the story and bring findings to life. An audience is far more likely to take interest when presented with engaging content, such as high-level user journeys, which are designed to describe to people the essence of what is being done, rather than attempt to document every step and decision point along a complicated workflow.

- **Use end-users' time wisely:** the people we often aim to empathize with are very busy and are engaged

in time-critical tasks. We do not have the luxury of spending a lot of time with them, nor can we realistically get our heads around everything they do. All this means that we need to ensure the time we do spend with them is very effective. We often achieve that by focusing on fairly high level "stories," such as a typical day that provide enough detail about the day's "highlights" and key problem areas. This can be achieved in half an hour if done right. The relatively short amount of time available means we need to get to core issues quickly, and get a summarized view that can lead to useful insights.

5. CO-CREATION

Design is very much a cross-functional activity that relies on combining diverse range of views, experiences, and perspectives to craft a solution. Co-creation - the coming together of stakeholders from different areas to explore and define a solution collaboratively - is a fundamental pillar that underpins design thinking. Collaboration not only allows for different perspectives and ideas to be shared quickly, ensuring ideas are acceptable to all they concern, but in a large organization it can be highly effective to save time and break down barriers between silos as stakeholders from different areas of the bank come together, often for the first time, to collaborate in co-creation design sessions.

For us, co-creation is a hands-on approach, using tangible design artefacts, such as storyboards and prototypes, to quickly visualize ideas so that they are easier to envisage and understand as they take shape and are iterated upon quickly. This is in stark contrast to the common mode of operation we often come across in capital markets operations and technology, in which one group of stakeholders produces or owns the content – typically a business requirement document (BRD) - and periodically shares it with a wider audience to be discussed over a meeting in a boardroom-type setting.

5.1 Challenges to co-creation in capital markets operations

In our experience, introducing co-creation as a way of working in capital markets operations can prove challenging for two main reasons:

- **Logistical:** applying a hands-on approach where people come together in a shared physical space to create artefacts, such as mock-ups and user-

journeys, is challenging when teams are spread across the globe, as is often the case in global investment banks. Remote collaboration tools, like Skype and video conferencing, have their benefits, and offer a useful alternative to not collaborating at all. However, they also have their limitations when considering such hands-on activities. It is also worth noting that securing a decent sized meeting room in a bank is not always easy, as such spaces are very much in demand. Meeting rooms do not always have whiteboards and we have been in situations where it was not allowed to post things on the walls.

> "Applying design thinking to a solution-definition project can help break down barriers between internal silos to define – in a relatively short space of time – an agreed, long-term creative vision that is shaped very much with the end-users in mind throughout."

- **Cultural:** stakeholders in our experience are often comfortable attending meetings remotely using Skype, even if a meeting room is available. It may be because it allows them to multi-task in the background, and we have encountered situations where people needed considerable persuasion to leave their desk for a couple of hours and join a face-to-face co-creation session. Additionally, oftentimes people consider themselves consumers of content produced by someone else rather than co-creators of the content itself - especially if the other potential co-producers are from a different area of the bank. As such, transitioning from consumers to co-creators represents a considerable paradigm shift for some.

5.2 Mobilizing a co-creation 'solution team'

To facilitate frequent, effective co-creation during a design thinking engagement, we assemble a dedicated internal group of 10-12 persons we call a solution team. It is tasked with coming up with the solution and at the very least includes stakeholders from technology, change management, and end-users from operations. Team members are expected to commit up to six hours a week

to participate in co-creation workshops, either in person or via video conferencing. This is a crucial prerequisite to effective design thinking, and while it may seem a considerable time commitment to some, we have found it ends up saving far more hours of deliberations and content creation in the long term.

As design thinking practitioners, we work with the solution team, carrying out empathy-building activities, guiding the design thinking process, facilitating the co-creation sessions, and producing the project output and design artefacts. We have found that having such a solution team makes it easier to promote diverse thinking and tap into internal creativity, which people may not feel they have the opportunity and license to express otherwise. It also creates a sense of shared ownership and ensures stakeholders from different areas have 'skin in the game'.

Keeping the size of the team relatively small is key to ensuring that team members can collaborate frequently and effectively. This is a very different approach to a typically large "working group" scenario we have encountered on many occasions, which can turn counterproductive. We often see change projects involving large groups of up to 20-30 individuals who try to resolve issues and come up with solutions during weekly conference calls. This is a very common mode of operation in capital markets, especially since stakeholders are often located in multiple locations.

To ensure the solution team has first-hand knowledge of the day-to-day reality of operations work when considering user problems, ideas, and possible solutions, we ask that members include junior stakeholders that perform the low-value manual work and not just managers. Such a request is often initially met with raised eyebrows for two main reasons:

- **Organizational culture:** in our experience, it is rare for junior resources in an analyst/associate role to attend regular strategy meetings with managers at director, vice president, and executive director levels. A hierarchical corporate culture means an analyst in operations is removed from managers, except a direct line manager, and has little to no interaction with managers in change management and technology. Given that the analyst is often a primary end-user, who very likely will be part of an operational solution, their involvement as a member of the solution team has

always proved extremely important to provide a unique perspective "from the trenches".

- **Use of time:** having analysts participate in regular solution team co-creation workshops meant they were not at their desk for one to two hours to respond to emails, phones, and execute their day-to-day tasks. While that is a legitimate immediate-term concern, it is important to recognize that the far more strategic and long-term solution-definition would likely suffer without constant input from the end-users. As a compromise, we often propose that end-users alternate, so that we get a mix of perspectives from the team, but also so that it is not always the same person that is absent.

5.3 Case study 1 – single location

Introducing co-creation as a way to solve collateral optimization was relatively straightforward from a logistical perspective, since all of the stakeholders were based in London, albeit in two buildings which were five-minute walk apart. This posed a slight challenge at the beginning when one key stakeholder expressed preference to attend the co-creation workshops remotely, despite the short walking distance. We felt that it was important that everyone in the solution team who was not working from home on the day of a workshop attends

in person due to the interactive nature of the workshops, and to also allow the team to gel as a unit. The issue was resolved successfully and the fact that the solution team attended the sessions in person proved very beneficial.

Despite the fact that stakeholders from change management and the business (end-users) were sitting in close proximity, the solution team sessions were the first time analysts engaged with managers from change management and technology. Typically, a business analyst from change management would engage end-users to elicit requirements and would then document the material and present it to the project manager and change lead responsible for the business function.

The process of debating and co-creating ideas as a group was very efficient and highly productive for everyone to understand what role the operations team might play in the future to help facilitate collateral optimization without having a detrimental impact on day-to-day operations. The co-creation sessions took place in the client's corporate training facilities, which were ideal as they were large rooms with furniture that could be rearranged easily as well as large whiteboards. Low-fidelity storyboards, depicting in a highly-visual manner the future vision as a step-by-step narrative, brought to life ideas such as automated client emails, workflow

tooling, and straight-through-processing (STP) to free-up capacity for the team to handle high-value work that required human involvement.

> "Co-creation and empathy building are fundamental aspects of design thinking, which are crucial to explore and define creative solutions effectively and address real user-problems successfully."

Having representatives from technology and end-users working together was extremely useful and made it possible to refine ideas quickly while validating their technical feasibility and assess the extent to which they would be welcomed by the end-users. It was clear that technology stakeholders who had a deep theoretical knowledge of the business domains, learnt a lot in the process about what takes place in operations.

In some cases, stakeholders from technology and funding and liquidity management came to realize during the sessions that certain ideas and approaches that made sense in theory would not work in the real world from an operational perspective. For example, the bilateral nature of the interaction with individual external stakeholders meant that each stakeholder the operations team interfaced with posed different challenges and may require a different approach. Some were notoriously slow to respond, while others did not tend to reply to emails so phones were the main mode of communication. Assuming such behavior was not likely to change, it had to be factored into the solution in some way. We doubt such insights would have been acknowledged and considered if it was not for co-creation.

THE OUTCOME

In the end, the solution that was achieved represented the views, ideas, and input of all the stakeholders and each felt they owned it equally. We were able to outline an agreed solution that included a logic for optimizing collateral as well as new tools that operations would need to be equipped with to handle new high-value tasks as part of the long-term vision. This was a radical departure from the normal way change management

had approached projects and there was a sense that consensus was established firmly, and everyone shared the same vision.

5.4 Case study 2 – multiple locations

Reimagining a back-to-front equity swaps settlement process proved far more challenging, the principle reason being that the stakeholders were spread around the globe. It quickly became clear that we would not have the luxury of face-to-face co-creation sessions in a shared physical space.

Gathering members of the solution team in the same space, even if only once or twice, was not practical for several reasons, and even if it was possible, the intense nature of the engagement over a 12-week period meant that it was not a solution for the entire period. We needed to come up with a strategy that could ensure productive and sustained co-creation between stakeholders in five locations in the U.K. and North America.

CO-CREATING REMOTELY

The solution was to mandate that all the co-creation sessions will be held via video conferencing to ensure there was a strong sense of presence in each location and ability to share, in real-time, the highly visual output that was produced in each location, often in a non-digital form (e.g., pencil sketches and storyboards).

The investment bank we worked with did not have access to advanced remote collaboration tools that may have made this process easy for us, and for obvious reasons, the process of authorizing and installing applications in such organization can be lengthy and success is not guaranteed – especially across multiple locations, which added an extra layer of complexity and risk.

Considering the logistical constraints, it was decided to go ahead and make the best of the firm's video conferencing facilities. Co-ordinating the booking of five meeting rooms with video conferencing capability created a constant administrative challenge, which we overcame for the most part by scheduling all the sessions well in advance.

THE OUTCOME

In total, the solution team spent 36 hours co-creating remotely from defining the end-users' problems following an empathy building phase through to testing prototypes at the advanced stages of the engagement.

Whiteboarding sessions in which user-journeys and ideas were brought to life through elaborate, rich storyboards required constant camera work, zooming in and out and panning left and right. At times it may have been slightly disorienting to the people in the different locations, but overall proved effective and the sessions' output did not suffer as a result.

Solution team members commented that leaving their workstations for two hours every few days to collaborate face-to-face, technically speaking, was refreshing and a highly effective use of their time. The highly visual nature of the activities and the tangible output contributed to high level of engagement from all involved. We felt that the co-creation aspect of the engagement encouraged people to think big and fast, as we were collectively exploring possible long-term solutions, rather than short-term tactical fixes.

The cross-functional nature of the solution team proved to be powerful and resulted in many interesting and productive discussions, primarily between end-users and technology stakeholders. As we often witnessed in such settings, there is usually a considerable gap between what technology and change stakeholders know about the work that is being done by the operations team and the day-to-day reality and nuances the work entails. The co-creation sessions in this sense are a great way for stakeholders outside the operations team to build empathy and establish deep understanding of the needs, circumstances, and user-problems that are pivotal to drive effective ideation and prototyping sessions.

5.5 Recommendations for effective co-creation

As has been described, facilitating effective co-creation is not always straightforward, as it is often a new mindset in capital markets, which requires people to work in a different way than they are used to. To make the process of co-creation effective and sustainable during the lifecycle of a solution-definition project we recommend the following:

- **Aim for in-person or video-enabled face-to-face sessions:** we cannot stress enough how effective it was bringing people together in the same room, physically or virtually, to co-create. We believe that the interactive, hands-on nature of co-creation design sessions makes it impractical to consider remote solutions that do not create a sense of real presence. Co-creation is more than having people talking and looking at the same PowerPoint presentation. Such mode of operation may be sufficient for quick update calls or ad-hoc reviews of emerging solutions, but to drive an effective exploration and co-creation people need to feel that the session is different from other conference calls they perform during the day. Co-creation should be engaging, energizing, and productive over a course of 8-12 weeks in some cases. In our experience, maintaining high levels of engagement is far more likely when people are expected to show up rather than dial in.

- **Keep the size of the solution team small:** there is typically in an investment bank a desire to get everyone involved in defining a solution, which can easily result in an unmanageable and counterproductive group of people. Because people are used to dialing into "mega" conference calls, this may not seem an issue, but when applying design thinking and wanting to get people active and engaged, ideally in the same space, a large group is not practical. Providing visibility to a wider group of stakeholders on a weekly basis as part of "working group" is one way we are able to keep the size of the solution team, who meets every few days for a couple of hours, small.

- **Arrange co-creation sessions well in advance:** the two main logistical obstacles we faced when attempting to introduce co-creation in an investment bank were finding meeting rooms and slots that everyone in the solution team could accommodate, at times across multiple time-zones. To address these issues, we book the sessions weeks in advance – basically, as soon as we know who the members of the solution team are. Changes to people's availability are inevitable and we constantly need to adjust and shift sessions around, but setting the meeting far in advance gives members of the solution team a good idea about the expected time commitment and overall project structure.

6. CONCLUSION

Co-creation and empathy building are fundamental aspects of design thinking, which are crucial to explore and define creative solutions effectively and address real user-problems successfully. As this paper described, both are hugely relevant to solve problems in capital markets operations. However, applying them in practice in large multinational organizations can be challenging for logistical and cultural reasons, to name a few potential obstacles that need to be overcome.

Barriers between organizational silos can easily get in the way of defining innovative solutions at pace that are fit-for-purpose. They can result in prolonged review cycles of solutions that are slowly being defined during conference calls, using heavy technical documentation that can limit, if not stifle, people's creativity, and ability to appreciate the user-problems that need solving.

As organizations come to consider ways to encourage people in different business areas to collaborate more closely, and focus on real user-problems in the process, design thinking offers a structure and mindset that has co-creation and empathy building at its core.

As was described in the two case studies, ensuring co-creation and empathy building during a design thinking engagement in capital markets operations is not straightforward, and requires logistical preparations as well as winning the hearts and minds of stakeholders who are expected to adopt a different way of working to solve a problem. The benefits of early and continuous cross-functional collaboration become clear quickly, as people comment that they feel their time is being spent better and that having multiple perspectives in the room accelerates and improves the output, which is considered from the point of view of real people with real problems.

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