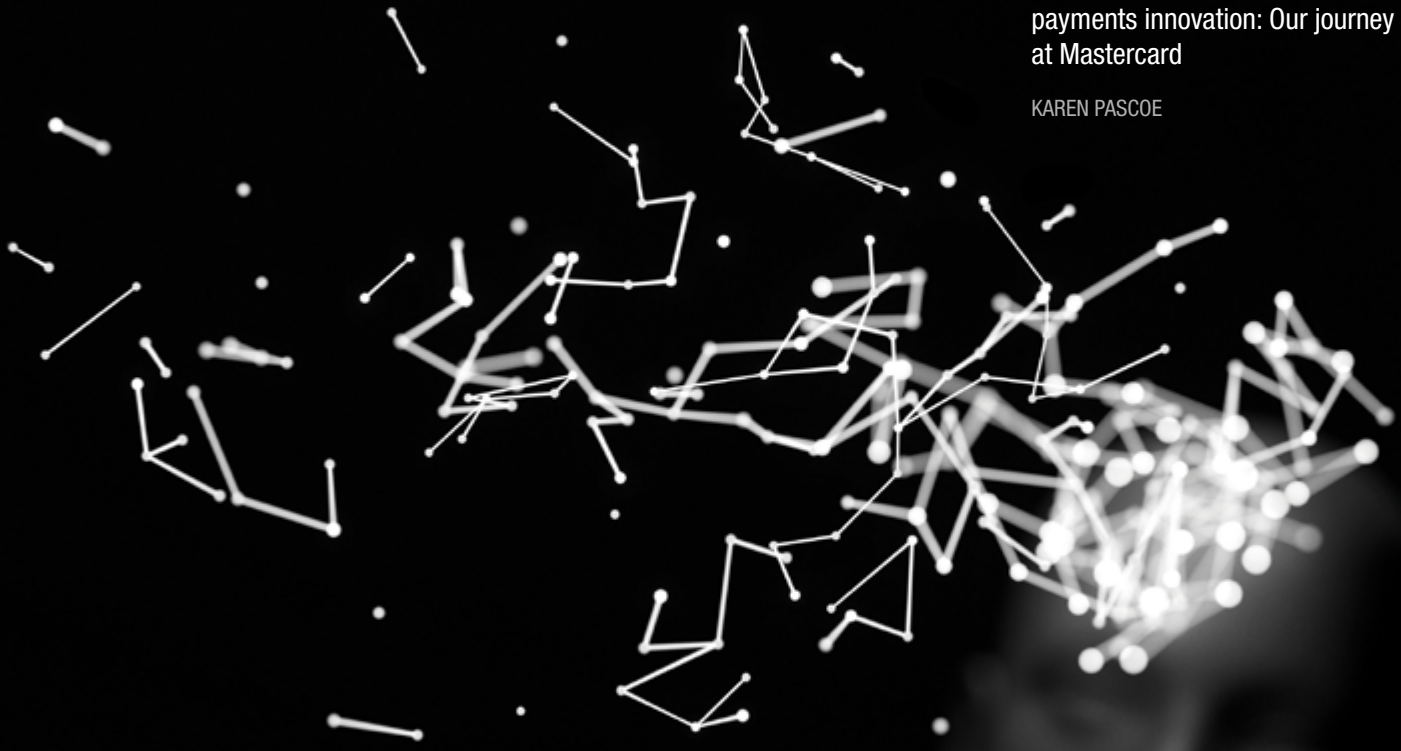


THE CAPCO INSTITUTE
JOURNAL
OF FINANCIAL TRANSFORMATION

DESIGN

How design thinking is powering payments innovation: Our journey at Mastercard

KAREN PASCOE



DESIGN THINKING

#48 NOVEMBER 2018

THE CAPCO INSTITUTE

JOURNAL OF FINANCIAL TRANSFORMATION

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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 stories 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.

A handwritten signature in black ink, appearing to read 'Lance Levy', with a stylized, flowing script.

Lance Levy, Capco CEO

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

HOW DESIGN THINKING IS POWERING PAYMENTS INNOVATION: OUR JOURNEY AT MASTERCARD

KAREN PASCOE | SVP, Experience Design, Mastercard

ABSTRACT

Most companies are looking for ways to improve innovation and reduce the risks associated with development efforts. A key way for organizations to accomplish that is through the use of design thinking, which is a structured approach for cross-functional teams to develop and maintain a clear focus on user needs from conceptualizing an experience through iteratively prototyping and testing with the intended audience.

Design thinking has taken off in many organizations, from technology companies to corporates to non-profits. A key benefit from the approach is to break through inertia, build and maintain user empathy, and harness the comprehensive perspectives of a broader team.

Organizations who embrace these methods tend to find heightened employee engagement, better collaboration, and more innovative solutions. Organizations looking to embrace and scale design thinking can learn from Mastercard's journey from innovation lab to enterprise.

Design thinking is part of almost everything we do at Mastercard. We use design thinking to inspire research and development, as well as consumer product development. Design thinking helps us solve challenges with our customers and partners. We even use design thinking to improve our own employee experience.

A revolution is underway. The connection of the physical and digital world is transforming our industry (and many others). In this new world, every device can be connected and every device can be a commerce device. Consumers have extremely high expectations of the user experience and unprecedented choice.

Our business provides ways for our customers and partners to reach consumers with capabilities that safely, seamlessly power their lives in commerce no

matter where they are. While we at Mastercard have always enabled consumer experiences, the experience standards of the digital world are changing the game for the broader commerce ecosystem. In response to that, we have activated design thinking across many areas of our organization to elevate consumer centricity and innovation.

1. SEEDING

Mastercard Labs, our research and development arm, has been using design thinking across our innovation portfolio for some time. We blended the best of formalized design thinking practices with lean/agile methods to accelerate progress. These techniques allow the cross-functional product team to focus on the consumer pain points that they are solving for. Design thinking is part of

the day-to-day activities of our innovation teams in our global hubs in New York City, Miami, St. Louis, Silicon Valley, Dublin, Nairobi, Singapore, and Sydney.

In Nairobi, Mastercard Labs for Financial Inclusion is focused on payment solutions as a way to positively impact low income households in Africa and other developing markets. Our belief is that bringing formal financial services will empower people and drive economic growth. We are also supported in this endeavor by the Bill and Melinda Gates Foundation.

A recent innovation out of Nairobi is 2kuze, which means 'let's grow together' in Swahili. In order to meet the needs of small scale farmers, our team worked with the farmers side by side to understand their needs and pain points firsthand. We took a prototyping approach to test and learn, working iteratively toward a solution that allows farmers to streamline sales processes, expand their pool of buyers, provide transparent pricing, and accept payments – in this case digital – without ever leaving their farm. Being in the field makes it easy for the product team to design these

products with the actual users. The close proximity keeps a clear and continuous focus on user needs, resulting in better product experiences overall.

As a company, Mastercard is focused on doing well by doing good, so we have brought design thinking approaches to our work with humanitarian organizations. After extensive partnership with the Mastercard Aid Network, our design thinking approaches have allowed us to better understand the needs of everyone involved.

In this case, we worked to meet the needs of the population (which range from refugees to civil unrest to natural disasters), the aid organization, local merchants, and the donors who support these efforts. The solution we developed can be quickly implemented anywhere using a web-based solution for merchants and providers that can be operated in remote locations without connectivity. This cost-effective solution provides transparency to aid providers, streamlines the merchant experience, and preserves dignity for aid recipients in a time of great duress.



Figure 1: Karen (second from left) and her team iterating some design concepts in digital payments

2. MAINSTREAMING

Within our product development teams, we leverage a variety of different techniques including design thinking, customer journey mapping, lean UX, and a set of advanced human centered design methods where we have dedicated designers. As with many organizations embracing the digital world, we are in a broader transformation that is elevating customer experience, design, and innovation. This aligns with our technology modernization, incorporating APIs, dev ops, and microservices with agile approaches.

“We benefit from blending different thinking styles that encourage teams to think bigger, suspending preconceived notions of solutions before they go deep, and edit their choices.”

We are evolving as an organization to start with the desired experience and working through how to deliver that. Design thinking approaches allow the team to see the holistic experience through a consumer lens, which drives better ‘outside-in’ perspectives. We also do research and testing with consumers that keeps our teams focused on the right pain points all the way through our development cycle.

With customers and partners, we often have comprehensive relationships, complex implementations, and multi-year service periods for our programs. Design thinking helps us collectively define the consumer experience. We assemble the key participants, with the right end-to-end representation from both teams. Together we work at solving consumer pain points in a way that is highly engaging for all involved, which gets to better results than a traditional RFP process. Through rapid prototyping and testing, we can quickly and inexpensively get to consumer validated outcomes that reduce risk and improve overall results.

In some instances, we have customers who are looking for our help with a particular problem or segment. Many of our customers, for example, are looking to improve

engagement with millennials or centennials (Generation Z). This is an area where design thinking shines. The team gets a clear consumer research activity and briefing, and they are given a set of activities designed to get them into the target mindset. Traditional methods simply cannot generate this level of consumer empathy.

All of this great work has not gone unnoticed by our customers and partners. By popular demand, we have created an offering from our consulting arm called Mastercard Labs as a Service (LaaS). Our teams are skilled in the facilitation of our agile design thinking methods, with backgrounds in design, research, innovation, and product development. They work closely with our customers to understand objectives and carefully curate an experience for the customer with their cross-functional employees. It is a highly engaging method that helps our customers drive employee creativity, supports their own digital transformation agenda, and provides highly innovative, consumer centric solutions. We drive to viable offerings with strong business cases that have scale potential.

The majority of our engagements are a five-day rapid design and prototyping service. There is significant definition and preparation in advance so that, from the moment the customer’s team walks in the room, it is a high impact experience. Our offerings also extend to design and consumer testing through pilot development and product buildout. We also have innovation capabilities that we use via our own Mastercard Labs that we can establish for our customers to syndicate and scale proven techniques.

We are starting to use design thinking for our internal efforts as well. There is a focus on enhancing the employee experience, which is a foundational element of delivering a good customer experience. Using the same methods that we do for consumers, we have identified the key journeys for our employees, started prototyping experiences, and are working iteratively to get the pieces into play. All of this hand-in-hand with our HR teams doing the work. This was an excellent opportunity for HR leadership to see for themselves how working cross-functionally and starting with research, empathy, and needs gets us to better solutions. The team recognized they had more creative solutions to problems than expected and felt more engaged in problem solving.



Figure 2: Technology modernization into RESTful APIs, microservices, and agile practices will drive scaled innovation and better consumer centricity

3. TRAJECTORY

There are clearly a lot of applications for design thinking at Mastercard. I see us as being well along in our broader digital transformation journey. Lean, innovation, agile, design, customer experience, dev ops – all of these methods work to connect organizations – drive more creative problem solving and keep the focus on customer needs. We have been using design thinking in pockets for over five years. As these pockets have yielded great results, there is more interest. Our hiring continues to scale in user experience design, customer experience, and related fields; so our deep practitioner base continues to scale.

Traditional business and technology roles are undergoing a shift as we recruit more and more sales, product, and technologists who have experience working in customer immersed teams that leverage design thinking methods. Our technology teams are starting to speak in the language of customer journeys and asking richer, more empathic questions about our user base overall.

From a learning and scaling perspective, we have formalized a design thinking curriculum at two levels, an introductory course that has trained over 600 employees to date, as well as an in-depth facilitator training and certification program. Those completing the program are asked to lead design thinking facilitation sessions outside of their existing team at least quarterly. This helps us expand our pool of facilitators, keeping the knowledge base, and fostering a community of practitioners.

Our efforts are further amplified by a broader product development lifecycle refresh. This refresh, deeply informed by design thinking, is being rolled out to our employee base globally. We have done a benchmark of our process enhancements and find it akin to what we are seeing at leading innovators across a variety of industries.

These efforts are helping us scale innovation more broadly. As Mastercard and the payments industry are broadly transforming, we need thinking that keeps us highly focused on end-user needs. We benefit from blending different thinking styles that encourage teams

to think bigger, suspending preconceived notions of solutions before they go deep, and edit their choices. The clear focus on prototyping and iterating allows us to get input incrementally, reducing our risk overall. This helps us move beyond our traditional payment methods (physical cards) and evolve more deeply into digital and payments between businesses.

Historically, our traditional customers have used mature ISO connections into our payment processing systems to power payments to the over 2.3 billion consumer accounts. We have well over 23,000 customers who connect to us for settlement and our payment brand is accepted at over 45 million merchant locations. As we modernize our technology to RESTful APIs, microservices architecture, and platform thinking, we create new options for innovation. This will create a virtuous cycle of

innovation as we continue to evolve who we partner with, the markets we serve, the types of payment capabilities we provide, and the ways that payments are evolving into IoT and devices more broadly.

4. CONSIDERATIONS

Design thinking helps us look beyond our own internal groupthink to get to new ideas faster. It helps us innovate more collaboratively with our customers and provide better solutions to consumers at global scale. It is also helping us expand and solidify the partnership-oriented nature of how we go to market. Lastly, design thinking is helping us drive innovation throughout the broader commerce ecosystem where our scale has impactful change.



Figure 3: Design and creativity are becoming more critical to Mastercard's success in the digital world

As design thinking permeates the business world, there are evolving perspectives – not all positive. In the design community, perspectives are mixed as well. It is good to point out that there are clear pros and cons for organizations evaluating the applicability of design thinking and how to maximize outcomes in practice.

“Design thinking helps us look beyond our own internal groupthink to get to new ideas faster. It helps us innovate more collaboratively with our customers and provide better solutions to consumers at global scale.”

Pros include high engagement across product teams, breaking down silos, and overcoming muscle memory to see past execution challenges, bias, and inertia. Cons are that it can brand activities as human centric that are more ‘inside-out’ than ‘outside-in’, maintain mediocrity and require external expertise to land solutions in market. The relative maturity of the organization is key to optimizing the positive and minimizing the negative.

Design, or ‘UX’ more broadly in digital, is best as the third leg of the stool – with business and technology on the other two. Successfully seeding a design thinking mindset depends on the relative maturity of the other key parts of innovation development. If you come up with fantastic ideas that will take you years to execute, the expectations set via design thinking and commensurate high engagement can send you from peak to valley quite quickly.

To avoid this level of employee disillusionment, make sure that you have your technology teams on board. In our case, we seeded design thinking in our innovation lab, where our research and development engineers were able to take ideas from concept to execution rapidly. This embeds the possibility of driving material outcomes and allows time for broader scale technology modernization to take root. On the business side, executive sponsorship is key, as are measurable results and incentivization. Business leaders want to see that what can be a material investment will pay off. For us, again, our seeding of this in our innovation lab provided enough of the softer proof points to gain business buy-in.

Another key consideration for teams is the scaling of design. We are seeing a significant trend across leading technology companies of embedding designers in their organizations. For traditional software development, leading companies are working towards having one designer per ten engineers. In mobile development, that ratio is more concentrated with one designer per three engineers. By scaling highly skilled designers, efforts can be amplified with extensive knowledge of modern design patterns, deeply empathic practitioners who can lift-up broader team efforts, and talent that can better navigate the execution of challenges on the ground with the cross-functional team.

Mastercard is progressing here, as we are growing design capabilities across our product development teams. We are also scaling research capabilities to allow us to be more responsive to user feedback as we are prototyping and iterating our design solutions. In fact, three of our technology hubs have built-in consumer testing capabilities, while others use portable testing kits that can be set up in the field. We are embracing cloud-based insights platforms that extend our reach globally to field moderated and unmoderated studies. Together, these capabilities allow us to maintain high empathy for our users – the essence of design thinking – throughout our product development lifecycle.

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