
***Creating valuable
customer
experiences***

&

Transforming the
Customer Journey
using Human-Centred
Design

Introduction



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Companies today live in an era of disruption, led by the combination of rapid changes in technology, speed of innovation, increasingly quick obsolescence, and significant changes in customer behaviour. Businesses struggle to stay competitive while they focus on product/service features and try to understand and anticipate customers' needs. This often does not seem to bring about significant outcomes. The conventional approach based on segmentation, targeting, and product/service development is no longer enough to satisfy the needs of end-users who demand increasingly more from companies. Customers expect relationships that include much more than mere product features, so successful companies have started to look at customer experiences through their eyes to understand how to drive new value.

To this aim, Human-Centred Design puts users at the centre of the entire organisation and gives a method to develop products and services that meet users' evolving needs by understanding what's happening along their paths to purchase - what the needs and pains are - and solving around that. Businesses gain insight of customers' behaviours on physical and digital channels and use it to develop solutions that respond to what people need, do, or expect. New experiences can then be visualised and brought to life by means of prototypes that are iteratively tested, refined and rapidly improved. The "test-and-learn" approach allows a quick reaction to feedback from anywhere - often, in real time. This way, the months it traditionally takes to deliver new solutions are collapsed into days.

In order to redesign experiences in a user-centric way, companies should change their approach to innovation, go beyond the formal mechanisms and hierarchical structures of traditional businesses, and think and act like startups. In other words, focusing on experiences means leaving behind siloed organisations and starting to embrace entrepreneurial capabilities such as agile development and rapid prototyping, while also adopting attributes like creativity, speed, bias for action, flexibility, and radical collaboration.

Human-Centred Design allows us to explore the interactions that deeply affect the perception of the brand and its loyalty, to strengthen the relationship and create unique experiences. Companies need to be clear on how to approach customer journey redesign, in order to act rapidly and effectively and bring value to their customers through experience.

Here's how.

Use data to discover your customers as people, not transactions

Human-Centred Design has, by definition, customers at its core. Today, business models are built around the idea that each customer is unique and has needs that companies must understand and meet in order to nurture the relationship and harvest its value.

Different customers have different needs, they respond to interactions in various ways, give more importance to specific details of their experience than to others. As a result, no one experience generically applies to all customers. On one hand, the complexity of dealing with customer experience is that it is not limited to a single-view analysis. On the other hand, providing unique and tailor-made experiences cannot be achieved by considering customers one by one. Hence, companies identify **personas**: archetypal customers that are relevant for the brand. Personas have specific characteristics, needs and behaviours towards the brand offering. They are outlined by matching information gathered from multiple sources (e.g. demographic and transactional data) about what and how customers buy (e.g. customer segmentation models analysing data on purchasing patterns, preferences, frequency, etc.) and how they interact with the brand (e.g. preferred channels)(see Example A). These profiles are then enriched with insights on customer needs and behaviours, which are defined by making some hypotheses to be tested and refined in the following phase of ethnographic research.

For example, a grocery retailer undertaking customer experience redesign identified five personas, among which Andrea Romano (a Young Professional), shaped by customer analytics with information on age, marital status, geographical area, digital habits, frequently-purchased items and level of loyalty. Andrea's needs were different from those of Maria Martini (a Retired Lady with Family): while the former is time-constrained and needs a store close to home and a simple experience, the latter appreciates a familiar and reassuring experience and enjoys spending time at the grocer. This information is relevant when it comes to defining the initiatives to improve experiences and to whom to target them.

Personas are outlined by matching information from multiple sources about what and how customers buy and how they interact with the brand

Matching data to personas

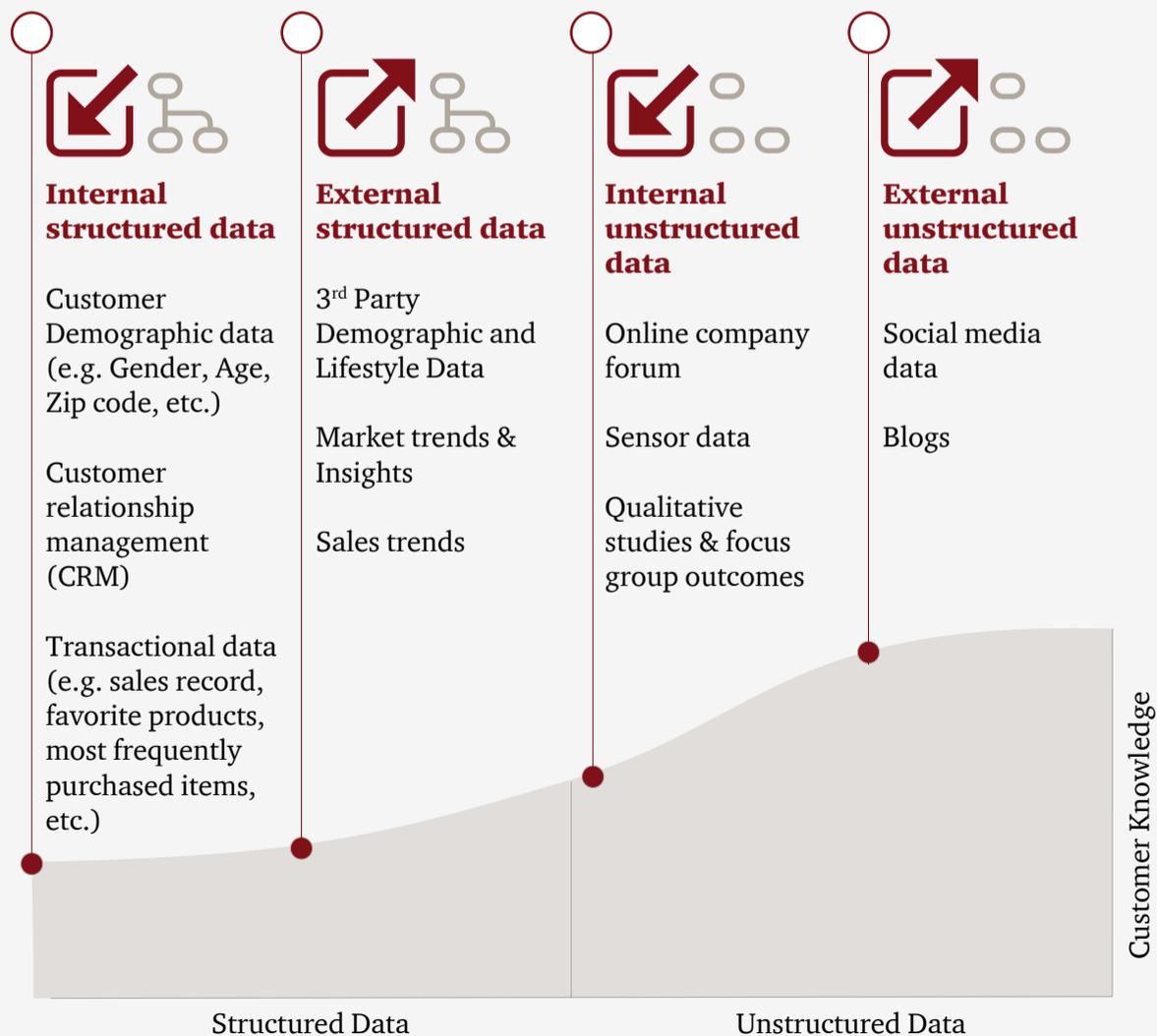
Analytics capabilities and availability of data allow us to enrich customer profiles with useful data on their behaviour along journeys. Information on customers can be gathered from multiple sources and used to define personas under many different aspects. The path towards a thorough understanding of customers starts from transactional data traditionally available to companies and builds on additional details from demographic and relational data, which consolidates the view of customers (e.g. responsiveness to promotions, attitude towards innovative touchpoints, etc.) Companies can then increase their knowledge with data from market research. In order to build a holistic view of customers, companies that excel in customer analysis also gather insight from unstructured data,

which can be sourced both internally - typically customer care data and qualitative research - and externally - mainly from the web, social media, and more recently from IoT ecosystems.

In the case of a transportation services provider, data scientists were able to match transactional and demographic data coming from its loyalty scheme (e.g. age, spending, preferred ticket-purchasing channels, preferred means of travel, travel class) with data from complaints and customer care log. This analysis helped outline the profile, characteristics and needs of the archetypal Giovanni Verdi (a Commuter) that represent daily travellers who are about 30 years old, usually buy their tickets from the web, travel in second class and are particularly concerned about the punctuality of trains.

Example A

Customer knowledge through data



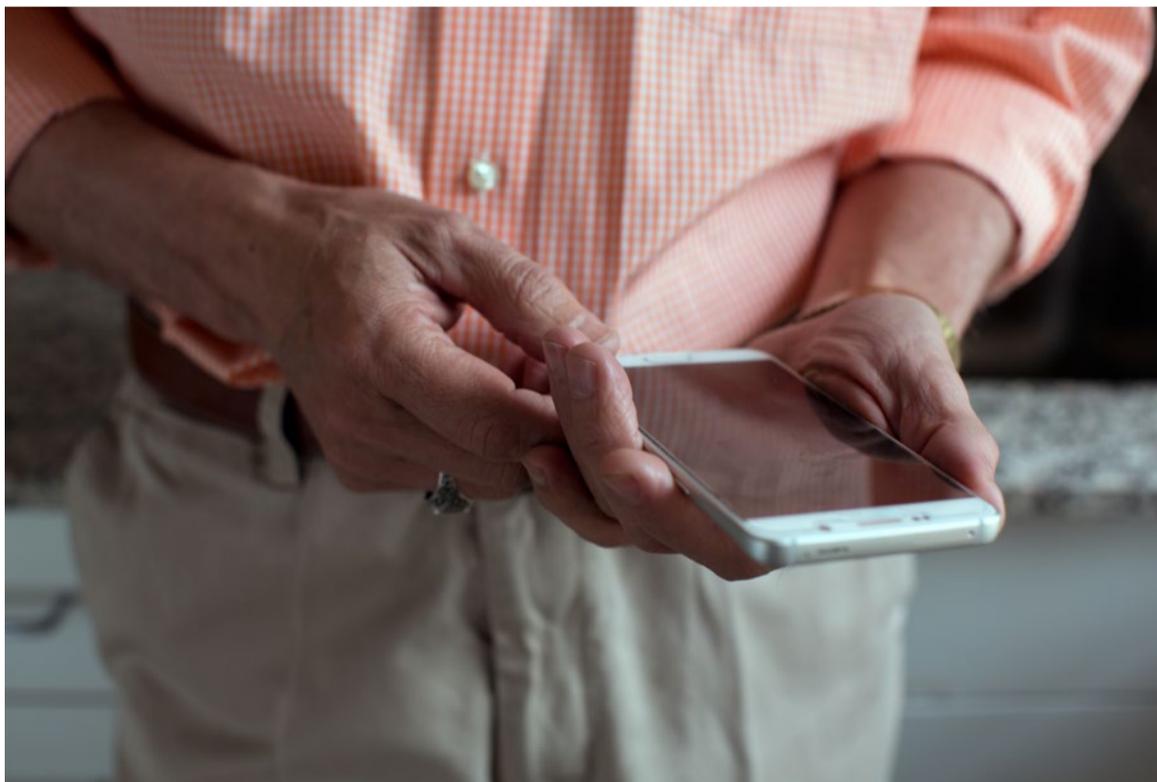
The information collected on personas and journeys is useful to validate hypotheses and find evidence of their relative importance on the whole customer base. Secondly, it allows us to infer touchpoints and identify love and pain points to address. Therefore, companies need the capability to integrate data and draw actionable insights, while moving away from the traditional siloed way of treating information.

The joint contribution of statisticians with sound analytical skills and business analysts with a forward-looking and pragmatic mindset becomes essential to interpret all sources of information and unveil a realistic customer experience.

In order to reach personas and satisfy their needs, companies need to connect and interact with them at physical and digital **touchpoints**. As such, these channels are critical in determining the quality of customer experience and in capturing the value of the relationship. Companies need to identify all the touchpoints customers go through to meet their needs, keeping in mind that these vary depending on persona. For example, different attitudes towards digital tools have a strong impact on journeys. A grocery retailer recognised two main types of clients with very different “digital maturity” and preferred channels to “receive new offers”. While Maria (the Retired Lady with Family), was the least tech savvy and preferred promotions issued in store and via traditional mail, Andrea Romano (the Young Professional) preferred receiving offers on digital channels. Since the allocation of promotions did not consider channel preference, the redemption rate was very low. When the retailer decided to add channel preference as an allocation criterion, it witnessed a 300% increase in redemption on digital channels.

One persona can go through several journeys depending on their needs. The company will map many journeys, but it will focus only on those that are more relevant in terms of frequency and significance of needs for each profile. Once the hypothetical journeys have been identified, they must be evaluated against needs and expectations to pinpoint gaps, strengths and opportunities.

***Touchpoints
are critical
to capture
the value of
relationships***



Blend empathy and analytics to understand current experiences

Customer experience design is often put into practice by improving on existing journeys or, sometimes, by introducing radical change and disruption, such as the addition of new touchpoints. To this aim, companies have to ask themselves how the customer-brand interactions that shape customer journeys affect experiences.

The purpose of journey mapping is to identify what delights customers and the causes of frustration that happen whenever there is a gap between needs or expectations and actual experience. Pain points create friction and lower satisfaction, thus experience design aims at improving or resolving them. These problems are not necessarily touchpoint-specific. For example, a public transportation company could not explain why users negatively rated its app, though it functioned effectively. When asking customers, the provider realised that the issue was the lack of consistency in how information was presented in the app as opposed to the website, making it confusing for customers who booked travel using both channels. Here, the pain point was not the intrinsic quality of the app as a standalone product, but how it was related to the website. Consistency across touchpoints will be increasingly important in the future because customers expect it. They also count on being able to move between physical and digital channels, getting the same experience at each point.

Concentrating only on negative aspects and overlooking positives, however, should be avoided. Love points are often a source of opportunities that can be leveraged to improve experiences. Designing journeys that end on a positive note, for instance, is a proven way of minimising the negative effect of previous pain points. What's more, love points that are specific to a brand can be a differentiating factor. For example, the transportation provider found that the dedicated area for assistance and waiting in stations for its loyalty club's members was a love point that differentiated the company from its main competitor, which lacked this service.

Big data and analytics are once again precious assistants of Human-Centred Design when it comes uncovering customers' love and pain points: data can be leveraged by asking specific questions on journeys.

A public transportation company investigating the root causes of its loss of customers using journey mapping identified Giovanni Verdi (a Commuter), whose preferred purchase channel was the web. Analysis on website activity showed sensitivity to promotions and analysis of complaint log highlighted the purchase phase as a source of frustration because of some pain points in the digital tools available, i.e. poor ease of navigation on the website and lack of information on the mobile app. This kind of research often includes information on complaints, surveys, social feedback, in-store analytics and online analytics such as bounce rate, conversion rate and navigation data.

Quantitative data is useful to locate and measure main pain points and their impact, as well as to identify how customers move through phases and channels. What you can't get from numbers, however, is an understanding of underlying emotions, attitudes and motivations.



Ethnographic research is essential to observe customers, talk with them, and look for uncovered needs, emotions, mindsets, actions and reactions

To this end, an essential part of good customer journey mapping is field based to observe customers, talk with them, and look for uncovered needs, emotions, mindsets, actions and reactions. This kind of research is useful to verify the needs hypothesised in the previous phase and helps discern what the ideal experience looks like to customers. For example, when a luxury retailer detected a low conversion rate on its e-commerce store, they thought it was related to a poor web experience. By running in-lab usability testing, observing and talking to its customers, however, the company found otherwise. The lack of conversions was rather due to web rooming¹: customers were happy with the website, only they used it to look for information and inspiration before completing the purchase in a physical store.

¹ Webrooming is the practice of researching items online and then purchasing them in the physical store

Ethnographic research combines knowing what customers say about the things that make them happy or dissatisfied, with observing how customers behave when they are not influenced by interviewers, thus giving companies a realistic and multi-faceted view of their customer. For example, the transportation provider detected a pain point from data on complaints regarding frequent delays. Through observations, however, it appeared that this negative impact on experience was mitigated by the fact that commuters appreciated the way the staff on board treated them, thus improving the perception of overall experience.

Interviews with front-line staff can also provide insight on experiences, as the staff is the primary touchpoint for many businesses. Their daily interaction with customers, when coupled with the knowledge of the company, can uncover significant pain points and even suggest opportunities for improvement. By interviewing staff, the transportation provider found out many passengers asked the staff for help, expressing their disappointment because they struggled to amend travel date or destination in their tickets through the complicated and unclear interface of vending machines.

Love and pain points can be numerous and finding a way to tackle them might be complicated. Companies can start by unpacking all information gathered in this phase and capture the important bits in a visual form to retrace the journey. This is the beginning of the synthesis process. The output of this activity should be a visual representation of love and pain points within the journey linked to touchpoints and needs. Visual tools help frame the most critical problems and opportunities and help concentrate on those issues that matter the most for customers, as well as generate ideas for the design of new experiences.



Shape solutions using design thinking

Human-Centred Design requires a startup way of working, that is, rapid generation and selection of ideas that have an impact on customer experience as they solve customers' pain points, enhance love points or exploit opportunities. This process involves multidisciplinary teams that bring their various perspectives into the definition of initiatives that will shape the desired experience.

All observations and information gathered so far on love points, pain points and opportunities for each persona need to be organised around customer-centric themes. These topics collect strengths and gaps between personas' needs and their experience and help intuitively re-organize observations. This activity supports the visualisation of the new customer experience by identifying key areas of focus to generate solutions. Of note, customer-centric themes are not touchpoint-specific, so that experience designers can avoid the risk of siloed thinking and improve the chances of designing a customer experience that is consistent at all touchpoints.

In the case of an Italian grocery retailer, four themes were identified: "delight me", "make it quick", "make it digital" and "make it engaging". The "make it digital" topic, for example, gathered pain points such as the unsatisfied need for digital payments options, for in-app digital shopping list features, and the lack of results when searching the internet for information on promotions and products. This simple formulation provided a clear understanding of the situation and an organised way to move forward to the design of the customer journey.

Innovative companies use the fast and intuitive approach of **design thinking** to come up with solutions to achieve the desired experience. With this methodology, they generate a great number of ideas and select and evaluate them in a small amount of time. Cross-functional teams work through two phases: divergent thinking, which allows them to come up with ideas without considering boundaries or constraints; and convergent thinking, which helps look at the concepts through a critical lens and decide which ideas are worth taking forward.

Innovative companies use the fast and intuitive approach of design thinking to rapidly come up with solutions and achieve the desired experience

Until now, we considered only the customers' point of view. When choosing which ideas to develop, however, companies need to find a balance between what is desirable for customers and what is achievable from the business' perspective. Therefore, solutions are filtered considering their financial potential and technical feasibility. Also, businesses can leverage their distinctive capabilities to support solutions that are coherent with them. Applying a capability-driven approach allows companies to make focused investments by concentrating on those initiatives that are more likely to succeed or become quick wins.

At this stage, ideas are selected based on a high-level evaluation of costs and benefits. A prioritisation matrix (exemplified in Example B) helps select concepts considering benefits and ease of implementation.



Businesses can leverage their distinctive capabilities to support solutions that are coherent with them

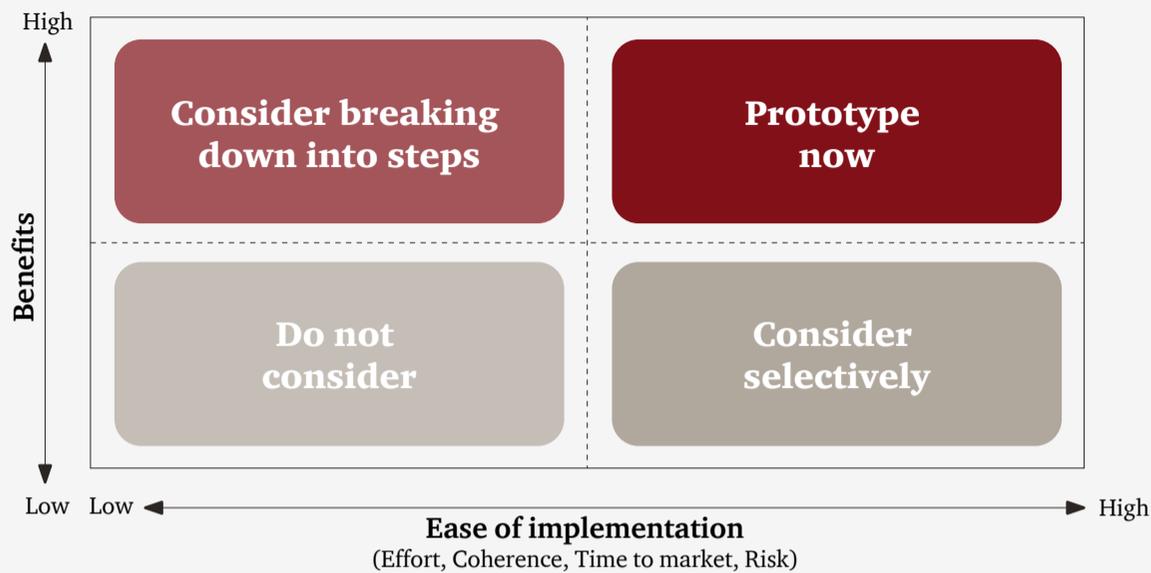
Filtering initiatives using an high-level and qualitative assessment

A useful tool for the selection and first evaluation of ideas is a prioritisation matrix that considers two dimensions: Ease of implementation and Benefits. Ease of implementation considers prospective realisation aspects such as effort, coherence with the capability system and the business' strategic objectives, time to market, and associated risk.

This allows us to understand if the technologies to power the concepts are available; if the company holds the necessary technical and operational capabilities - or could develop them; and how long it would take to deliver the solutions. On the other hand, the "benefits" axis contains factors related to the positive outcomes of the solution, i.e. revenue upside potential for the company.

Example B

Assessment and prioritisation framework



Areas of selection	Comments
Prototype now	<ul style="list-style-type: none"> • They are the most attractive solutions because of their high impact and relatively little effort given their fit with the existing capability system • They are clear priorities for the firm and should be prototyped
Consider breaking down into steps	<ul style="list-style-type: none"> • These solutions require considerable effort to be implemented • It is worth considering ways to simplify them by breaking them up into multiple, smaller, testable chunks • They could require the development of new capabilities
Consider selectively	<ul style="list-style-type: none"> • These concepts are quite straightforward to deliver, but they do not have a significant impact on customer experience and, therefore, on revenues. • They are not priorities unless their impact on benefits is enhanced
Do not consider	<ul style="list-style-type: none"> • These solutions require considerable effort to be executed but give little return • They probably lack fit with the current capabilities system • They should be dropped

When choosing initiatives, it is essential that teams be multidisciplinary. Members bring a variety of professional backgrounds such as strategy, user-experience design, operations, IT, etc. and ensure all perspectives are taken into account when assessing the potential impact of a solution in financial, technological, and operational terms. In this way, they avoid the potential underestimation of effort or costs that could result in selecting the wrong ideas. The chosen solutions will be prototyped and tested on potential end-users to obtain feedback long before product completion or launch. By doing so, the firm accelerates learning and can explore multiple concepts at once without becoming too invested in only a few, thus increasing the likelihood of delivering better experiences.

Design iteratively to deliver new experiences

In today's environment, it is necessary to create simple yet disruptive solutions that are desired by users as well as operationally feasible and economically viable.

Given the speed of innovation, traditional approaches to the launch of new initiatives are too time-consuming and no longer viable.

For this reason, Human-Centred Design relies on a rapid and iterative process of **prototyping, testing, refinement and validation** of ideas. The Marshmallow Challenge (Tom Wujec, TED Talks), a famous experiment on collaboration and design, showed the impact of this approach on end results. The exercise involves the task of building the highest-possible free-standing structure with a marshmallow on top in 18 minutes using only 20 spaghetti sticks, one yard of tape, and one yard of string. Research demonstrated that kindergartners, who typically start building the tower and improve upon it as they go, are 2.5 times more likely to build higher structures than business graduates, who tend to spend time vying for power, planning, and finally producing a structure.

As the study shows, iterative prototyping saves time and allows flexibility: concepts selected in the previous phase are quickly developed into prototypes, iteratively refined through user testing, and validated in terms of technical feasibility and economic viability. Prototypes are created to test the desirability, functionality, and effectiveness of a solution – whether physical or digital. Tests are useful to understand if the solution meets user needs and improves their experience – for example by reducing the cognitive effort required to perform a task. Designers give prototypes to subsets of possible customers, such as early adopters, who are more likely to grasp a product's vision from early versions and to give feedback. Depending on the kind of prototype, many testing techniques - such as eye-tracking, focus groups, tree testing, etc. - are available to collect customer feedback and improve the prototype. Feedback defines the rapid iteration of prototypes, which are then continuously tested and refined until an optimal result is reached.

In the case of an Italian grocery retailer, a new app prototype was developed to improve customers' satisfaction towards existing digital channels. In particular, Andrea Romano (the young professional) needed a more dynamic shopping experience, made easier by digital tools. The app allowed the user to easily drag and drop items from the product catalogue directly into a digital shopping list along with their prices, offers, and promotions, while also showing the total purchase amount and loyalty points gained before completing the shopping.

***Iterative
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A subset of customers was selected and invited to try out the shopping list feature while being observed by experts such as User Researchers, User Experience & Interaction Designers, and Optimisation Experts. They recorded and analysed the test sessions and the feedback provided by the users to extract information for the refinement phase.

Alongside prototyping and testing, companies should also perform more detailed analysis of the technical feasibility and economic viability of the solutions. They need to estimate their potential revenue upside and cost in detail. Tools such as models of revenue forecast (see Example C) make these estimates more sophisticated and reliable, while keeping the process rapid and repeatable.

Predictive analytics to estimate the revenue upside potential of a marketing initiative

With the rise of new and increasingly sophisticated analytics tools, predictive analysis can take a very short time to forecast the financial effects of new products, services, and initiatives. A grocery retailer experiencing loss of customers to its competitors decided to re-design customer experience to improve retention and identified some solutions, of which it needed to assess the economic viability. With the help of PwC analytics experts, it built a model for the forecast of expected returns of a marketing initiative. By simulating the behaviour of every single customer, they predicted the expected returns in a much more accurate way than traditional methods, based on calculating the average behaviour of the whole customer base.

1. Forecast of the per-customer spending under current conditions.

By using: (i) historical data on customers' spending behaviour, (ii) customer variables not related to spending such as the number of family members and geography (iii) market trends, and (iv) inflation estimates, the spending of each customer was forecasted under the hypothesis no new initiative is introduced. This estimation was then used as a baseline to compare the effect of the introduction of the initiative. The forecast was coupled with its uncertainties.

2. Build a per-customer model to predict the probability of acceptance.

The team assessed whether there was historical data on similar initiatives that was useful to predict the effectiveness of the new one. A predictive model was built and, as a result, they inferred for each customer the probability of the initiative being accepted. Of note, when historical data is not available, surveys are to be conducted to measure the customer's propensity to redemption.

3. Simulate redemption.

The team simulated the redemption behaviour of each targeted customer to forecast their spending. Again, the monetary estimation was coupled with its uncertainties.

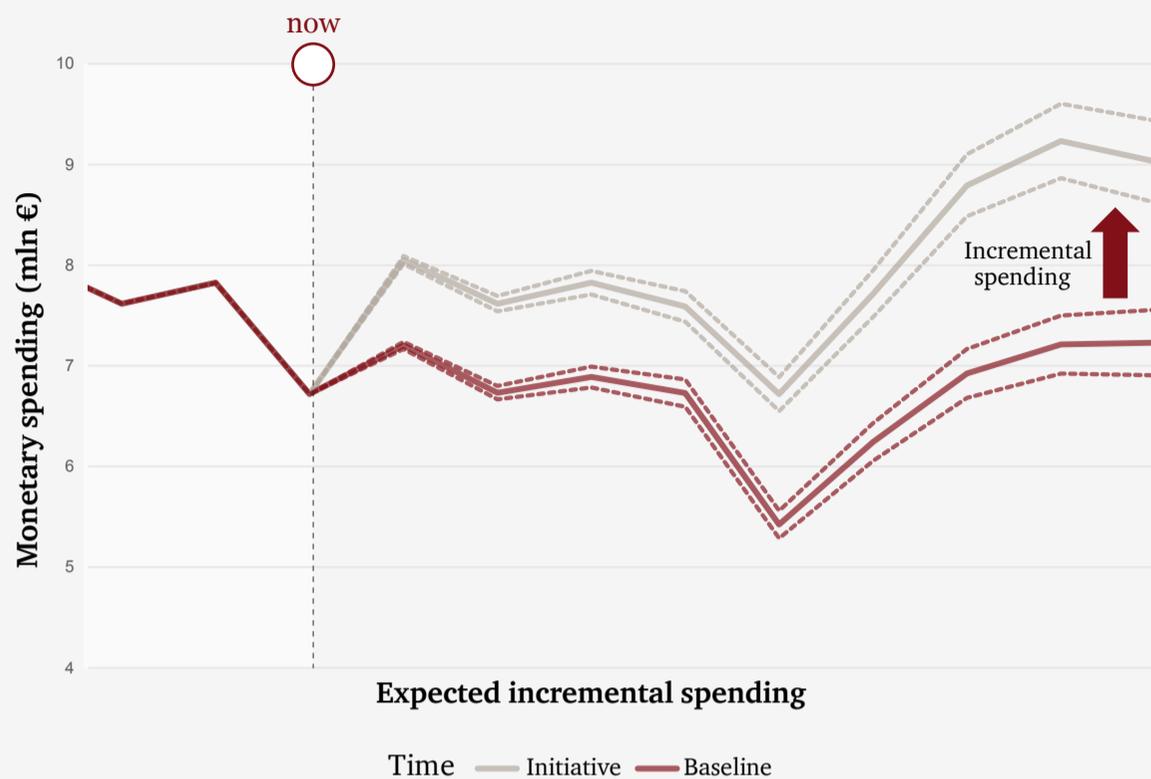
4. Estimate the overall incremental spending and initiative costs.

Finally, the overall spending of all customers was compared to the baseline (found in the first step), so that to obtain the estimated overall incremental revenue.

Predictive analysis can take a very short time to forecast the financial effects of new products, services, and initiatives

Example C

Forecast of incremental customer spending



Note: In maroon the forecast of the monetary of the whole customer base; in grey the estimated impact on sales of the marketing initiative under analysis. The dashed lines represent the lower and upper bounds of the forecast due to the estimated uncertainties.

Refined prototypes that match users' needs, and are technologically feasible and economically viable, are developed into **minimum viable products** (MVPs): the very first small versions of a product or service with a core set of features that can be deployed into production and accelerate the time to market. At the same time, MVPs are improved and validated iteratively, using for example feedback and real-time analytics. Data Analysts, UX Specialists (Designers and Architects) and Optimisation Experts carry on the end-to-end optimisation process. They identify chances for improvement and formulate hypotheses as to how these could improve usability and performance and test them using techniques such as A/B testing. In the case of an airline carrier, this tool was useful to test two versions of the "search for flights" website page: the existing page showed 10 rows of results on the first page when hitting "search," while the other only showed 4. Either of the two options was administered randomly to customers, and after four weeks of testing, the second option showed a 6.52% rise in purchases.

In summary, design and development of initiatives based on a cyclic and iterative process of prototyping, testing, analysis, and refinement allow companies to quickly develop and deploy human-centred solutions that can lead to continuous improvement of customer experience.

Conclusion

In today's turbulent environment, companies struggle to stay competitive. Companies have to build strong relationships with their customers. With Human-Centred Design, they can identify relevant types of customers and develop both quantitative and qualitative understanding of their paths to purchase. This way, they create innovative solutions and deliver better experiences through a cyclic process of rapid prototyping, testing, learning, and refinement. Customers are involved at every stage of this iterative process, ensuring that the outcome will considerably improve their experiences. Companies are required to learn new ways of working on solutions while keeping in mind that not all initiatives will be successful. The idea is to fail often and learn quickly to eventually succeed. This takes a great effort to realise: the human-centred organisation should be designed accordingly to the customer experiences it wants to deliver, and corporate culture should foster all behaviours towards this goal. It might involve new and shifting roles and responsibilities, new teams, incentives systems and, in general, new ways of working that always consider customers and target experiences.

Successful companies that are rapid and agile enough to keep up with ever-evolving customer needs adopt Human-Centred Design. They improve experiences quickly and continuously and create reasons for customers to identify with the brand. Therefore, Human-Centred Design is a prerequisite for delivering better customer experiences and driving significant value creation. Businesses that are able to do this well put themselves on a path for significant growth and the re-definition of their competitive position.



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