4 pillars of crafting digital experiences for 2020 and beyond.

A guide for enterprises: how strategy, design, engineering & analytics can give a competitive edge.
Introduction

The challenges facing enterprises today are more complex than ever before. Disruptive technologies have radically changed the contours of industries across banking, retail and more. We are all familiar with how once innovative or thriving companies such as Kodak and Toys R Us were impacted due to market development & changing consumer preferences.

Gig economy has had an impact on jobs and aggregators of various kinds have radically changed our lifestyle habits – be it in transportation or food ordering. Even in the B2B segment, digital experiences have come to play a critical role in creating brand preference and employee engagement. In this context, delivering great customer experiences (CX) – becomes an imperative step for all enterprises.

Customer Experience (CX) is how consumers feel about the brand as a cumulative result of various interactions across touchpoints. These could also include offline interactions such as in-store or customer service through chatbots and phone calls. However, in today’s scenario, the digital experience is perhaps the most dominant factor in customer experience. Typical digital experiences include interactions on a website through a PC, mobile phone or voice-based devices, native mobile apps, digital kiosks, interactions through wearables and more.
**Drive higher revenue**
Companies with a customer experience mindset drive revenue 4-8% higher than the rest of their industries.

**Improve customer experience**
84% of companies that work to improve their customer experience report an increase in their revenue.

**Customers pay a premium**
Customers are willing to pay a premium of up to 13% (and as high as 18%) for luxury and indulgence services, simply by receiving a great customer experience.

**Customers switch brands**
The top reason customers switch brands is because they feel unappreciated.

**Create a competitive edge**
39% of CEOs say customer experience is the most effective method of creating a competitive advantage.
Customers less likely to return
Customers who have had an unpleasant experience on a brand website are 88% less likely to return.

More time on mobile phone
Audiences are spending their mobile time on apps (more than ever before). Source: Comscore

Omnichannel customer engagement strategy
Companies with strong omnichannel customer engagement strategies retain an average of 89% of their customers, compared to 33% for companies with weak omnichannel strategies.

So whether you are a start-up, an established SME or large enterprise, a well thought out digital experience strategy and road map is critical.

What are the key issues to be considered in crafting such a strategy? What can be the potential roadblocks and how can they be overcome? Here’s a brief look at some of them.
At a broad level, the following could be seen as the 4 pillars to craft great digital experiences:

- **Strategy**: Defining business & project intent, create phase-wise go-to-market strategy
- **Design**: Crafting delightful and seamless digital experiences for users
- **Development**: Delivering design experiences with accuracy & impact using Agile Methodology, CI/CD practices of DevOps, Automated Testing and emerging technologies
- **Analytics**: Leveraging the power of analytics to craft personalized experiences

Let us look at a few aspects of each pillar in more detail.
Strategy
Defining goals and charting the road map

A plan of action designed to achieve a long-term or overall aim’ is the dictionary definition of strategy. A product manager understands the importance of aligning product strategy with business intent to drive ROI. Additionally, product teams have to ensure that the end-solution meets all the required parameters keeping in mind the GTM time.

Here's a checklist that can help business leaders evolve a multi-year, multi-release product strategy and a roadmap:

Think ‘business strategy’, not merely a digital one
A common mistake enterprises make when planning ahead is to look at the planning process as part of a digital strategy. However, the right perspective is to look at it as part of a business strategy, in a digital world. Decision making will then be aligned to how it impacts the business rather than just a small part if it viz., digital experience. For example, acquiring new customers as a business goal will warrant a strategy different from say, retaining current customers; each goal or intent will need a distinct approach in terms of user experience.

Feel what the consumer feels
At the center of any strategy to solve a business problem is the end consumer - the one who has to use a kiosk at an airport terminal, a mobile app to make a payment or a website to make a booking. At Robosoft, we use principles of Design Thinking - a human-centric framework which helps create solutions to understand customer’s stated and latent needs & pain points and address them. It can play a role in Services & experience design, Organizational change, Product Design and more.
Design Thinking can play a role in the transformation of any process: business development, operations, finance, marketing and more. It can be applied to improve a process that simplifies the lives of both employees and customers.

The Design Thinking Process

Design Thinking is a holistic problem-solving framework and involves 5 key stages:

- **Empathize**
- **Define**
- **Ideate**
- **Prototype**
- **Test**

Let us delve more into each of the stages:

**Empathy: the ability to understand the feelings of another**

‘Walk a mile in others’ shoes’ is often used an expression to convey that the design thinking process is built on empathy. We must acknowledge that we will never understand the emotions and thoughts of end-users especially if the product category is alien to us. Is it really possible for an urban male executive to truly feel how it is to be a single working mom or experience the challenges of say, working in an oil rig? One can never truly feel how it is to be a doctor using a critical patient information app, that too in the pressure of a hospital scenario.
“Empathize” is the first stage of the Design Thinking process. This process involves observing, engaging, and empathizing with the target audience in order to understand their experiences and motivations. Depending on the category one can also immerse in their physical environment in order to have a deeper personal understanding of the issues, needs and challenges involved. One can get a glimpse of the actual end users’ interaction with the category, service or product through both formal and informal research. Here are some commonly used methods:

**Empathy interviews:** while these are called ‘interviews’ such sessions are usually non-judgemental, free wheeling conversations. The intent is to probe the emotions and triggers which affect the choices consumers make when interacting with a product - digital or otherwise. Such interview sessions are also opportunities to go beyond what is conveyed in answers by observing non-verbal cues such as body language and facial expressions when the user is interacting with a product.

**In-store or in-market visits:** consumers can be observed at the place of consumption in categories such as retail, in-office and home use products. Observing the navigation and other usage habits of a Smart TV can provide insights into usability and design improvements.

In-store visits and observations of consumer behavior helped us craft a mobile delivery app for McDonald’s India. Read more about it here.

**Usability Testing:** The key intent of a Usability Test is to test the functionality of designs with real users in order to get a flavor of ease of use, navigation and other parameters. However, instead of leaving it all to observation and gut feel, the process involves thorough documentation. A website, mobile app or any other digital product could be tested through this method. It could be done via in-person testing in a laboratory environment or remote testing using a set of software tools.
Empathy maps: an empathy map plots the user’s reactions in four quadrants: Says, Thinks, Does and Feels.

“I want a bigger car for my family.”
“Test Drive is must before buying a car.”
“I sold a car online.”

“Buying a car without test drive is risky.”
“Am I being fooled by sales person?”

Confused: About the High-tech features available in the cars.
Amazed: About the fact that people buy a car without test drive.

Visits nearby shops to compare prices and offers.
Drives 150 km per day in total.
Asks friends and family for suggestions on buying a car.

The above processes help us derive personas - an imagined (but close to reality) representation of a typical consumer. It is quite possible that multiple personas need to be created to address one segment or domain. For example, in a B2B category, there could be several influencers and decision makers. A typical persona captures demographic and psychographic information which can influence feature & design decisions.
“Most people make the mistake of thinking design is what it looks like. People think it’s this veneer — that the designers are handed this box and told, ‘Make it look good!’ That’s not what we think design is. It’s not just what it looks like and feels like. Design is how it works. — Steve Jobs

Define: what is the problem to be solved?

The second stage of the strategy process is to define the big user problem that the team intends to solve. Remember, the entire process is collaborative so that it does not become the point-of-view of one person. The Define stage is a process of collating all the research inputs and analyzing them. This helps the team to define the core problem which needs to be solved later through functionality and design. As customer expectations and the market dynamics are ever changing, it would be wise to continuously look at ways of...
Some of the techniques used in defining the problem include Building Frameworks, drafting Point-of-View Statements and mapping the User Journey. A simple exercise to hone into the differentiator vis-a-vis competition can also be useful.

<table>
<thead>
<tr>
<th>For</th>
<th>Target Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who are dissatisfied with</td>
<td>The current market alternative</td>
</tr>
<tr>
<td>Our Product is a</td>
<td>New Product Category</td>
</tr>
<tr>
<td>That provides</td>
<td>The product’s key problem-solving capability</td>
</tr>
<tr>
<td>Unlike</td>
<td>The product alternative</td>
</tr>
<tr>
<td>Our Product</td>
<td>Describe what the product does, its key features</td>
</tr>
</tbody>
</table>

The problem defined can either be strategic broad-based or specific tactical oriented. User retention could be an example of the former while, improve in-app purchase could be an example of the latter.

**Customer Journey Maps**

In its most fundamental form, a customer journey mapping begins with compiling a series of user goals and actions into a specific timeline framework.

“A customer journey map is a very simple idea: a diagram that illustrates the steps your customer(s) go through in engaging with your company, whether it be a product, an online experience, retail experience, or a service, or any combination. The more touchpoints you have, the more complicated but necessary such a map becomes.

— Adam Richardson, Frog Design
<table>
<thead>
<tr>
<th>Persona</th>
<th>Scenario</th>
<th>Goals and Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>Phase 2</td>
<td>Phase 3</td>
</tr>
<tr>
<td>2. User action</td>
<td>2. User action</td>
<td>2. User action</td>
</tr>
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User actions across various use cases can trigger a set of opportunities. If one were to map a similar journey for a food ordering app, it might look like this.
Identify event touch-points in journey
Understanding the pain points in ordering food

As you can see, there are several opportunities to remove friction which leads to negative emotions, which in turn will have a positive impact on the overall user experience.

No two journey maps are alike. They comprise well-defined objectives based on research that align with the business goals. Establishing the ‘why’ & ‘what’ and beginning with the end in mind will define the path ahead.

Regardless of how the journey maps look -
Here are 6 key elements they have in common:

1. **Persona** – The motivations, behavior patterns, pain points, needs, aspirations, and other characteristics of the target audience. It is about the end-user who experiences the journey.

2. **Scenario** - It defines the situations the journey map addresses that are associated with the goals. Scenarios are real for existing products and anticipated for the ones in the design stage.
Ideate: solving problems through co-creating

During the Ideation stage, thinkers are ready to start generating ideas. With this solid background, the team members can start to “think outside the box” to identify new solutions to the problem statement created, and also start to look for alternative ways of viewing the problem. Aside from free-wheeling brainstorming, a prioritization matrix could be used to generate ideas.

While lots of ideas will be shared, it might help to bucket them into - Must Have, Could Have, Should Have and Won’t Have (This Time) so that the team focuses only on the essential tasks.
Prioritization Matrix: Finance Brand

As you can see, this is a simple, yet effective way to prioritize features and not attempt to do everything.

Michael Porter, the American academic, said: ‘the essence of strategy is choosing what not to do’.

Prototype: giving ideas a shape

After the ideation stage, the groups get together to create prototypes using simple everyday materials. Low-fidelity wireframes could also be created at this stage. Since most of us react better to a visual stimulus, especially one which we can ‘touch and feel’ a rudimentary prototype can bring alive the concept well.

“ You’ve got to start with the customer experience and work back toward the technology - not the other way around

— Steve Jobs
Objective

• To identify and define key user journeys that the users will have to complete
• To test the designs with real users and get a sense of product usability
• To document concerns and roadblocks the users encounter while trying to complete the defined tasks

Activities

Stage 1 - Identify User Groups - Identify the target group for testing the designs.

Stage 2 - Identify Tasks – Identify key user journeys that define the objective of the app.

Stage 3 – Identify Key Metrics - Create standards of measurement by which design, ease of use, efficiency and performance can be assessed.

Case Study

At Robosoft, we partnered with RR Donnelley, a leading global provider of multichannel business communications services & marketing solutions with Global Fortune 500 clients worldwide. In order to determine their product’s usability index on parameters of intuitiveness and usefulness, we deployed an in-depth Usability Testing approach to collect live consumer inputs, which were analyzed to identify customer pain points and develop a product strategy to address them.
Stage 4 - Create the Environment – Build a setup to make the users feel comfortable and have all the equipment at hand.

Stage 5 - Conduct Usability Tests - Capture heat maps, get an overview of the drop and success rate & analyze the performance of every screen with these usability stats.

Stage 6 - Formulate Test Reports – Communicate the findings of the observations and tests.

Outcomes

**Executive summary and recommendations**
Create a test report to communicate the findings and highlight key points to be addressed.

**Participant reports of rating charts**
Report metrics like, time on task, effort, No. of confusions responses, No. of error responses, stress responses and success rates.

**Audio recordings of all sessions**
Subjective metrics including satisfaction levels, perceived effort or difficulty, thoughts and opinions and participant views about the interface meeting their expectations recorded over an interview.

**Transcript of the sessions**
Detailed document of the end-to-end usability testing exercise.

**Insights document**
Analysis and insights from the tests conducted highlighting key points concerning the product interface.

**Task sheet analysis**
The activity overview of tests performed by participants.

**Reports from tool-driven analysis**
Overview on the heat maps, drop and success rate along with the performance of every screen with usability stats.
As part of the process during the Strategy stage, we often use the North Star framework wherein a single metric that best captures the key measure of success for the product team is used. According to Amplitude, a Product Intelligence platform, a north star metric should consist of 2 parts:

- a statement of your product vision and
- a metric that serves as a key measure of your current product strategy.

**Amplitude’s Product North Star**

![Amplitude North Star Metric](image)

At our Design Thinking workshops, the co-creating framework allows for such North Star metrics to be defined in a collaborative fashion.

**Test: Validating the outputs**

While the testing stage is seemingly the last stage in the Design Thinking process, it should be seen as setting the stage for further iterations later. In effect, the 5-stage Design Thinking process is in reality, a continuous process as consumer needs and market dynamics keep changing.

During this phase, designers rigorously test the complete product. User acceptance testing is done in this phase with moderators evaluating their reactions and expressions. Continued iterations are made and tested to redefine the problems and understand its users. Some of the techniques used include: Heat Maps, Touch Maps and Feedback Forms.
A simple feedback capture grid would record what the users liked most or did not understand.

**Feedback Capture grid**

- **Things that I liked the most**
- **Things that could be improved**
- **Things that I don’t understand**
- **New ideas to consider**
Crafting the sensory experience for business impact

In today’s world, customer experiences have a direct impact on brand loyalty and ultimately, the bottom line of a business. Tangible, real product differences are hard to come by in most categories or services. For a customer, there is very little to choose in terms of features between one bank and another or one e-commerce portal and another. Better the experience, better the chances of a consumer using the brand.

Crafting the right digital strategy, transforming that into an intuitive user experience and bringing it all alive through robust engineering and cutting-edge technology is what often drives market success.

In this intersection of strategy, design, engineering and analytics is the ability to transform businesses. Whether it’s re-imagining a physical store experience to a digital one, providing market updates on their wrists to investors or merging online & offline for a true omnichannel experience, our approach focuses on evoking emotions which affect behavior.

“Each interaction a customer has with your brand shapes their perception of you, and those perceptions translate to dollars spent - or not.”
— Toni Clayton-Hine, Xerox
Experience matters:

**B2C or B2B**

Traditionally, legacy software and interfaces in the B2B domain have known to be dowdy and poor on aesthetics. Even going beyond mere looks, the web interfaces of government services and many employee-facing digital experiences in enterprises were rarely associated with modern, slick designs which simply worked and delivered a great experience. However, there really should not be any difference between the way digital experiences are crafted - be it in B2B or B2C. Both have to keep the user’s needs at the center and craft a solution that enables them to complete their tasks in an elegant, easy manner.

82% of business buyers want the same experience as when they’re buying for themselves.

Source: State of the Connected Customer, Salesforce
We should also remember that today’s consumers are accustomed to cutting-edge designs and seamless digital experiences in their daily lives, thanks to mobile apps for banking, utility services, taxi aggregators and more. The same consumers expect nothing less when they are at work, using the digital interfaces of enterprises they work for.
At Robosoft, our process of crafting a design solution starts with a deep dive into consumer insights. We conduct bespoke discovery workshops, observe users in the market place to identify pain points that need to be overcome. Our suite of services include: conducting an objective UX Audit, crafting App or Site Maps, designing Wireframes & prototypes, defining a creative vision, designing visual assets and more.

**Design Strategy**
Understand ever-changing consumer trends & determine what to make.
- Discovery Workshops
- Custom Research

**User Experience & Interface Design**
Build digital products that are delightful, easy to use & beautiful to look at.
- UX Audit
- App or Site Maps
- Wireframes & Prototypes
- App or Site Maps
- Creative Vision
- Visual Design & Asset Creation
- Design QC
Development

bringing alive the design experience through technology

No matter how beautiful a design looks, it’s useful only if it works as promised. That’s where cutting edge software skills and years of experience come into play. At Robosoft, we have been creating software products for over two decades and have an inverted pyramid team structure of experienced engineers who are well-versed in different technologies.

Since 2008, we have built over 2000 mobile apps and digital experiences that have garnered over a billion downloads. Our capabilities include:

Emerging Technologies
Develop products that help you compete in the economy of the future

Development
Delivering design experiences with accuracy & impact using Agile Methodology, CI/CD practices of DevOps, Automated Testing

Support & Maintenance
Round-the-clock maintenance & upkeep after deployment of digital products

Architecture
Delivering design experiences with accuracy & Impact with high-level mapping and frameworks like MbaaS
Emerging Technologies: fad or need?

Just like fashion, technologies and platforms too have fads. To use a cliché, the only constant is change in the world of technology. At Robosoft, we believe the role of technology should be to solve a real consumer pain point and should not be seen as a ‘nice to have’ feature just because it is the latest or fashionable to have it.

The strategy, design and engineering teams need to examine the business needs of an enterprise and evaluate if there is a relevant role for a particular technology. Voice technology or use of Augmented Reality may not be a requirement in every digital experience.

Let us examine the role of a few key emerging technologies in crafting new age digital experiences:

- Wearables
- Voice Technology
- Chatbots
- Augmented Reality
- Virtual Reality
- Internet of Things
- Artificial Intelligence
- Blockchain

Voice: as natural as speaking

Since the introduction of Siri and Google Assistant a few years ago, voice technology was restricted to search and other commands on a smartphone.
The advert of specialist voice assistant devices such as Amazon Echo, Google Home and Apple HomePod has increased voice adoption among consumers. However, use cases for integrating voice technologies into the digital experience have to be seen on a case to case basis.

**Banking:** The application of voice technology in banking is obvious. You can check your account balance, make payments, pay bills, and raise a complaint. Although these are basic functionalities to help users accomplish the task in less time without any hassles.

**Blockchain and its role in customer experiences across industries:**

For the last 10 years or so, blockchain technology has gained great visibility and ‘buzz’ in media. Originally meant to serve as the underlying technology for the cryptocurrency Bitcoin, it has been portrayed as a panacea for many industries or at least as a ‘must-have’ for enterprises. Aside from the hype, it has received its share of ridicule too from different quarters. So what is the reality? What are the use cases of blockchain across industries? Let’s start with the basics:
Some of the hallmarks of blockchain which play a role in its acceptance include:

- Distributed trust
- Chronological nature and time stamp
- Immutability
- Cryptographic seal

**Smart Contracts**

any contractual transaction and agreement which is digital

**Securities**

global payments, P2P lending

**Record Keeping**

usage across healthcare, real estate, voting

**Digital Currency**

equity markets, crowdfunding
Blockchains can help retailers that offer gift cards and loyalty programs make those systems cheaper and more secure. Gyft, an online platform for buying, sending and redeeming gift cards that is owned by First Data, has partnered with blockchain infrastructure provider chain to run gift cards for thousands of small businesses on the blockchain — the new program is called Gyft Block.

Singapore Airlines launched KrisPay – a digital blockchain wallet that allows frequent fliers to convert air-miles digital currency. It will enable travelers to spend their air miles at retail establishments, hotels, petrol stations and other partner merchants.
Moving freight is a complex process involving different parties with different priorities. An IoT enabled blockchain can store the temperatures, position, arrival times, and status of shipping containers as they move through the system. Indelible blockchain transactions ensure that all parties can trust the data and take action to move the product quickly and efficiently.

Majority of banking systems are built on a centralized database, which makes them more susceptible to attacks as all information is stored locally in one place. Also, many banking systems are outdated and are, therefore, more vulnerable to new forms of cyber-attacks. With banking systems built on top of blockchain technology chances of fraud and data theft can be reduced as the distributed ledger technology encrypts and verifies every single bit of data in a transaction.
Volkswagen AG is testing three concrete potential applications for distributed ledger technology: mileage clocking system, protecting cars from hackers (for Porsche) and streamlining business contact between providers and customers of electric charging stations.

Blockchain can play a role in buying property to conducting due diligence to enabling crowd-sourced investments. For example, Hilton Worldwide has begun using a blockchain-based property management system. The Dubai Land Department authority used blockchain in Ownership verification, property sale by the developer and smart leasing process.
Applications of blockchain in healthcare

While Blockchain has use cases across domains its use in Digital Health, Pharma & Life Sciences can perhaps be the most impactful. Currently, the healthcare industry faces three major challenges: data collection, data accessibility and data privacy.

- Solving for Interoperability
- Securing Supply Chain
- Giving patients control of their data
- GDPR and HIPAA Compliance
- Smart contracts and automation
- Accelerating Clinical Trials and R&D
The need for Analytics in effectively managing digital product development arises from two perspectives: (a) continuous improvement is a mantra all digital product teams should believe in and (b) digital products must meet pre-defined goals and metrics which have an impact on the business. Steve Jobs famously said, ‘Real artists ship’ - emphasizing on the need to constantly put out viable products for users to experience and not be hung up on an utopian concept of perfection - which is elusive. Every great product release can have scope for improvement. The second perspective is about measuring one’s success: Peter Drucker is quoted as saying, “you can’t manage what you can’t measure”. Essentially, the analytics team believes in providing actionable insights into user behavior which in turn helps the product management team to continuously improve the product performance.

In essence, the 4 pillars to crafting great digital experiences include Strategy, Design, Development and Analytics with a process which is cyclical in nature:
An important point to note is that the best of processes and technologies are no substitute for human insights. The ability to identify a relevant, unique consumer insight and applying it to solve business problems through digital experiences is a competitive advantage for enterprises.
About Robosoft

Robosoft is a full-service digital experiences agency offering digital advisory, design strategy, UX/UI services, application development & maintenance and expertise in emerging technologies such as AR, VR, blockchain, chatbots and more.
Our vision is to simplify lives through delightful digital experiences. Our experience in software development spans over two decades. We started in 1996 with Apple, as our first client, working with them on the Mac platform. Since we ventured into mobile in 2008, we have designed and developed over 1,800 mobile apps and digital products across platforms and devices including mobile, web and wearables.

We have partnered with several prestigious brands across the globe in digital design & development. Our apps have garnered over a billion downloads and our clients are spread across the world from diverse domains - Banking & Financial Services, News, E-commerce, Games & Entertainment and Healthcare to name a few. Some of our clients include McDonald’s India, NDTV, athenahealth, Disney, Viacom18, ESPN, HP, AKQA, Paytm, National Geographic to name a few.

Voted ‘Mobile App Development Company of the Year’ at the Amazon Mobility Awards, our other prestigious awards include, Top Wearable App Developers, Best UX Design Agency 2019, ‘Products, Upgrades, and Innovation of the Year’ at CEO World Awards, Best of App Store, Apple Design Award, BAFTA, Stevie Gold Winner at American Business Awards to name a few.
Simplifying lives with delightful digital experiences

San Francisco  |  New York  |  Mumbai
Mumbai  |  Udup

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