WHITEPAPER

Product Inception

Unlocking the Power of Product Ideas

A Comprehensive Guide to Product Engineering

Part 1 Of 4

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Forward Thinking Digital Innovation

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Executive Summary

The inception stage of product development is a critical period where ideas are generated, validated, and designed. This stage is essential for ensuring that products are created with the needs and preferences of end-users in mind.

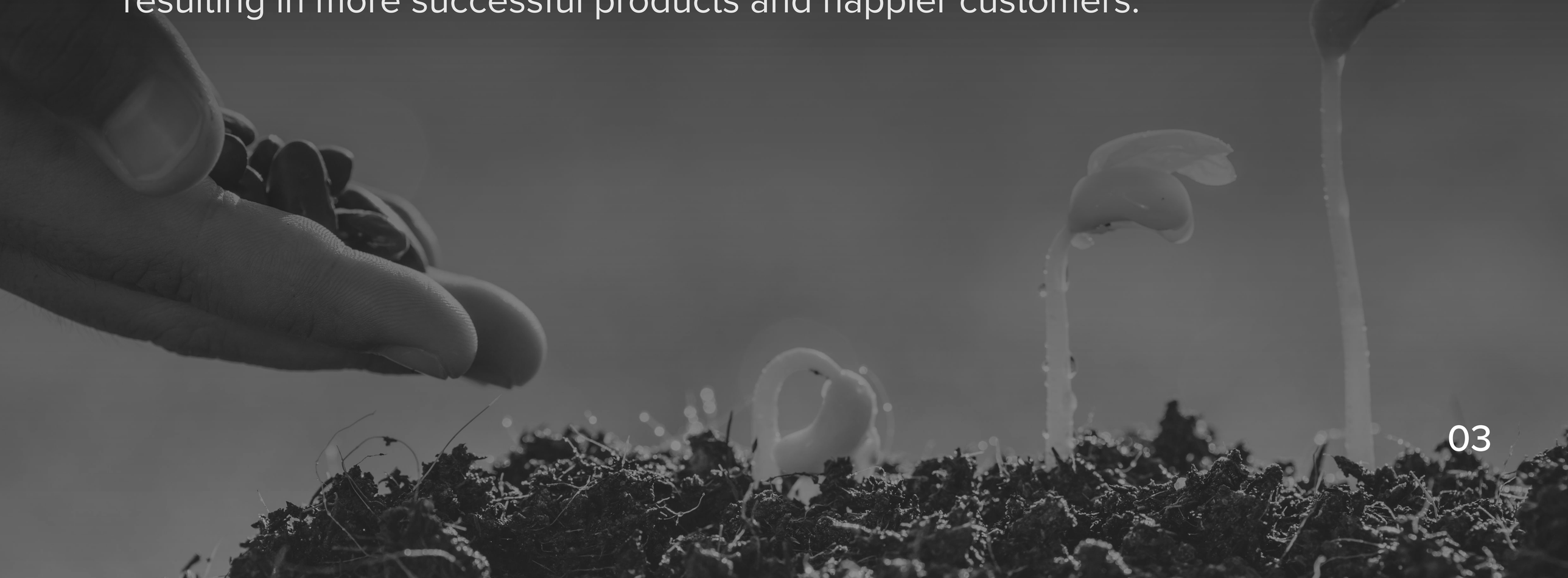
The ideation stage involves sourcing and generating ideas for new products. Ideas can be sourced from internal and external sources, such as customer feedback, competitor analysis, and industry trends. Once ideas have been generated, they need to be evaluated and prioritized based on their feasibility and potential impact.

The validation stage involves testing the feasibility and market demand for new product ideas. This can be done through market research, SWOT analysis, and prototyping. The goal of the validation stage is to ensure that new product ideas are viable and have the potential to be successful in the market.

The design stage involves creating the technical and functional architecture of the product, as well as its user interface. This stage is where design thinking comes in handy, as it helps to ensure that the product is designed with the end-users' needs and preferences in mind.

The design thinking process involves empathizing with users, defining their needs and requirements, ideating potential solutions, prototyping, and testing to arrive at an optimal solution. This process is iterative and requires continuous feedback and adjustment based on user testing and feedback.

By adopting a design thinking mindset throughout the product development process, teams can create products that meet users' needs and expectations, resulting in more successful products and happier customers.



Ideation of a Product

Ideation is a semi-formal stage of product inception when a set of tools and processes are used to create. assess, and develop ideas systematically.

Sourcing an idea

Ideas are accumulated from internal and external sources. Internal sources comprise the engineering or IT team, the customer service department, or the sales team. Setting up an internal R&D process with these departments to continuously trace emerging ideas is crucial to the innovativeness of a company.

External sources of ideas are the personas an organization interacts with outside the company. The prime source of external ideas are the customers. The feedback of existing customers influences an upcoming product in a great way. Empathizing on customer problems will help to build an acceptable product in the long run. The second source of ideas are the competitors. However saturated an industry might be, there is always some scope of improvement, always some pain points to be addressed. Watching a competitor closely can throw up very interesting insights. Vendor partners, industry conferences, trade shows are some other sources of learning and ideation.

Generating an idea

There are several scientific methods of generating an idea. The most popular ones are:

Mindmapping

Mindmapping starts with ideation over a key thought or phrase and writing anything that comes to mind from it. Once these words are written down an interconnection between them is explored and a web of relationships is created. It is convenient to add interlinked ideas later and not accumulate detached information.

SCAMPER

SCAMPER stands for substitute, combine, adapt, modify, put to another use, eliminate, and reverse. This method asks a series of questions:

S

Substitute
What feature of the product can be replaced to enhance the product?

C

Combine
How to integrate existing technology into the idea?

A

Adapt
What markets and customers will adapt to this new product?

M

Modify
What enhancements can be made to this product?

P

Purpose
What can be the alternative usage of this product?

E

Eliminate
What features can be dropped from this product?

R

Reverse
Will reversing the order of elements in the product create a better product?

Did You Know?

SCAMPER was used by **General Mills, Kellogs** and **McDonalds** to com th new produc ts, substitute older products and re-arranging products!

Validation of an Idea

Once the ideation stage ends the validation stage starts for idea screening. Product ideas that don’t match with the overall purpose of the organization are rejected.

SWOT analysis

The significance of conducting a SWOT analysis when shortlisting new product development ideas for digital products is that it allows the agile development team, product owner, scrum master, and product manager to evaluate the idea from various perspectives and identify the potential risks and opportunities in the market.

By conducting a SWOT analysis, the team can identify the product's strengths and unique features that could differentiate it from the competition, such as advanced technology, user experience, or pricing. They can also identify the weaknesses and potential obstacles that may hinder its success, such as technical limitations, lack of resources, or marketing challenges.

Additionally, a SWOT analysis helps the team to identify the market opportunities that a product idea can capitalize on, such as untapped consumer needs, emerging technologies, or industry trends. Finally, the analysis can highlight potential threats in the market, such as competition, changing consumer preferences, or economic factors that may impact the success of the product.

Market research

Market research is a crucial step in validating a digital product idea. Here are some common methods for conducting market research for a digital product idea:

Define your target market

Identify the audience for your digital product and their demographics, interests, and behavior. This can be done by creating user personas, conducting surveys, or analyzing customer data.

Competitor analysis

Research your competitors' digital products, their features, pricing, and customer reviews. This will give you insights into the market demand, gaps in the market, and potential areas of improvement.

User testing

Conduct user testing to get feedback on the product's usability, design, and functionality. This can be done through in-person interviews, online surveys, or remote user testing tools.

Online analytics

Analyze website and social media metrics to understand user behavior, preferences, and engagement. This can help you identify which features are most popular and what users are looking for in a digital product.

Focus groups

Conduct focus groups with your target audience to gather in-depth feedback and insights on the product idea. This can be done in-person or online.

Expert opinions

Consult with industry experts or professionals to gain insights on the market trends, challenges, and opportunities in the industry.

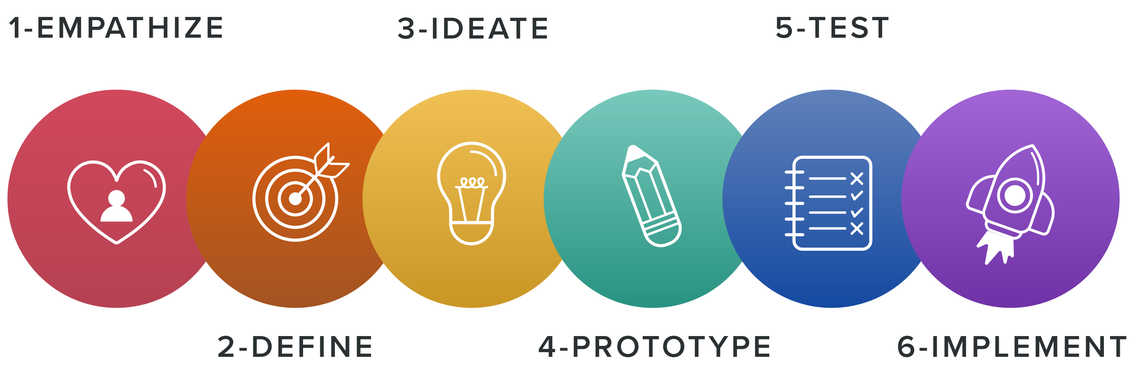
Overall, the key is to collect and analyze data from various sources to get a well-rounded understanding of the market and the potential demand for the digital product idea.

Proof of concept

Prioritizing a proof of concept (POC) is essential when considering a new product development idea, as it allows for testing the feasibility of the concept. Pursuing an idea that cannot be technically realized would be futile.

Design Thinking for Product Development

Design thinking is a human-centered approach to problem-solving that involves empathizing with users, defining their needs and requirements, ideating potential solutions, prototyping, and testing to arrive at an optimal solution. When it comes to software development, design thinking is essential to creating products that meet the needs and expectations of end-users.



A five-year **McKinsey study** found companies most strongly committed to design principles had 32% more revenue and 56% more total returns to shareholders.

Once an idea has been validated, the next step is to design the product in terms of its technical and functional architecture as well as its user interface. This is where design thinking comes in handy, as it helps to ensure that the product is designed with the end-users' needs and preferences in mind.

A critical aspect of this process is analyzing the product's requirements and prioritizing features based on their value and productivity. This requires product managers, designers, and technical architects to collaborate closely and run exercises to identify "must-have" versus "nice-to-have" features.

Product Design Services typically include functional design, user interface and user experience design, technical architecture, use case definition, and a roadmap. All of these components are critical for creating a product that is both useful and enjoyable for users.

Overall, design thinking is an iterative process that requires continuous feedback and adjustment based on user testing and feedback. By adopting a design thinking mindset throughout the software development process, teams can create products that meet users' needs and expectations, resulting in more successful products and happier customers.

Example of designing a B2B product

As an example, we can consider a financial analysis company designing an enterprise level B2B product. The product intends to extract legacy data from organizational servers and other data sources, clean, and flatten it to extract valuable insights. B2B designs like this will take a straightforward approach towards the UX. The navigation of such a product user interface can look complex owing to security screening measures and designers need to take steps to keep it friendly for all employees of various levels of proficiency.

Additionally this will require provisioning of features like account management, access control, graphical mapping of data, staying up to date and managed centrally. Designers need to build the strategy of such integration whether through third party APIs as an on demand service or building from scratch.

Example of designing a B2C product

B2C products require a slightly different approach during design thinking. Consider a telemedicine application being developed for patients to receive primary healthcare at home through a mobile app. The potential user persona here will be mostly old aged people for whom it is difficult to move to hospital at the same time they are not very tech savvy.

Designers should take a minimalist approach to designing the UI which is very easy for non tech savvy users to understand. The app should emphasize on graphics, images and user-friendly navigation style. Instructional videos or tooltips need to be integrated for complex features.

The data received from the patient side may be hard copy prescription, voice notes, or video recordings. Designers need to plan an effective data scrapping, cleaning, and flattening method possibly with the help of an AI.

Conclusion

The inception phase unlocks the power of product ideas and lays the groundwork for success honing in on user-centered ideation, rigorous validation, and meticulous design. By systematically crafting solutions that resonate with user needs, we pave the way for products that not only meet but exceed expectations.

As we delve deeper into the whitepaper series, the focus shifts to the intricate realm of product engineering, where these ideas evolve into tangible software marvels. In the next part join us in unraveling the complexities of software development, unveiling the strategic roadmaps, tenets of agile methodologies, and quality assurance measures that underpin exceptional products.

Forward Thinking Digital Innovation

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