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Enhancing Product Development & Marketing Strategy for CalevaLAB: A Design Thinking Approach

Design Thinking Meets Athlete Monitoring Industry

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Bachelor of Business Administration, International Business **Abstract**

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This thesis endeavors to enhance CalevaLAB's product development and marketing Strategy through the lens of design thinking. The main points of this research are to evaluate CalevaLAB's existing business model and customer segments for athlete monitoring systems.

The research revolves around three principal domains: Firstly, the efficiency and efficacy of CalevaLAB's process for introducing new features and updates to the market. Secondly, an exploration of customer segmentation strategy using the RFM model, and thirdly, an evaluation of CalevaLAB's marketing strategy using the StoryBrand framework.

This study employs a qualitative approach to address how design thinking can enhance CalevaLAB's product development and marketing strategy. This is led by following the five phases – empathize, define, ideate, prototype, and test. Interviews with five athletes identified gaps in the athlete monitoring system for enhancement. Thematic analysis, guided by Maguire and Delahunt (2017), ensured robust findings validated through peer debriefing. Utilizing the RFM model and clustering algorithms, the study offers effective customer segmentation techniques. This approach, validated through algorithmic analysis, contributes to tailored marketing strategies.

The narrative power of the StoryBrand Framework in marketing strategy was explored. By casting customers as Heroes and businesses as Guides, compelling brand stories can be crafted for enhanced engagement and growth.

In conclusion, this study combines qualitative research, customer segmentation using the RFM model and the StoryBrand framework. The aim is to practically enhance CalevaLAB's product development through design thinking, fostering customer-centricity, innovation, and overall growth.

Keywords Athlete Monitoring Systems, Design Thinking Approach, Product Development, Customer Segmentation Strategy, Marketing Strategy, Storybrand Framework.

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1 Introduction

The traditional boundaries between academia and industry are fading in modern education, creating a new learning environment that fosters real-world problem-solving and collaboration. Design Thinking process, this new paradigm is vividly embodied. Here, the focus is not just on education but on crafting dynamic learning experiences that transcend the confines of traditional classrooms. In the pursuit of enhancing student learning experiences, encouraging university-industry partnerships, and refining design methodologies, Design Thinking process emerges as an epicenter of creativity and ingenuity.

The foundation of Design Thinking is built upon the principle of pushing boundaries and expanding horizons. As students immerse themselves in projects, they navigate a multidisciplinary landscape that enriches their thinking and sparks novel perspectives. Guided by principles of Design Thinking, students learn to empathize with the end-users, define problems, ideate creative solutions, prototype innovations, and test their concepts.

The research delves into product development and marketing strategy for CalevaLAB, primarily focusing on identifying key customer segments and customising product offerings to address their specific needs and pain points. CalevaLAB currently grapples with challenges, including pricing strategies, product features, data ownership concerns, and the user interface design and user experience (UI/UX), directly affecting its usability and competitive edge in the market.

1.1 Commissioning Company: CalevaLAB

CalevaLAB is an Athlete Monitoring System (AMS) that helps sports organizations and coaches track and analyze athletes' performance, health, and training data. The system incorporates wearable devices, mobile apps, and cloud-based analytics to collect and interpret heart rate, GPS tracking, sleep patterns, nutrition, and training load. It provides insights to optimize training programs, prevent injuries, and enhance overall performance. The reason behind starting CalevaLAB is to empower athletes and sports organizations with advanced monitoring tools to maximize performance, prevent injuries, track nutrition, and improve overall well-being. The company’s vision is to become the leading provider of athlete monitoring solutions globally, enabling sports organizations to unlock the full potential of their athletes through data-driven decision-making and personalized training programs. The company targets professional sports teams, sports academies, college/university athletic

departments, and individual athletes who want to optimize their performance and training. Currently, CalevaLAB utilizes a website for information dissemination, customer support, and potential lead generation. An E-commerce platform will be integrated into the website to facilitate online sales and subscription-based services. The pricing structure will be finalized based on market research and competitor analysis.

1.2 Research Question

How to utilize Design Thinking approach to improve CalevaLAB’s product development and marketing strategy?

1.3 Objectives of the Thesis

The objectives of the thesis revolve around enhancing CalevaLAB’s product development and marketing strategy. This entails identifying customer segments within the athlete monitoring system, evaluating the efficiency and efficacy of AMS products, scrutinizing the marketing channels, and conducting a competitive analysis to discern strengths and weaknesses compared to rivals. The study primarily concerns an analysis of product development and marketing strategy, setting aside a broader business model.

By tackling the research problem head-on and enhancing product development and marketing strategies, the company can bolster its competitive edge and overall business growth in the athlete monitoring industry. The study utilizes a design thinking approach to gather insights and develop recommendations. However, the study has certain limitations. It relies on qualitative data collected through interviews which may limit the generalizability of the findings. The research is also limited to a specific timeframe and may not capture long-term effects or changes in the market. Additionally, the study may not address all possible challenges and pain points CalevaLAB and its customers face.

The study's findings can improve the company's product quality, visibility, and overall business growth.

2 Theoretical Framework

2.1 Research Background

2.1.1 Challenges and Pain Points of CalevaLAB

CalevaLAB, a modern Athlete Management System (AMS) aiming to combine clubs, coaches, and athletes, faces challenges impacting its usability and market competitiveness. These challenges include pricing, feature prioritization, data ownership, and user interface/user experience (UI/UX) design.

Pricing Challenge

The existing AMS platforms in the market are expensive and often unsuitable for small clubs and teams. CalevaLAB needs to address this challenge by developing a scalable business model. This includes implementing a freemium model to allow system testing and adopting a progressive pricing strategy that avoids sudden jumps to high costs. The pain points for users include limited budget options, financial constraints for small clubs, and the inability to access advanced features due to high pricing. (CalevaLAB, 2023)

Feature Prioritisation Challenge

Several AMS systems in the market offer a wide range of features and integrations, some of which are unclear in their purpose and necessity. CalevaLAB needs to identify the essential requirements for athlete management and prioritize them based on A/B testing and quantitative and qualitative interviews. Users struggle with navigating many features, inefficient workflows, and difficulty finding the most relevant functionalities for their needs. (CalevaLAB, 2023)

Data Ownership Challenge

Currently, data ownership in AMS platforms lies within sports organizations, for example, clubs or national teams. This results in data loss when athletes wish to switch clubs. CalevaLAB needs to develop a system where data ownership remains with the athlete, granting them control and access to their data regardless of their club affiliation. Additionally,

athletes who belong to multiple clubs and national teams should be able to grant access to their data to authorized parties. (CalevaLAB,2023).

UI/UX Design Challenge

CalevaLAB's current UI/UX design is in the early stages, featuring a dark navy blue theme, wireframes, and a partially modeled navigation system. To ensure a competitive advantage in usability, AMS needs to focus on achieving high-level usability by hiding complexity while offering all necessary features. Users expect a user-friendly and intuitive system that is visually appealing, easy to navigate and provides a seamless user experience. (CalevaLAB, 2023)

2.1.2 CalevaLAB's Current Product and Business Model

The current pricing model of CalevaLAB is centered around offering free access to athletes while invoicing sports clubs and other organizations based on the number of accounts they have, including both athletes and coaches. A freemium level is available for clubs with less than 30 members, which provides access to some premium features at no cost.

According to the CEO of CalevaLAB, most athlete monitoring systems are expensive and unsuitable for small clubs and teams. However, building a scalable pricing model would be a good option for market entry and enable users to test the system. Questions raised regarding pricing:

- How should the pricing be built?
- What kind of pricing steps should be available?
- What kind of pricing is suitable for athletes (at the moment, it's free)
- What kind of pricing is suitable for amateur sports/teams/clubs?
- What kind of pricing is suitable for professional sports/teams/clubs?
- What kind of pricing is suitable for personal trainers?

Many athlete monitoring systems are rich in features and integrations with tens of different systems, which are partly unclear as to why they exist. CEO of CalevaLAB believes all features are prioritized, and order is built based on A/B testing and quantitive and qualitative interviews. Questions regarding features:

- What features are mandatory?

- What features are optional?
- How each of the features should be built?

Currently, if the sports organization (national team or club) is the primary user of the AMS, then the information ownership remains at the organization. This includes training data, testing, performance history, etc., which does not follow the athlete, and the athlete loses ownership of the data. Building an AMS where the ownership remains with the athlete has complete control of his/her data and can share the data with different clubs and organizations.

Currently, the UI/UX design of CalevaLAB is dark, navy blue, navigation is at POC version, and some features are modeled. Questions regarding UI/UX design:

- What kind of look & feel mood board should the AMS have?
- How do we reach a competitive advantage from usability (UX/UE)?
- What are the essential, most important user journeys?
- How should the system look like (UI)?

2.1.3 Available Solutions

The market offers numerous athlete development and monitoring solutions, encompassing web-based and app-based platforms and a combination of both. These solutions cater to various aspects of athletic performance, including injury tracking, endurance sports, and strength and power systems. Among the latest innovations, heart rate monitors and GPS devices have gained prominence, with manufacturers offering software solutions that interface with these instruments for data collection and analysis. Here are some popular brands: AthleteMonitoring.com, Atium, CoachMePlus, Coros, Force8, Kinduct, MyHaloFit, RoackDaisy, RYPT, Simplifaster, Smartabase, Sportia, SportOffice, TOPRankPerformance, TOPsportLAB. (CalevaLAB, 2023).

2.1.4 Challenges with Current Solutions

While the availability of multiple solutions appears advantageous, the complexity of athlete monitoring has increased. Some of these athlete monitoring systems have limited compatibility with specific devices or operating systems, making it challenging to integrate them seamlessly into existing technology. Athlete monitoring systems can be complex to set

up and use effectively, requiring a learning curve for coaches and staff members. If the system's interface is not intuitive or user-friendly, it may hinder adoption rates and effectiveness. Considering the GDPR aspect, athlete monitoring systems often collect and store sensitive data, including personal and health information. Weaknesses in data security measures could make the system vulnerable to breaches, putting the privacy of athletes at risk. Some of the top athlete monitoring systems, like SportOffice, CoachMePlus, RYPT, and RockDaisy, lack flexibility in customization to meet the specific needs of individual athletes and sports teams. The cost of the athlete monitoring system can vary significantly, and some systems may be expensive, making them less accessible to smaller sports organizations or teams with limited budgets. Also, integration and incompatibility with other hand-held devices from different sources can be a potential weakness.

Competitive Landscape

This section aims to analyze the strengths and weaknesses of CalevaLAB's competitors in the athlete monitoring system market so that CalevaLAB can differentiate itself and become a prominent player in the market.

Competitor Mapping

Strengths

- **The Sports Office**: The Sports Office stands out with its customizable dashboard and advanced reporting features, enabling coaches and athletes to tailor their interface to their specific needs.
- **Smartabase**: Smartabase offers robust data collection and analysis capabilities, empowering users to effectively gather and analyze comprehensive athlete performance data.
- **COROS**: COROS differentiates itself through its integration with wearable technology and GPS tracking, providing real-time data for performance monitoring and analysis.
- **Force8**: Force8's advanced analytics and machine learning capabilities enable coaches to gain deep insights into athlete performance trends and patterns, assisting in making data-driven decisions.
- **Movella**: Movella's user-friendly interface and customizable features make it attractive for coaches and athletes seeking an intuitive and personalized experience.

- **MyHaloFit**: MyHaloFit stands out with its integration with various fitness tracking devices and apps, allowing seamless data synchronization and tracking.
- **AthleteMonitoring**: AthleteMonitoring offers customizable alerts and notifications for athlete health and performance, ensuring timely intervention and proactive monitoring.
- **RYPT**: RYPT's integration with various fitness tracking devices and apps provides a comprehensive ecosystem for athletes and coaches to manage performance data.
- **Simplifaster**: Simplifaster provides advanced analytics and coaching tools that enable coaches to optimize training programs and maximize athlete performance.
- **Atium**: Atium's customizable dashboard and data visualizations offer coaches and athletes an immersive and visually appealing experience for data analysis and performance tracking.

Weaknesses

During the analysis, several weaknesses were identified among the competitors, which present opportunities for CalevaLAB to address and differentiate itself in the market:

- **Lack of focus on athlete ownership of data and control:** Many competitors do not emphasize giving athletes ownership and control over their data, which can be a unique selling point for CalevaLAB.
- **Limited customization options for coaches and athletes:** Some competitors have limited options for customization, which can hinder coaches and athletes from tailoring the platform to their specific needs.
- **Lack of integration with third-party data sources:** Integration with third-party data sources provides a comprehensive view of athlete performance. Some competitors lack this capability, allowing CalevaLAB to fill the gap.
- **Complexity in navigating the platform:** Certain competitors have complex interfaces, making it challenging for users to navigate and find the information they need. CalevaLAB can gain an advantage by developing a user-friendly interface.
- **Incomplete or lacking features:** Some competitors have incomplete or lacking features, leaving room for CalevaLAB to develop and offer a more comprehensive set of tools and functionalities.

This review explores the concept of design thinking and its significance as an essential approach to forming a product development and marketing strategy. The review supports the research question that integrating design thinking principles and methodologies into strategy

development can yield valuable insights, innovation, and a customer-centric approach. The review examines case studies and industry articles to understand the benefits and applications of design thinking in product development.

2.2 Defining Design Thinking

In today's dynamic and rapidly changing business environment, organizations face the challenges of developing effective products that respond to market demands and foster innovation and sustainable growth. One of the most recent and innovative approaches is design thinking. This literature review investigates the concepts of design thinking and its relevance as an approach to product development.

Design thinking is a human-centric approach to problem-solving that originated in design but has gained traction across many industries. It involves understanding user needs, generating creative solutions, prototyping, and iterating based on user feedback. This iterative process enables organizations to reveal unfulfilled customer needs, identify opportunities, and develop unique value propositions. (Alshehhi, Alnaqbi, El Khatib, & Aljaberi, 2023)

2.3 Design Thinking Process

The design thinking approaches five key stages: empathize, define, ideate, prototype, and test. Each step in the process is critical to the success of the overall approach. In this section, the research discusses each step in detail and provide examples of how design thinking has been used in previous research papers.

Empathise

The first step in the design thinking process is empathizing with the users or customers. This involves understanding their needs, wants, and pain points. For example, in a study by Brown and Martin (2015), the authors discuss how design thinking can be used to create customer-focused products and services. They argue that empathy is a critical component of design thinking because it allows businesses to understand the needs and wants of their customers.

Define

Once you clearly understand the user's needs, the next step is to define the problem. This involves synthesizing the information you gathered during the empathy stage and defining the problem concisely. The problem statement should focus on the user's needs and guide the rest of the design thinking process. For example, in a study by Liedtka and Ogilvie (2011), the authors discuss how design thinking can identify new opportunities and develop unique value propositions. They argue that defining the problem is critical to the success of the design thinking process because it ensures that businesses are solving the right problem.

Ideate

In the ideation stage, you generate many ideas for solving the problem. The goal is to develop as many ideas as possible, regardless of how feasible or practical they may seem. For example, in a study by Tschimmel (2012), the author discusses how design thinking can be used to develop innovative solutions to complex problems that is helping businesses to succeed.

Prototype

Once you have some ideas, the next step is to create prototypes. This involves developing physical or digital models of the solutions that have been generated. Prototypes can vary from low-fidelity, medium-fidelity, or high-fidelity. Prototyping aims to test your ideas and see how they work in the real world.

Test

The final stage in the design thinking process is testing. The goal is to see how well the solutions meet the user's needs and identify any areas for improvement. For example, in a study by Bucolo and Matthews (2010), the authors discuss how design thinking can be used in enterprise architecture practice. They argue that testing is critical to the success of the design thinking process because it allows businesses to ensure that their solutions meet the needs of their customers before it is ready for market entry.

2.4 Design Thinking in Product Development

Design thinking can be a powerful tool in enhancing product development because it is customer-centric and iterative. The article published by Jussila, Raitanen, and Tuomela (2022), discusses the design thinking process, a non-linear approach involving phases like

empathize, define, ideate, prototype, and test. Unlike traditional linear methods, design thinking allows iteration to achieve satisfactory results, gaining new insights and refining solutions. The authors explain their experiences using the design thinking process. The authors observed the importance of iteration in student projects, where going back to previous phases and reworking prototypes based on feedback led to improved solutions. To enhance the process, they introduce additional phases - "prepare" and "assess" - to orient students, demonstrate benefits, and emphasize using feedback for continuous improvement, visualizing the design thinking process as a loop. (Jussila, Raitanen, and Tuomela. 2022)

Here are some ways design thinking can be applied in product development:

Customer-Centric Approach: Design thinking encourages organizations to empathize with their customers and understand their needs, pain points, and aspirations. By gaining deep insights into customer behaviors and preferences, businesses can develop products and services that better cater to their target market. (Jussila, Raitanen, and Tuomela. 2022)

Ideation and Innovation: The ideate phase of design thinking fosters creativity and encourages the brainstorming of innovative ideas. Businesses can leverage this phase to generate new product concepts, explore market opportunities, and discover unique value propositions. (Jussila, Raitanen, and Tuomela. 2022)

Prototyping and Testing: Rapid prototyping and testing allow businesses to validate their ideas with real customers. This iterative process enables them to receive early feedback, identify potential flaws, and refine their offerings before full-scale implementation. (Jussila, Raitanen, and Tuomela. 2022)

Adapting to Market Changes: Business environments are dynamic, and strategies may need to adapt to changing market conditions. Design thinking's iterative approach enables organizations to respond quickly to shifts in customer preferences, industry trends, or competitive landscapes. (Jussila, Raitanen, and Tuomela. 2022)

Cross-functional Collaboration: Design thinking promotes interdisciplinary collaboration, bringing diverse perspectives and expertise together. This cross-functional collaboration fosters a holistic understanding of challenges and facilitates the development of comprehensive and well-rounded solutions. (Jussila, Raitanen, and Tuomela. 2022)

The article emphasizes the importance of design thinking as an iterative and non-linear problem-solving approach. By enhancing product development and marketing strategy, organizations can better understand their customers' needs, foster innovation, and respond more effectively to dynamic market changes by applying design thinking. The iterative nature of design thinking allows businesses to continuously improve and refine their strategies, ultimately leading to more successful outcomes in today's ever-evolving business landscape.

2.4.1 Examples of Design Thinking in Business

Case study: Netflix

In Eli Woolery's design thinking handbook, the author talked about how Netflix has harnessed the power of design thinking to establish itself as an industry powerhouse (Woolery, 2019). From its early days, Netflix addressed customer pain points by introducing a subscription model that delivered DVDs directly to their homes, eliminating the inconvenience of driving to physical stores for rentals and returns. This customer-centric approach set the foundation for Netflix's subsequent innovations. Recognizing the changing landscape, Netflix embraced design thinking and launched an on-demand streaming service to cater to the declining popularity of DVDs. By doing so, they stayed ahead of the curve and eliminated the frustration of waiting for physical copies. This proactive response to evolving technology showcased Netflix's ability to adapt and meet customer needs effectively. Netflix's design thinking approach continued as it responded to customers' demand for original and unconventional content. In 2011, the company began producing its content, providing viewers with exclusive programming not available on traditional networks. This move satisfied customer desires and allowed Netflix to differentiate itself from competitors and position the entertainment industry. Furthermore, in 2016, Netflix enhanced its user experience by incorporating short trailers into its interface. The design thinking was further improved to create seamless and engaging refining of its service based on user feedback and needs; Netflix demonstrates its commitment to customer satisfaction and product enhancement. In conclusion, Netflix's repeated use of design thinking has propelled it to the industry giant status. By leveraging this approach, Netflix has transformed the movie industry, introduced game-changing services, produced original content, and consistently improved the user experience. Through its customer-centric mindset and commitment to innovation, Netflix is a shining example of how design thinking can drive success and propel companies to new heights. (Woolery E, 2019. pp.35).

Case study: GE Healthcare

The case study focuses on Doug Dietz, an Innovation Architect at GE Healthcare, who had a transformative experience that led him to reimagine the user experience of MRI scans for children. While observing a distressed seven-year-old girl about to enter the MRI scanner, Doug realized that the intimidating design and environment of the machine contributed to the children's fear and the need for sedation. Doug Dietz became motivated to make a positive change. He attended a design thinking workshop at Stanford's Design School to reframe the problem and create a new perspective. Through the workshop, Doug and his team developed a Point of View (POV) statement highlighting the challenges faced by scared families and the high sedation rates among young children. They envisioned a world where the radiology experience could be transformed into a positive and memorable adventure by tapping into children's imagination. This reframed POV helped them realize that the user experience began at home, where parents needed support in understanding and explaining the procedure to their children. With this new understanding, Doug and his team mapped out the entire user journey and identified various touchpoints where they could make a positive impact. Their goal was to create an experience that alleviated fear, engaged children's imagination, and made the process more comfortable and enjoyable. This case study showcases how design thinking played a pivotal role in guiding Doug and his team to empathize with the users, redefine the problem, and focus on creating a user-centered solution. By shifting the perspective from a technical standpoint to a human-centric approach, they set out to design the MRI experience to be more child-friendly, ultimately aiming to reduce the need for sedation and make the process less intimidating for young patients and their families. (Woolery, 2019. pp.39).

Case Study: UberEats

Uber, the global ride-sharing service, has achieved remarkable success with its vast network of drivers and users. However, designing an app that seamlessly caters to the needs of drivers and riders across numerous countries poses unique challenges. This literature review explores Uber's approach to redesigning its driver app in 2015, focusing on addressing language differences, symbology, and wireless access speeds to ensure an excellent user experience worldwide. Uber's design team employed lightweight prototypes using sketches to create an initial version of the app in English. Considering the global audience, they later updated the prototypes with language translations such as Hindi or Chinese. User testing was conducted in each country to gather feedback and evaluate the app's navigation structure and language localization. The team aimed to ensure that critical functions like "earnings" and "ratings" were appropriately understood in different languages. During the design process, the team made intriguing discoveries that influenced the app's evolution. For

instance, the icon representing "earnings" initially resembled a bar chart, but testing in India revealed confusion among drivers who associated it with network settings due to common signal-strength icons. To address this, Uber designers modified the icon to better symbolize cash, effectively resolving the potential misunderstanding before it impacted the live product. Additionally, the team identified issues related to low-speed networks, particularly when drivers went online to start accepting trips. In early functional builds of the app, the absence of feedback after tapping the "go online" button created the perception of a frozen app. By incorporating an animated transition, the team improved the user experience and clarified the app's functioning to drivers. Throughout the design process, Uber emphasized matching the fidelity of prototypes with specific questions they sought to answer. Low-fidelity prototypes helped assess the app's language localization, while higher-resolution, functional prototypes focused on ironing out potential user experience obstacles as the product direction solidified. Uber's experience in redesigning its driver app highlights the importance of considering language, symbology, and network constraints when catering to a diverse user base across multiple countries. By incorporating user feedback and conducting rigorous testing, the design team successfully addressed usability challenges and enhanced the app's functionality for drivers worldwide. This case study underscores the significance of design iteration and adaptation to create a user-centered and globally accessible product. (Woolery, 2019. pp.79).

Design thinking process is a powerful tool for developing innovative solutions to complex problems. The process involves five key steps: empathize, define, ideate, prototype, and test. Each step in the process is critical to the success of the overall approach. Therefore, using design thinking, businesses can develop customer-focused, innovative, and practical solutions to their most pressing problems.

2.5 What is an Athlete Monitoring System (AMS)?

According to Gentles’s (2009) research on the design of a web-based athlete development and monitoring system, an athlete management system is a software platform designed to help sports teams, coaches, and individual athletes manage various aspects of their training, performance, and overall well-being. The system typically includes a range of tools and features that enable athletes and coaches to monitor progress, set goals, and communicate with each other more efficiently and effectively. (Genetles, 2009. pp.16).

Athlete management systems can include various functions, such as tracking performance data, managing schedules and training programs, monitoring injuries and recovery,

managing nutrition and hydration, and even tracking mental and emotional well-being. By providing a centralized platform for managing all these aspects of an athlete's training and performance, athlete management systems can help teams and athletes optimize their performance, prevent injuries, and achieve their goals more effectively. (Neupert, Gupta, Holder, Jobson, 2022. pp.1450).

2.6 Customer Segmentation and Strategic Resource Assessment in the AMS Market

The sports industry is evolving rapidly, with a growing emphasis on data-driven decision-making and performance optimization. According to the market overview published by Research and Markets (2023), the global sports industry grew from $486.61 billion in 2022 to $512.14 billion in 2023 at a compound annual growth rate (CAGR) of 5.2%, and it is expected to grow $623.63 billion in 2027 at a CAGR of 5%. The outbreak of the COVID-19 pandemic has acted as a massive restraint on the sports industry in 2020 as governments globally imposed lockdowns and restricted domestic and international travel, limiting the need for services offered by these establishments. (Research and Markets, 2023)

Due to this reason, the market for athlete monitoring systems has also witnessed significant growth in recent years, with a wide range of solutions available to cater to the needs of athletes, teams, and sports clubs. This market analysis provides a detailed overview of the various available solutions, their strengths, limitations, and the need for a comprehensive system that integrates multiple aspects of athlete monitoring. Additionally, the importance of a multidisciplinary team approach and enhanced stakeholder communication in athlete development and monitoring is highlighted.

2.6.1 Customer Segmentation

Customer segmentation is crucial in improving a company’s profits and retaining customers in today’s highly competitive business environment. The RFM (Recency, Frequency, and Monetary) model is widely used for evaluating customer buying behaviour and segmenting customers based on their transactional data. This section explores the RFM model’s effectiveness and implementation in customer segmentation.

The RFM Model in Customer Segmentation

According to a study conducted by Christy, Umamakeswari, Priyatharsini, and Neyaa (2018) on “RFM ranking – An effective approach to customer segmentation,” customer retention is often more valuable than acquiring new customers, and the Pareto principle highlights that a small percentage of customers contribute significantly to a company’s revenue. Customer segmentation allows businesses to personalize marketing strategies, identify trends, plan product development, design advertising campaigns, and deliver relevant products. Various attributes such as location, age, sex, income, and lifestyle are used for segmentation; the RFM analysis focuses on behavioural data, specifically recency, frequency, and monetary value of customer transactions.

2.6.2 Scoring Method and RFM Score

The RFM analysis assigns scores to recency, frequency, and monetary value. These scores are consolidated to create an RFM score ranging from 111 to 555. The RFM score helps predict future patterns by analyzing customers’ present and past purchases, as it observed that higher RFM scores are associated with longer customer lifetime value. (Christy, Umamakeswari, Priyatharsini, and Neyaa, 2018. para.2).

2.6.3 Clustering Algorithms for Customer Segmentation

Once the recency, frequency, and monetary values are calculated, clustering algorithms are applied to segment the customer base. The most used algorithms are K-means and Fuzzy C-means. The goal is to identify groups of customers that generate more profits for the company. The study proposes a novel method for choosing initial centroids in the K-means algorithm to enhance segmentation efficiency. (Christy, Umamakeswari, Priyatharsini, and Neyaa. 2018. para.3).

2.6.4 Analysing Customer Clusters

After clustering, it is essential to analyze the behavior and characteristics of each customer cluster. This analysis helps identify target customers within each cluster and tailor promotions and offers accordingly. Additionally, the study proposes a repetitive median-based K-means algorithm that aims to reduce the number of iterations compared to

traditional clustering methods. (Christy, Umamakeswari, Priyatharsini, and Neyaa, 2018. para.3).

By analyzing recency, frequency, and monetary value, companies can identify their most profitable customer segments and tailor marketing strategies to retain these customers. The proposed method for choosing initial centroids in the K-means algorithms shows the potential to improve segmentation efficiency. Therefore, this section on the RFM model proves to be a valuable tool for enhancing customer segmentation efforts in today's competitive business landscape, especially in the case of CalevaLAB.

2.7 Marketing Strategy Using StoryBrand Framework

The StoryBrand Framework is a powerful messaging tool designed to enhance a business's marketing strategy by effectively clarifying its message. Developed by best-selling author Donald Miller (2017), this framework utilizes a story-based approach that places customers at the center of the hero's journey. Following the StoryBrand Framework, businesses can simplify their message, communicate immediate value, connect with their ideal customers, and ultimately grow their business. This section explores the key concepts and applications of the StoryBrand Framework in marketing. (Miller, 2017)

2.7.1 The Power of Storytelling in Marketing:

The human brain is naturally inclined towards stories, making storytelling an effective tool in marketing. The StoryBrand Framework leverages the innate preference for stories to make messages more easily understood and memorable for customers. By structuring marketing content as a narrative, businesses can capture and hold the attention of their target audience. Furthermore, this framework allows businesses to shift their focus from themselves to the customer, highlighting how they can address customer needs and challenges. (Miller, 2017)

2.7.2 Applying the StoryBrand Framework to Marketing:

A clear and customer-centered message is crucial for successful marketing. The StoryBrand Framework provides a step-by-step approach to crafting an engaging and persuasive brand story. The framework begins by identifying the Hero, who represents the customer, and understanding their desires and ultimate end goal. Businesses can create a more compelling

message that resonates with their target audience by focusing on the customer's needs and desires. (Miller, 2017)

The framework also emphasizes the importance of addressing the problems the Hero faces. These problems can be categorized into three types: the Villain (the main challenge), external problems (surface issues), and internal problems (emotional or psychological struggles). By recognizing and addressing these obstacles, businesses can position themselves as the Guide—the entity that helps the Hero overcome these challenges and achieve success.

To effectively guide the Hero, businesses need to demonstrate empathy and authority. Empathy involves understanding and acknowledging the customer's problems, while authority establishes the business as a credible and capable solution provider. By showcasing their mission and purpose, businesses can establish themselves as trustworthy Guides in the customer's journey.

The StoryBrand Framework also emphasizes the importance of providing a clear plan to the Hero. The plan should be simple and easily understandable, reducing any confusion or friction in the customer's decision-making process. While the business's internal processes may be complex, the focus should be on outlining a straightforward three-step plan that enables customers to say "YES" without hesitation.

A call to action (CTA) is a crucial element in the StoryBrand Framework. Businesses should clearly ask customers to act and make it evident that the proposed action is the primary step toward their desired outcome. Direct CTAs prompt customers to purchase or engage with the business's services, while transitional CTAs offer alternative resources or information for customers who are not ready to commit. By providing various CTAs, businesses cater to customers at different stages of their buyer's journey.

Success and failure are central themes in the Hero's journey (Miller, 2017). Businesses using the StoryBrand Framework need to paint a clear vision of success for the customer, emphasizing the positive outcomes they can achieve by choosing the business as their Guide. Simultaneously, it is important to highlight the potential consequences of failure, such as missed opportunities, wasted resources, or increased challenges. By emphasizing the stakes, businesses can engage customers and inspire them to take action.

The StoryBrand Framework offers businesses a powerful approach to crafting an engaging and persuasive brand story. By leveraging the principles of storytelling, businesses can clarify their message, connect with their target audience, and drive growth. This framework encourages businesses to focus on the customer as the Hero and position themselves as the Guide who can help overcome challenges and achieve success. By understanding the key concepts and steps of the StoryBrand Framework, businesses can effectively apply it to their marketing strategy and improve their overall messaging approach.

3 Methodology

The literature review on design thinking in product development has provided knowledge that it is a powerful tool for developing customer-focused, innovative, and effective business strategies. Therefore, the research question guiding this thesis is: **How to utilize Design Thinking approach to improve CalevaLAB's product development and marketing strategy?**

The thesis aims to study the implementation of design thinking in enhancing product development and marketing strategy. The thesis will use a qualitative research approach to collect data from key stakeholders within the industry. The data will be analyzed using a thematic analysis approach to identify patterns and themes related to enhancing product development, marketing strategy, and customer segmentation using design thinking.

3.1 Data Collection

Collecting data in business research typically involves gathering information through interviews, focus groups, observations, and document analysis (Cote, 2021). The research question and objectives are clearly defined to address the study. The data collected helped develop relevant information for CalevaLAB's product development strategy.

In this qualitative research study, which focused on product development and marketing strategy, a data collection phase was conducted involving five interviews. The focus groups were athletes who were competing in individual and team sports. All participants were asked similar questions, indicating a structured or semi-structured interview approach. The objective of the interview was to identify gaps in the athlete monitoring system and explore how CalevaLAB, the subject of this research, could capitalize on these gaps to establish a strong presence in the athlete monitoring industry.

To accommodate remote participation, all interviews were conducted over online meetings. Each interview session was 30 minutes in duration. The interview sessions were carefully transcribed and documented using thematic analysis to ensure an accurate representation of participant's feedback. A thematic analysis begins with weeding out biases and establishing your overarching impressions of the data. Rather than approaching the data with a predetermined framework, identify common themes as you search the materials organically. The goal of thematic analysis is to find common patterns across the interview transcripts.

Research conducted by Maguire and Delahunt (2017) addresses the need for clear guidance on the qualitative analysis process, particularly thematic analysis, which involves identifying patterns and themes within qualitative data. (Maguire and Delahunt, 2017).

The analysis aimed to gain insights that would inform the product development and marketing strategy for CalevaLAB. Research rigor was maintained throughout the process to hold the credibility and validity of the findings.

To enhance the reliability of the research, a peer debriefing session was conducted with the CEO of the commissioning company. This involved discussing the findings, interpretations, and implications of the research. Finally, a comprehensive report was produced, which effectively communicated the research findings. The report included relevant quotes and provided examples that supported the conclusions drawn from the data collection during the interviews and focus groups.

4 Findings and Analysis

4.1 Interview Summaries

Interview 1: (03.06.2023)

Interviewee 1 is a former volleyball player from Estonia. He competed internationally and nationally for approximately eight years before giving up the sport due to a severe knee injury. He did not use any devices or mobile applications to track his activity during his athletic career. Instead, he underwent annual health checkups where doctors monitored his performance and provided the results to his coach. The interviewee emphasized the importance of tracking sleep and nutrition for athletes, as he experienced difficulties with maintaining discipline in those areas. He mentioned that young athletes often neglected their health and suggested that tracking systems could be beneficial for them. He expressed interest in tracking devices and systems that provide more specific and visual data, allowing athletes to showcase their achievements to potential coaches. The interviewee believed that using tracking devices during training is essential in the modern world, given the numerous competitions and the potential for coaches to overlook individual athletes. He mentioned that as a former professional athlete, he owned his fitness tracking data, but the coaches and team managers were primarily responsible for handling the data within the club.

Interview 2: (12.06.2023)

The second interviewee is a football player from Morocco, now in the FC HAKA team in Finland. He has been participating in football for about eight years. While he doesn't use any devices to track his activity, he uses the iPhone Health application to monitor his daily energy expenditure and activity levels. He considers sleep and nutrition the most important aspects of track as an athlete. He rates the Health application as a 3 out of 5, citing occasional inaccuracies and problems with tracking movements. The interviewee believes that people want to see more tracking devices on the market, as many of his teammates haven't found suitable options yet. Although he considers tracking devices essential for achieving fitness goals, he doesn't wear them as they can distract during training. He doesn't own his fitness tracking data, as his coach manages it. The coach provides feedback and instructions based on the collected data. The interviewee mentions that health checkups are done twice a year in Finland, and the situation was similar in Morocco, where they had a special application and were required to wear tracking devices during training. During recruitment, coaches and

team managers inquire about the players' daily activities and playing skills. The interviewee uses the data from the Health application to track his steps and activity levels, which he shares with his coach regularly. He prefers monthly payments for athlete management systems and would be willing to pay around 10 euros per month. In terms of future athlete management systems, he suggests integrating a comprehensive program to track nutrition and sleep within a single app.

Interview 3: (17.06.2023)

The interview was conducted with a 20-year-old kickboxing athlete from Estonia. He had been participating in kickboxing for 11 years and had achieved success at various championships. The interviewee used phone applications like YAZIO to track his nutrition and Boxing Timer to manage his training sessions. He also owned smartwatches and other devices for tracking his activity but did not use them. The interviewee considered nutrition tracking the most important aspect for him as an athlete. He believed there were already enough tracking devices and apps in the market and did not see the need for new ones. However, he wanted more food ideas in his nutrition tracking app. During his professional sports career, The interviewee owned his fitness tracking data, and the club had a system for recording and managing athlete data. Athletes had access to their own data and could find it on a website storing all their health information. When recruiting players, coaches were primarily interested in the previous sports experience of the individuals. The interviewee used the collected data to monitor his diet and progress, primarily through visual observation and weighing himself.

Interview 4: (22.06.2023)

The interviewee is currently a part-time athlete in a floorball team in Finland. He also has experience as a coach for junior teams in Finland. The interviewee is familiar with athletic monitoring systems and specifically mentioned using the XPS Network. This system measures training and recovery and provides feedback to coaches. The coach controls the system and constantly accesses the athlete's data and performance history. Additionally, the system serves as a calendar schedule for athletes to view their training schedules and allows for feedback after each session. The qualitative feedback questions aim to understand the athlete's feelings about their training. The interviewee expressed a definite interest in using new athletic monitoring systems. He mentioned specific aspects he would like to see in such systems, including sleep monitoring, heart rate tracking during training, recovery strain assessment after training, and nutrition information. As for the price, the interviewee

indicated a willingness to pay between €7 and €9 per month for an athletic monitoring system. However, when asked about the maximum amount he would be willing to pay, he stated €30 per month. When discussing the importance of monitoring systems in sports, the interviewee emphasized their positive impact. He mentioned that monitoring training is crucial for tracking progress over time and identifying areas that need improvement. This indicates a belief that monitoring systems are valuable tools for athletes. Regarding desired features in an athletic monitoring system, the interviewee provided several key points. These include GPS monitoring, injury tracking, integration with existing wearable equipment, customizable data reports, the ability to share information with coaches and trainers, and insights on nutrition, recovery, heart rate, and sleep. Furthermore, he emphasized the importance of integrating the system with existing fitness tracking platforms such as TrainingPeaks, MyFitnessPal, and AthleteMonitoring.com. In terms of monitoring athletes, the interviewee identified several important factors. These include the time spent training, injury prevention, heart rate monitoring, nutrition tracking, sleep quality assessment, recovery rate evaluation, and data ownership. He specifically highlighted the athlete's ownership of their data and the ability to share performance history with different coaches and trainers at their discretion.

Interview 5: (28.08.2023)

The interviewee is a professional track and field athlete from India specializing in sprint events and has a strong commitment to improving her performance. During the interview, the athlete mentioned she competes in sprint events and represents India in national and international competitions. The athlete uses the “SprintTrack Pro” system, which integrates wearables to monitor sprint times, acceleration, deceleration, and heart rate during training. The system provides real-time feedback and post-session data analysis, leading to efficient workouts and performance improvements. The system’s feedback and data analysis have improved her training, resulting in better technique and pace adjustments, which further lead to long-term development. The athlete identifies a need for improved recovery tracking, including sleep quality, muscle recovery, and fatigue levels, to provide a more holistic view of her readiness for training and competitions. Furthermore, the athlete is open to exploring new athlete monitoring systems that offer enhanced features, such as recovery tracking or sports nutrition guidance that is easily sharable with her coaches and sports scientists. The athlete expresses a strong belief in athlete monitoring systems because they provide data-driven insights that optimize training, prevent injuries, and improve performance. The athlete is willing to invest around €20 to €25 per month in an advanced athlete monitoring system. The athlete strongly advocates athlete data ownership and control, emphasizing the

importance of athlete consent when sharing data with coaches and professionals. Lastly, the athlete encourages other athletes to embrace monitoring technology, choose systems aligned with their goals, and provide feedback for future improvements. In conclusion, the athlete's insights underscore the significance of athlete monitoring systems in optimizing performance, preventing injuries, and providing personalized insights for athletes and coaches. The athlete's openness to new technologies and emphasis on comprehensive recovery tracking reflect the evolving landscape of athlete needs.

From the provided interviews, several common themes can be identified through thematic analysis. These themes represent recurring ideas, perspectives, and concerns that emerge among the interviewees.

4.2 Define the problem

Based on the information gathered from customer research, identify the key problems and opportunities in the athlete monitoring system industry. Define the specific areas CalevaLAB can significantly impact and differentiate itself from competitors.

Based on the information gathered from the interviews, the author identifies several key problems and opportunities in the athlete monitoring system industry.

4.2.1 Key Problems:

Lack of comprehensive tracking: Athletes expressed the need for tracking systems beyond basic activity monitoring. There is a demand for systems that can track and provide insights into various aspects, such as sleep, nutrition, heart rate, recovery, and injury prevention.

Inaccuracies and limitations of existing devices: Some interviewees mentioned occasional inaccuracies and problems with tracking movements in the devices they currently use. There is an opportunity to develop more reliable and precise tracking devices that meet the specific needs of athletes.

Neglect of health and discipline: Young athletes may neglect their health, sleep, and nutrition. Tracking systems can help in promoting discipline and awareness in these areas, enabling athletes to optimize their performance and overall well-being.

Lack of visual and specific data: Athletes expressed interest in tracking devices and systems that provide more specific and visual data, allowing them to showcase their achievements to potential coaches. There is an opportunity to develop user-friendly interfaces and visualizations that present data in an engaging and informative manner.

4.3 Key Opportunities

Comprehensive tracking solutions: Developing an athlete monitoring system encompassing various tracking aspects, including sleep, nutrition, heart rate, recovery, and injury prevention, can differentiate CalevaLAB from competitors. Integrating all these features into a user-friendly app can give athletes a holistic view of their performance and health.

Improved accuracy and reliability: Addressing the inaccuracies and limitations of existing devices can position CalevaLAB as a provider of more precise and reliable tracking solutions.

Customizable data reports and integration: Offering customizable data reports that athletes can share with their coaches and trainers can enhance collaboration and communication. Integrating the monitoring system with existing fitness tracking platforms and wearable equipment, as suggested by an interviewee, can further streamline data collection and analysis.

Focus on nutrition tracking: Given the emphasis placed on nutrition by the interviewed athletes, CalevaLAB can develop features and resources within their monitoring system that provide comprehensive nutrition tracking, meal suggestions, and food ideas tailored to athletes' specific needs and goals.

Data ownership and privacy: Highlighting the importance of data ownership and allowing athletes to have control over their own fitness tracking data can build trust and loyalty.

Competitive pricing: A pricing model that aligns with athletes' expectations, such as monthly payments of around €9 (for teams) to €30 (for large clubs), can make CalevaLAB's monitoring system more accessible and attractive to a broader user base.

By addressing these key problems and capitalizing on the opportunities, CalevaLAB can position itself as a leading provider of comprehensive, accurate, and user-friendly athlete monitoring systems that cater to the specific needs of athletes, coaches, and trainers. To

conclude the defining phase in design thinking, the thematic analysis reveals a consensus on the importance of athlete monitoring systems, the need for comprehensive recovery tracking, and the desire for advanced features and data ownership. These themes reflect the evolving landscape of athlete needs and highlight the potential benefits of innovative tracking technologies.

5 Recommendations

5.1 Ideate innovative solutions

Encourage brainstorming and ideation sessions within the company to generate various creative ideas. Consider different possibilities, technologies, and approaches to address the identified problems and meet the target customers' needs.

5.1.1 Prototype and Test

Develop prototypes or minimum viable products (MVPs) based on the selected ideas. Test these prototypes with representative users and gather feedback to understand their preferences, usability, and effectiveness. Iterate and refine the prototypes based on user feedback.

5.1.2 Iterate and refine:

Continuously refine the strategy, product offerings, and marketing approach based on user feedback, market trends, and competitive analysis. Use an iterative approach to make incremental improvements and enhancements to the athlete monitoring system, ensuring it aligns with customers' evolving needs.

5.1.3 Implement and measure

Once the refined strategy and product offerings are ready, launch them in the market. Monitor the performance and gather data on user adoption, customer satisfaction, and business growth. Continuously measure the product's effectiveness and make necessary adjustments based on real-time feedback and data analysis.

5.1.4 Foster a culture of innovation.

Embrace a culture of innovation and user-centered design thinking throughout the organization. Encourage cross-functional collaboration, promote open communication, and empower employees to contribute their ideas and insights to drive continuous improvement and innovation in product development.

By following this design thinking approach, CalevaLAB can gain a deep understanding of customer needs, develop innovative solutions, and create a compelling AMS product that addresses the unique requirements of the athlete monitoring system industry. This approach will enable the company to differentiate itself, attract a loyal customer base, and establish a prominent position in the market.

5.2 Marketing Plan for CalevaLAB – Using StoryBrand Framework

The StoryBrand Framework, developed by Donald Miller (2017), is a marketing strategy that leverages the power of storytelling to enhance a business's messaging and connect with its audience. It places customers as the central heroes and guides them through their journey. This framework emphasizes simplifying the message, showcasing immediate value, and connecting with ideal customers. By structuring marketing content as a narrative, it captures attention and shifts the focus from the business to the customer's needs and challenges. It guides businesses to create customer-centered stories, address problems, demonstrate empathy and authority, provide clear plans, incorporate effective calls to action, and highlight both success and failure outcomes. Ultimately, it empowers businesses to clarify their message, engage their audience, and drive growth by positioning themselves as trustworthy guides in the customer's journey. (Miller, 2017)

5.2.1 Character:

The Hero in this story is the athlete, seeking a comprehensive and efficient solution to monitor and enhance their performance. CalevaLAB recognizes the athlete's desire for success, improvement, and achieving their full potential.

5.2.2 Problem:

Athletes face several challenges in their training and performance optimization. These include limited communication with coaches, ineffective tracking methods, and a lack of data analysis tools. Athletes also need a centralized platform to store and access their performance data conveniently.

5.2.3 Guide:

CalevaLAB positions itself as the trusted Guide, understanding the challenges athletes face and providing the necessary tools and support to overcome them. CalevaLAB empathizes with athletes and coaches and demonstrates authority by offering a comprehensive suite of features tailored to their needs.

5.2.4 Plan:

CalevaLAB presents a clear and easy-to-follow three-step plan for athletes and coaches:

Step 1: Seamless Communication - CalevaLAB enables athletes to stay connected with their coaches and teams, ensuring timely feedback and guidance throughout their training journey.

Step 2: Performance Tracking Made Easy - The platform provides intuitive tools for athletes to monitor their progress, set goals, and track their performance in various training areas such as strength, endurance, and skill development.

Step 3: Data Analysis and Insights - CalevaLAB's advanced data analysis tools offer valuable insights into an athlete's performance trends, strengths, weaknesses, and areas for improvement. This enables coaches and athletes to make informed decisions and optimize training strategies.

5.2.5 Call to Action:

CalevaLAB encourages athletes, coaches, and clubs to act and join the platform to unlock their full potential. The primary call to action is for sports clubs and organizations to sign up for an account and explore the features available. Additionally, athletes are urged to invite

their coaches and teams to join CalevaLAB for improved collaboration and performance tracking.

Direct CTA:

Sports Clubs and Organizations: "Streamline your athlete monitoring process. Sign up for CalevaLAB today!"

Athletes: "Take control of your performance. Join CalevaLAB and start achieving your goals!"

Transitional CTA:

Sports Clubs and Organizations: "Not ready to commit yet? Explore our freemium level and experience the benefits of our premium features for clubs with fewer than 30 members."

Athletes: "Looking for a sneak peek? Try our free access and discover how CalevaLAB can revolutionize your training."

5.2.6 Success:

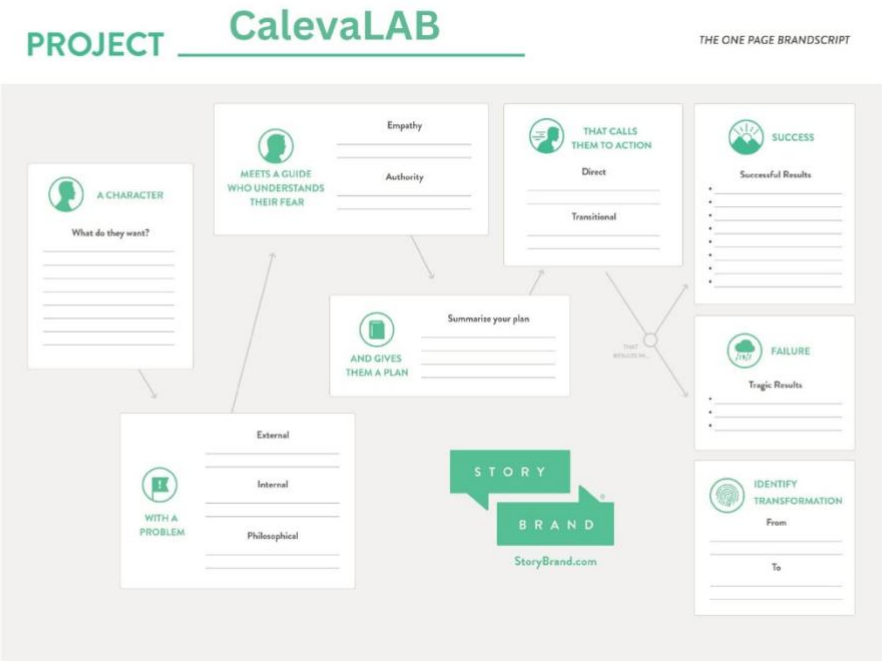
CalevaLAB clearly defines success for athletes, coaches, and clubs. By utilizing the platform's comprehensive suite of tools, athletes can optimize their training, achieve personal bests, and excel in their respective sports. Coaches and clubs can make informed decisions, identify talent, and foster a culture of continuous improvement.

Character Transformation:

From athletes seeking efficient performance monitoring to empowered athletes equipped with data-driven insights and enhanced communication channels.

5.2.7 Avoiding Failure:

CalevaLAB highlights the potential consequences of not utilizing the platform. Without CalevaLAB, athletes may face limited communication, inadequate tracking methods, and a lack of data analysis tools, leading to suboptimal performance, missed opportunities, and slower progress.



(Fig 4. StoryBrand Brandscript for CalevaLAB) (Miller, 2017)

5.3 Strategies for CalevaLAB

To differentiate itself and become a prominent market player, CalevaLAB can leverage the following strategies:

- **Emphasize athlete ownership of data and control as a unique selling point:** By putting athletes in control of their data and offering transparent data management practices, CalevaLAB can build trust and attract customers who prioritize data ownership.
- **Offer a high level of customization options for coaches and athletes:** By providing extensive customization features, CalevaLAB can ensure that coaches and athletes can tailor the platform to meet their specific needs and workflows.
- **Prioritize integration with third-party data sources:** CalevaLAB should focus on integrating with various third-party data sources, such as wearable devices, health apps, and other performance-tracking tools, to provide a comprehensive view of athlete performance and streamline data collection.
- **Develop a user-friendly interface that is easy to navigate:** CalevaLAB should prioritize the development of an intuitive and user-friendly interface, ensuring that coaches and athletes can easily access and navigate the platform's features and functionalities.

- **Ensure that all essential features are present and constantly updated:** By offering a comprehensive set of features that meet the needs of coaches and athletes and consistently updating the platform based on customer feedback and market trends, CalevaLAB can provide a compelling solution that surpasses competitors.

By capitalizing on competitors' weaknesses and leveraging its unique strengths, CalevaLAB can attract coaches and athletes who seek a platform that prioritizes athlete data ownership, customization, integration, usability, and feature completeness. Continual innovation and a customer-centric approach will be crucial for CalevaLAB's success in this highly competitive market.

5.3.1 Unique Value Proposition

The current business model of CalevaLAB is centered around offering free access to athletes while invoicing sports clubs and other organizations based on the number of accounts they have, including both athletes and coaches. A freemium level is available for clubs with less than 30 members, which provides access to some premium features at no cost. CalevaLAB's unique value proposition could be a combination of the following factors:

Comprehensive and Integrated Approach: CalevaLAB could differentiate itself by offering a comprehensive and integrated athlete monitoring system that covers a wide range of performance metrics and data points. It may provide a holistic view of an athlete's physical and physiological parameters, including heart rate, sleep quality, nutrition, training load, and recovery status.

Customization: CalevaLAB may provide a high level of customization, allowing coaches and trainers to tailor the system to their specific needs and requirements. It could offer flexible data collection and analysis options, enabling users to select and prioritize the most relevant metrics for their athletes and teams. Additionally, CalevaLAB must be designed to adapt to different sports and training methodologies, accommodating each discipline's unique demands and characteristics.

Analytics and Insights: CalevaLAB could leverage advanced analytics and machine learning techniques to extract valuable insights from the collected data. It may offer algorithms and models to identify patterns, trends, and correlations within the data set, helping coaches and trainers make informed decisions about training strategies, injury prevention, and athlete optimization. The system should provide actionable

recommendations based on the analysis, facilitating the development of personalized training plans.

User-friendly Interface: CalevaLAB might prioritize user experience by offering an intuitive and user-friendly interface. It could present data analytics in a visually appealing and easily understandable format, making it accessible to non-technical users as well. Additionally, including appealing dashboards and statistical reports could aid in interpreting and communicating the information effectively, allowing coaches, trainers, and athletes to grasp insights quickly and take appropriate actions.

Collaboration and Communication Tools: CalevaLAB may incorporate collaborative features that promote communication and information sharing among coaches, trainers, athletes, and other stakeholders. It could facilitate real-time feedback, messaging, and data exchange within the system, fostering a seamless flow of promoting teamwork. Such features could enhance the coordination and synchronization of training efforts, improving overall performance and results.

Integration of Pairable Devices: CalevaLAB might offer scalability to accommodate varying-sized athletes and teams. It could support integrating data from multiple sources, such as wearables, sensors, and other monitoring devices, to provide a comprehensive overview of an athlete's performance. The system might also allow integration with existing technologies and platforms, ensuring compatibility with other tools used in the sports performance ecosystem.

Additionally, the data-ownership aspect is essential to consider in athlete monitoring systems, and CalevaLAB could differentiate itself by taking a customer-centric approach to data ownership. This aspect is necessary because the current system does not allow athletes to access their data when or if they switch teams or clubs.

5.3.2 Pricing Strategy

Based on the requirement for a scalable pricing model that offers a freemium option for testing and progressive pricing, the following competitive pricing model for CalevaLAB would be best:

Freemium: CalevaLAB could offer a basic version of its AMS for free to attract users, with limited features and capabilities. This would allow users to test the system and get a feel for how it works.

Basic: For users who need more advanced features and capabilities, CalevaLAB could offer a basic plan at a low monthly fee, such as €9.99/month, which would include additional features like data tracking, analytics, and basic reporting.

Pro: For professional sports teams or organizations, CalevaLAB could offer a more robust plan with advanced features, like real-time tracking, custom reporting, and integrations with other systems, at a higher monthly fee, such as €29.99/month.

Enterprise: For large-scale organizations, CalevaLAB could offer a custom pricing plan with personalized features and support based on the organization's specific needs and requirements.

Pay-per-use: In addition to monthly plans, CalevaLAB could also offer a pay-per-use pricing model for certain features, such as advanced analytics or data imports, which would allow users to pay only for what they need and use.

By offering a range of pricing options, from free to enterprise-level plans, CalevaLAB can attract users of all types and sizes, generating revenue from those requiring more advanced features and capabilities.

5.3.3 Distribution Channels

- **Online Platform (Website):** CalevaLAB can distribute its athlete monitoring system primarily through its online platform. Users can access the system, create accounts, and manage their subscriptions directly through the website.
- **Mobile Applications:** Developing mobile applications for iOS and Android platforms would enable users to download and access CalevaLAB's system on their smartphones and tablets, providing a convenient and portable solution.
- **Partnerships with Sports Clubs and Organizations:** CalevaLAB can establish partnerships with sports clubs, teams, and organizations to promote and distribute its athlete monitoring system. This can involve joint marketing efforts and collaborations to reach a wider audience.

- **Reseller Networks:** CalevaLAB can also explore partnerships with resellers or distributors who specialize in sports technology solutions. These resellers can promote and sell CalevaLAB's system to their own network of clients and customers.
- **Social Media and Online Advertising:** Utilizing social media platforms, online advertising, and targeted digital marketing campaigns can help raise awareness about CalevaLAB's athlete monitoring system and drive traffic to the website for user acquisition.
- **Influencer Marketing:** Collaborating with influential athletes, coaches, and sports industry professionals who have a strong online presence can help create buzz and credibility for CalevaLAB's system, reaching a wider audience and attracting potential users.

5.3.4 Marketing Budget

The marketing budget allocation for CalevaLAB will depend on the overall financial resources available and the desired growth targets. However, a suggested breakdown of the marketing budget could be as follows:

Digital Advertising: Allocate a significant portion of the budget for digital advertising campaigns on platforms like Google Ads, social media platforms (Facebook, Instagram, Twitter), and sports-related websites. This can include pay-per-click (PPC) ads, display ads, and sponsored content.

Content Marketing: Invest in creating high-quality content, such as blog articles, videos, and infographics, that provide value to the target audience. This can help establish CalevaLAB as a thought leader in the industry and attract organic traffic to the website.

Search Engine Optimization (SEO): Allocate resources for optimizing the website and content for search engines. This includes keyword research, on-page optimization, building backlinks, and SEO to improve organic visibility and increase website traffic. Semrush is a well-known keyword research tool for creating SEO strategies.

Social Media Marketing: Allocate a portion of the budget for marketing efforts, including creating engaging social media posts, running targeted ad campaigns, and leveraging influencer partnerships to reach the target audience.

Email Marketing: Implement an email marketing strategy to nurture leads and engage with existing users. This can include automated email sequences, newsletters, and personalized communication to drive user retention and upsells.

Events and Sponsorships: Allocate a portion of the budget for participating in relevant sports industry events, conferences, and sponsorships. This can help build brand awareness, establish connections with potential partners or customers, and showcase CalevaLAB's system.

5.3.5 RFM Model in the CalevaLAB (Athlete Monitoring System)

The RFM analysis provides valuable insights into customer behavior by evaluating their recency, frequency, and monetary value. By segmenting customers based on these factors, CalevaLAB can better understand how athletes, clubs, and coaches interact with the platform, including their usage patterns, engagement levels, and financial contributions. By identifying high-value clubs and organizations with a significant contribution to revenue, CalevaLAB can develop personalized marketing plans, promotional offers, and communication strategies that resonate with the unique needs and preferences of each segment. This approach ultimately leads to a more efficient and customer-centric business model, enhancing the overall success of CalevaLAB as an Athlete Monitoring System.

Based on the RFM (recency, frequency, and monetary value) analysis, the following customer segmentation plan can be developed for CalevaLAB;

High-Value Clubs:

- **Recency**: Clubs that have recently signed up or renewed their subscription and actively use CalevaLAB.
- **Frequency**: Clubs that consistently utilize CalevaLAB's features and tools, logging in regularly and engaging with the platform.
- **Monetary Value**: Clubs that have a higher number of accounts (athletes and coaches) generate significant revenue for CalevaLAB.
- **Marketing Approach**: Offer personalized support, dedicated account managers, and exclusive access to new features. Provide premium services and tailored solutions to meet their specific needs. Offer bulk pricing discounts or additional services to encourage continued loyalty and growth.

Mid-Value Clubs:

- **Recency**: Clubs that have been using CalevaLAB for a moderate period and show regular activity.
- **Frequency**: Clubs that use CalevaLAB consistently but might have occasional lapses in engagement.
- **Monetary Value**: Clubs that have a moderate number of accounts and contribute to CalevaLAB's revenue.
- **Marketing Approach**: Provide proactive customer support, regular product updates, and training resources to ensure continuous engagement. Offer incentives for increased usage and expansion of accounts. Emphasize the value proposition, demonstrating how CalevaLAB can enhance its coaching and athlete management capabilities.

Prospective Clubs:

- **Recency**: Potential new clubs that have shown interest in CalevaLAB but haven't signed up yet.
- **Frequency**: N/A (as they haven't started using the platform yet).
- **Monetary Value**: Potential revenue-generating accounts.
- **Marketing Approach**: Offer free trials, demos, or limited-access versions to showcase the benefits and features of CalevaLAB. Provide compelling case studies and success stories from existing clubs. Demonstrate how CalevaLAB can improve their coaching processes, athlete performance, and overall team/club management. Follow up with personalized sales outreach to convert them into paying customers.

Athletes (Freemium Level):

- **Recency**: Athletes who have recently signed up for the freemium level and created their accounts.
- **Frequency**: Athletes who engage with the platform periodically.
- **Monetary Value**: No direct monetary value, as they are part of the freemium offering.
- **Marketing Approach**: Provide ongoing support, tutorials, and educational resources to help athletes maximize the value of the freemium features. Showcase the benefits of upgrading to premium features for enhanced performance tracking and analysis.
- Encourage referral programs to drive user growth and potentially convert clubs into paying customers.

By segmenting customers based on their recency, frequency, and monetary value, CalevaLAB can tailor its marketing and engagement strategies to better meet the specific needs and preferences of each customer segment, ultimately driving customer satisfaction, loyalty, and revenue growth.

6 Conclusion

Design Thinking is applied to create a holistic product development strategy for CalevaLAB. This strategy focuses on user-centered design and innovation. It begins with empathizing with athletes and sports organizations, understanding their pain points, and identifying their needs which is well-suited to the dynamic business environment.

The synthesis of the commissioning company sheds light on the dynamic realm of Athlete Monitoring Systems (AMS) and the strategic insights pertinent to CalevaLAB's product development. AMS is pivotal in modern sports, enabling athletes, coaches, and teams to optimize performance and well-being through efficient data management. CalevaLAB, a forward-thinking AMS, recognizes pricing, feature prioritization, data ownership, and user experience challenges. By addressing these challenges, CalevaLAB aims to revolutionize athlete monitoring by ensuring accessibility, user-centricity, and comprehensive solutions.

Through a qualitative research approach involving thematic analysis, the interviews with athletes from various sports have provided valuable insights into the athlete monitoring system industry. The key findings include the need for comprehensive tracking solutions beyond basic activity monitoring, the importance of accurate and reliable devices, the emphasis on nutrition tracking, and the desire for visual and specific data presentation. The interviews have also highlighted the significance of data ownership, customization options, integration with third-party sources, user-friendly interfaces, and feature completeness.

The research contributes to product development by highlighting the importance of understanding customer needs and developing innovative solutions to differentiate in a competitive market. The insights from customer segmentation using the RFM model and clustering algorithms will provide valuable knowledge for targeting the most profitable customer segments and tailoring marketing strategies. The proposed method for choosing initial centroids in the K-means algorithm also shows potential for improving segmentation efficiency.

Furthermore, the StoryBrand framework contributes to customer segmentation by offering a powerful approach to crafting an engaging and persuasive brand story. By leveraging storytelling principles, businesses like CalevaLAB can clarify their message, connect with their target audience, and drive growth.

It is essential to acknowledge the limitations of this study. The findings are based on a small sample size of interviews, which may not represent the entire athlete population or capture all possible perspectives. Future research could involve a larger and more diverse sample to validate and expand upon the findings. Additionally, conducting surveys or experiments to gather quantitative data on athletes' preferences and willingness to pay for monitoring systems could provide more concrete insights. It would also be essential to consider the methodology and credibility of RBV and VRIO frameworks for internal assessment to find out the strengths and weaknesses of the organization. RBV stands for Resource-Based View, a theoretical framework for analyzing a company's resources and capabilities to determine its competitive advantage. VRIO stands for Value, Rarity, Imitability, and Organization, a tool for assessing the organization's sustained competitive advantage. A study conducted by Barney (2001) describes if a company has resources and capabilities that are valuable, rare, difficult to imitate, and well-organized, it has a sustainable competitive advantage. For example, Google has a sustained competitive advantage because of its unique search algorithm, which is valuable, rare, difficult to imitate, and well-organized.

Further research could explore the development of more advanced tracking devices that address the inaccuracies and limitations highlighted by athletes. Additionally, investigating the integration of artificial intelligence and machine learning techniques to provide more accurate and personalized insights based on athlete data could be a promising direction. Exploring partnerships with nutritionists, sleep experts, and other professionals to enhance monitoring systems' nutrition and sleep-tracking features could also be valuable. Moreover, future research could also explore the two main approaches (inductive and deductive) in the thematic analysis process and how they can be applied to design thinking, as they will be necessary when analyzing a bigger sample size.

In conclusion, CalevaLAB can significantly impact the athlete monitoring system industry by developing a comprehensive tracking solution that addresses the needs expressed by athletes. By prioritizing accurate and reliable devices, customization options, integration with third-party sources, user-friendly interfaces, and feature completeness, CalevaLAB can differentiate itself and attract a loyal customer base. The strategic recommendations, including emphasizing data ownership, offering competitive pricing options, and continual innovation, provide a roadmap for CalevaLAB's success. With a customer-centric approach and a commitment to addressing the unique requirements of athletes and coaches, CalevaLAB can establish itself as a prominent player in the market.

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Appendix 1. Interview Questions

Q1: Can you tell us a bit about your athletic background and the sport you're involved in?

Q2: Are you currently using any athlete monitoring systems to track your training and performance?

Q3: Could you elaborate on how your “Athlete Monitoring System” works and what it allows you to monitor?

Q4: How has using the "AMS" system impacted your training and performance?

Q5: Are there any limitations or areas where you feel the current monitoring system could be improved?

Q6: Would you be open to exploring new athlete monitoring systems in the market?

Q7: What specific features or improvements would you like to see in a new athlete monitoring system?

Q8: How important do you think athlete monitoring systems are in modern sports?

Q9: What's your opinion on the pricing of athlete monitoring systems? How much would you be willing to invest in such a system?

Q10: Do you believe athlete monitoring systems should prioritize data ownership and control by the athlete?

Q11: In your opinion, do you think there's a need for new athlete monitoring systems in the market?

Q12: Final question—what advice would you give to fellow athletes who might be considering using athlete monitoring systems?