



# **Enhancing Inertia's Customer Adoption, Engagement and Retention:**

A TAM Approach to a Fitness Digital Platform  
Startup in Portugal

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## 1. Abstract

Inertia is a mobile application designed to facilitate access to sports venues and joining sports sessions in the Lisbon Metropolitan Area. Drawing from the Technology Acceptance Model (Davis, 1989), this thesis investigates the factors that influence the target population to adopt and stay loyal to Inertia. It hypothesizes that perceived ease of use positively impacts perceived usefulness, which in turn shapes user attitude towards the app and their behavioral intention to engage with the app. An online survey was conducted, collecting 78 valid responses. This data is analyzed using descriptive statistics, reliability testing, regressions and correlations. The results point that attitude is the strongest predictor of users' intention to use, but its strength is built on cumulative influences from perceived usefulness and perceived ease of use. Perceived ease of use was found to impact perceived usefulness but its effect on attitude was weak. These results suggest that while usability facilitates adoption, usefulness and positive user attitude towards the platform are major determinants of user's intention to engage with Inertia. Such findings indicate Inertia towards strategies that deliver features that are truly valuable and tangible along the customer journey while keeping an intuitive platform. Ultimately, though, findings suggest that forming a positive user attitude through customer satisfaction is the key to adoption, engagement and retention. Future research should elaborate on the limitations of this study by incorporating qualitative analyses, expanding sample size, validating results with the real Inertia app once it is launched and expand measurements of TAM constructs.

Key words: Technology Acceptance Model, customer journey, adoption, retention, digital fitness platform, Portuguese startup.

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## 1. Abstrato

Inertia é uma aplicação que facilita o acesso a espaços desportivos e a participação em sessões desportivas em Lisboa. Com base no Modelo de Aceitação da Tecnologia (Davis, 1989), esta

tese investiga os fatores que influenciam essa população a adotar e permanecer fiel à Inertia. A hipótese é que a facilidade de utilização tem um impacto positivo na utilidade percebida, o que molda a atitude do utilizador em relação à aplicação e a sua intenção comportamental de interagir com a aplicação. Um inquérito online recolheu 78 respostas válidas. Estatísticas descritivas, testes de fiabilidade, regressões e correlações são utilizadas na análise. Os resultados apontam que a atitude é o indicador mais forte da intenção de uso, mas a sua força se baseia em influências cumulativas de utilidade e da facilidade de utilização. Verificou-se que a facilidade de utilização tem impacto na utilidade, mas seu efeito na atitude do usuário foi fraco. Estes resultados sugerem que, embora a usabilidade facilite a adoção, a utilidade e a atitude positiva são determinantes da intenção do utilizador de interagir com a Inertia. Com isso, Inertia deve adotar estratégias que ofereçam funcionalidades verdadeiramente valiosas e tangíveis ao longo da jornada do cliente, enquanto se mantém uma plataforma intuitiva. Formar uma atitude positiva do utilizador por meio da satisfação do cliente é a chave para a adoção, o engajamento e a retenção. Pesquisas futuras devem incorporar análises qualitativas, expandir o tamanho da amostra, validar os resultados com a aplicação lançada e expandir as medições dos constructos MAT.

Palavras-chave: Modelo de Aceitação da Tecnologia, jornada do cliente, adoção, retenção, plataforma digital de fitness, startup portuguesa.

Título: Aprimorar a Adoção, o Envolvimento e a Retenção de Clientes da Inertia: Uma Abordagem MAT para uma Startup de Plataforma Digital de Fitness em Portugal

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## 2. Introduction

In an increasingly digital world, technology has been embraced in diverse ways in people's everyday lives, bringing significant changes to the way they engage in physical activities. Numerous digital platforms focusing on fitness have emerged proposing tools to help users to achieve greater motivation and organizational convenience. From offering virtual workout plans to more complex functions such as social media and gamified features, fitness apps offer solutions for people to become more physically active and efficiently contributing to weight loss and an increased rate of physical activity (Mateo et al., 2015; Kranz et al., 2013).

The rise of such platforms has pushed the common practice when exercising. Pieces of software that create challenges and foster a sense of community or accountability for working out, for instance, go beyond what is commonly seen in more traditional sports environments. That shifts individuals' efforts to practice sports to more community-oriented practices. Overall, fitness platforms' objective is to assist their users in overcoming barriers hindering them from achieving more active lifestyles. Thereby, they emerge as significant tools to assist ordinary people to change their habits and progress in their fitness journey.

### 1.1 Problem Statement: The Current Market Situation

#### 1.1.1 Existing barriers: lack of physical activity among Lisbon residents

Health is determined by numerous variables in one's life. Increasingly significant over the last century, individuals' lifestyles have arguably the most influence on leading to positive or negative health effects, where physical inactivity and unbalanced diets stand out as determinants (Busse et al., 2010), which tend to be especially remarkable in larger urban areas (United Nations, 2018). Regular physical activity in particular has shown to contribute to the prevention of coronary diseases, cancer, diabetes, obesity, stroke and other conditions more efficiently than treatment with medications in many cases (Naci and Ioannidis, 2013). Exercising is, in fact, considered to be the primary prevention method against 35 chronic conditions (Booth et al., 2012). Further, physically active individuals have demonstrated to be less likely to develop mental illnesses (Yeon Soo et al., 2012); from which health advantages derive partially from the social interactions established during physical activities (VamKim and Nelson, 2013).

Eurobarometer's (2018) research on the exercising habits of 28 EU countries in 2017 showed that exercising frequency has been dropping since 2009 and that by its year of publication, only 35% of the target population aged over 15 years old reached the recommended weekly threshold level of physical activity. In Portugal, the study has raised alarming concerns: 46% of the Portuguese population is labeled as physically inactive and moderate exercising is practiced by only 10% of the population – a very low score compared to the EU average of 23%.

Barriers to exercise vary greatly from individual to individual. Patterns are influenced by physical (environmental) and social factors as well as one's own personal characteristics and its community's (Bauman et al., 2012). In the Lisbon Metropolitan Area (LMA), the most significant variables dictating physical activity are related to lack of motivation, time management, financial constraints and urban planning. In fact, a study on 410 families residing in the LMA reached several conclusions that enforce these arguments (Louro et al, 2021). Two of which are especially interesting for this paper: first, positive self-perceptions were found to be linked with higher levels of physical activity due to its effect on motivation. Second, negative perceptions about their neighborhood hinder LMA's residents' efforts towards a fitness life because they either feel disconnected or unsafe in their area.

### **1.1.2 Missing the bridge between the venues and the customers**

Sports venues offer services to interested customers to be able to practice their preferred sports. A great alternative to purchasing their own equipment, training alone and generally feeling unmotivated to practice sports with no proper infrastructure, these business' customers can enjoy such advantages in sports facilities. Managing football pitches or padel courts is no different to other business and require similar strategic skills to be successfully managed (Dugalić and Krsteska, 2013). Likewise, sports venues face business challenges. Most notably, inconsistent revenue, fierce competition and unorganized coordination with user groups emerge as regularly reported struggles.

Digital platforms have continuously revolutionized the ways businesses operate and scale (Täuscher and Laudien, 2018). An online marketplace such as Uber Eats, for instance, has connected consumers to independent restaurants around their area through an easy-to-use, all-in-one platform. Such centralized platform model acts like a bridge that enables businesses to address widespread gaps in their industry like a fragmented access and inconvenience of having to move to complete a purchase. Unlike food delivery platforms, the sports venue industry lacks

a widespread platform that efficiently connects them to their customers. The industry mostly relies on offline methods to attract customers and formalize a transaction, namely walk-ins, phone calling or website bookings, all of which do not offer an easy, accessible communication with the business. This is especially true in Portugal, where the fitness market is under-digitized, and the population's level of basic digital skills remains low at 56% (European Commission, 2024). Hence, there is an evident void for a platform that acts as a “Uber Eats for sports venues” that builds a digital bridge between the venues and sports practitioners.

## 1.2 Proposed Solution: Inertia

Inertia is a pre-seed business venture proposed by three master's degree students. It takes shape as an all-in-one mobile platform that connects sports enthusiasts and novices to sports venues in their area. The platform's objective is to empower people to take control of their health and wellbeing by providing them with the resources and support they might need to become physically active. Through the promotion of a healthier lifestyle based on a facilitated booking of sports venues, meeting like-minded people and trying out new hobbies, Inertia aims to create a healthier future for individuals and communities in the Lisbon Metropolitan Area.



**Figure 1.** Inertia's social media ad. Source: author's own elaboration.

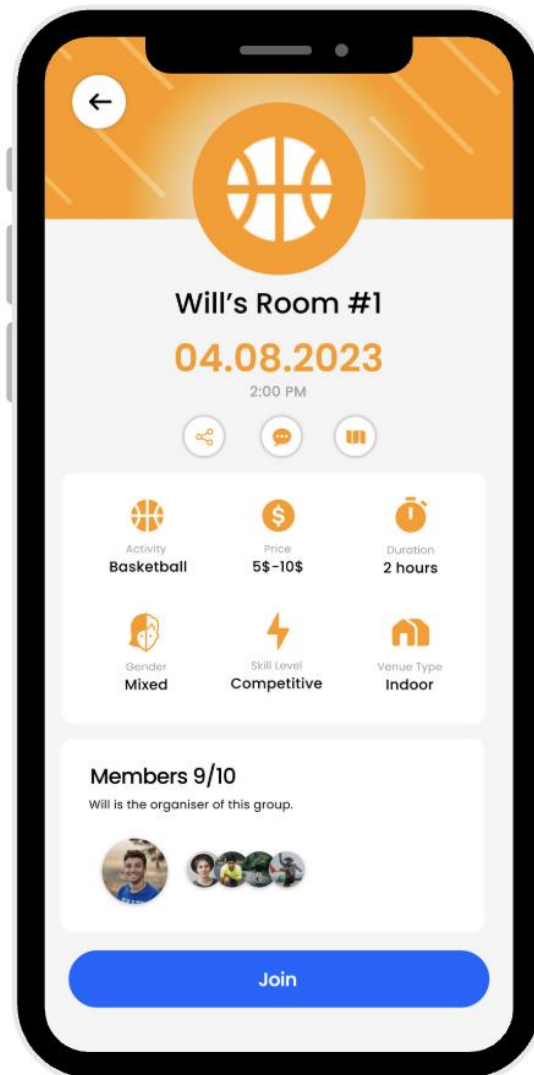
Inertia is a B2B2C startup catering its services in a multi-side platform to serve two customer groups: sports enthusiasts and sports venues managers. As the primary users of the application, sports enthusiasts can conveniently visualize all the featured sports facilities in Lisbon while also looking to be in the company of like-minded people. The latter refers to people of various age groups and skill levels. On the other hand, the B2B customers are sports venues owners and managers who are looking for ways to modernize their booking facilities, stand out from their competitors and hence reach and attract a greater number of customers. Hence, Inertia's main objectives to accomplish as a startup are:

- To offer an easy-to-use, all-in-one platform for individuals to connect with others who share their interest in sports or willing to engage in physical activities.
- To create an online community of sports enthusiasts in which they can organize matches, join teams, interact and share their experience with the platform.
- To promote a healthier lifestyle in Lisbon by encouraging people to engage in physical activities regularly.
- To allow Inertia B2C users to find and book sports facilities in their area quickly.
- To assist sports venue owners with a fragmented access to their services, enhance efficiency through a better utilization of their booking time and space and offering a competitive differentiation.

The application encompasses a comprehensive set of tools for sports enthusiasts to interact and engage in their preferred sports in a user-friendly interface. Some of the key features of the app include:

- **User profiles:** Users can create profiles that include their interests, skill levels and accomplishments.
- **Search and filter:** Users can search for sports facilities based on location, sport, and skill level.
- **Book facilities:** Users can book sports facilities directly through the app as well as completing the payments.
- **Join teams:** Users can join teams and connect with other players who share their interests.
- **Organize events:** Users can organize sessions and invite others to participate.

- **Chat:** Users can chat with other users and teams to discuss the logistics of the session or simply discuss common interests.



**Figure 2.** Inertia's mobile app interface. Source: author's own elaboration.

Inertia's ultimate goal is to empower and connect sports enthusiasts and beginners to local sports venues by equipping them with the tools they need to become physically active.

### 1.3 Purpose of the Study and Research Questions

In order to evaluate the viability of the proposed venture and shape its strategy in attaining a solid B2C customer base, this paper develops a literary review of existing research surrounding critical knowledge on customer journey principles to explore how Inertia can effectively attract

and retain customers in the Portuguese market, diving into the Technology Acceptance Model (Davis, 1989) and exploring user adoption, engagement and finally retention. Further, this study will also indicate knowledge gaps identified throughout the research and hence suggest topics for future research in their respective fields.

Ultimately, this dissertation aims to address the most prominent variables that may hinder Inertia's expansion in the Portuguese market. Thereby, it will suggest managerial recommendations for it to position itself as a valuable and distinctive tool to users, being capable of establishing solid connections with its users and fostering a loyal customer base. Hence, this dissertation is built over the following research question: **“How can Inertia leverage its business plan to attract, engage and retain users in the Portuguese market?”** Thereby, such research problem will be divided into three supporting research questions, each addressing a particular phase of the customer journey and their specific challenges and possible solutions that might influence Inertia's market penetration to retention. These are listed below:

- How can Inertia enhance engagement and increase retention of its customers in the Portuguese market?
- What fitness app features are most valued by Portuguese users and how should they be implemented?
- What are the barriers to adoption of Inertia in the Portuguese market? What strategies can Inertia implement to overcome these obstacles?

### 3. Literature Review

#### 2.1 Customer Journey

Customer journeys has become an inseparable part of shaping companies' customer experiences and practical service offering (Zomerdijsk and Voss, 2010). The customers' emotional, sensorial, cognitive and social reactions to brands refer to said customer experiences (Verhoef et al., 2019), which are shaped after every interaction they have with the company (Berry et al., 2002). Holmlid and Evenson (2008) describe the customer journey as a walk “in the customers' shoes” where the customer experience with the service provided is examined through the customer's point of view.

For marketers, customer journeys have evolved to emphasize the decision processes of consumers when exposed to companies' pieces of advertising, products or services, websites and any other interaction between the two that may occur (Court et al., 2009). Thereby, customers' experiences with the company and overall customer behavior thoroughly analyzed in a sequential process that vary from model to model. Some might include, for instance as provided by Court et al.'s (2009), initial research, brand awareness, brand familiarity, consideration, purchase and loyalty. More recent models have divided this model into more general categories such as pre-purchase, purchase and post-purchase moments (Lemon and Verhoef, 2016). Regardless of the model chosen, authors agree that customer journey metrics and data should be tracked by CRM tools and web analytics to measure success and offer information for adaptation (Anderl et al., 2016).

### **2.1.1 Stages of the Customer Journey: From Discovery to Loyalty**

Dividing the customer journey into prepurchase, purchase and postpurchase moments has become a common practice among researchers and marketers following the solid formation brought by leading authors Howard and Sheth (1969) and later Verhoef et al. (2009). As organized by Verhoef and Lemon (2016), the customer journey subdivisions encompass the following:

- **Prepurchase stage:** it relates to all interactions customers might have with a brand and/or environment before completing a purchase. In this sense, aspects such as recognition of the need or want, searching for solutions, exposing to advertising and product consideration area all included in this stage of the customer acquisition funnel (Lemon and Verhoef, 2016).
- **Purchase stage:** this stage involves all interactions between the customer and the company in the moment of transaction itself. Despite its shorter duration, it includes important nuances that might drive purchasing intention such as atmospherics (Bitner, 1990) and service "clues" standing for anything – or the lack of – that has a say at the purchasing experience and hence the purchasing decision of customers at the moment of completing a transaction (Berry et al., 2002). Such clues are also present in the digital purchase environment taking shape, for example, in banner advertising (Manchanda et al., 2006).

- **Postpurchase stage:** it covers all interactions established between the customer and the company after the completion of the purchase. Such interactions might be related to the usage of the product/service, repurchase or service requests, which makes the good provided especially important at this stage of the customer journey (Verhoef and Lemon, 2016). Some authors also include non-purchase related actions in the postpurchase stage such as customer engagement, word of mouth and customer loyalty (Van Doorn et al., 2010).

### 2.1.2 Touchpoints of the Customer Journey

Numerous customer journey researchers have pointed to the importance of establishing meaningful customer touchpoints throughout the customer acquisition funnel, as seen in the widely cited work of Baxendale, Macdonald and Wilson (2015). They define a touchpoint as a singular instance where the customer comes in direct or indirect contact with a brand, transcending – or not – intentionally established channels (Neslin et al., 2006). Lemon and Verhoef (2016) draw thoughts from Baxendale, Macdonald and Wilson (2015) and De Haan, Wiesel and Pauwels (2016) to create four subdivision of customer experience touchpoints that can manifest at any stage of the customer journey. The categorization is as follows:

- **Brand-owned touchpoints:** these touchpoints are directly managed and fully controlled by the company. Any factor of the marketing mix related to branding such as packaging, price service and product quality as well as owned media such as websites and pieces of advertising are labeled as brand-owned touchpoints. Research in this field has been extensive has continually shown that promotion through advertising influences consumer preferences and purchasing attitude.
- **Partner-owned touchpoints:** such touchpoints are managed conjointly between the firm that owns the brand and one or more of its partners. Examples of partners that share such touch points include marketing agencies and multichannel distribution partners. Lemon and Verhoef (2016) argue, though, that the impact of these touchpoints on overall customer experience are rather unclear due to the difficulty to separate these from brand-owned touch points. For instance, customers' experience with a company's website might be affected by functionality changes made by the browser provider; hence blurring the line between partner-owned and brand-owned touchpoints.

- Customer-owned touchpoints:** these are touchpoints created and experienced solely by the customers. Bringing it back to the customer journey, these touch points relate, for instance, to prepurchase stage with recognition of a problem and consideration, purchase stage with choosing the preferred method of payment and most importantly in the postpurchase stage where the customer uses the product or service, creates an opinion about it and possibly spread it to his connections (Lemon and Verhoef, 2016). In this sense, customers may become cocreators of value to the brand (Vargo and Lusch, 2004). There is plenty of research on successful cases of organic marketing enabled by customer-owned touchpoints. Zervas, Proserpio and Byers (2017), for example, examine the case of Airbnb, who benefits from content posted online by travel influencers or by the spread of word of mouth beyond the firm's control. These touchpoints expand a brand's value independently from the firm and greatly benefits from a user-driven approach to build an engaging customer journey map.
- Social/external touchpoints:** customers are naturally influenced by individuals in their proximity throughout all stages of the customer journey. Family, friends, social media or other customers can exert indirect or direct influence on one's purchase intention. Many authors argue that this is especially true in the case of mobile apps and other services or products that are consumed right after the transaction is completed, sometimes outperforming advertising in sales growth (Baxendale et al., 2015; Risselada et al., 2014). Verhoef argues that social/external touchpoints can be confused with partner-owned touchpoints at times. Social media platforms for instance may drive purchasing intention through their community-building features (Manchanda et al., 2015); in this sense, social media likes are also examined as touchpoints by some (De Vries et al., 2012). Hence, these touchpoints describe how the environment might drive purchasing intention.

## 2.2 Technology Acceptance Model (TAM)

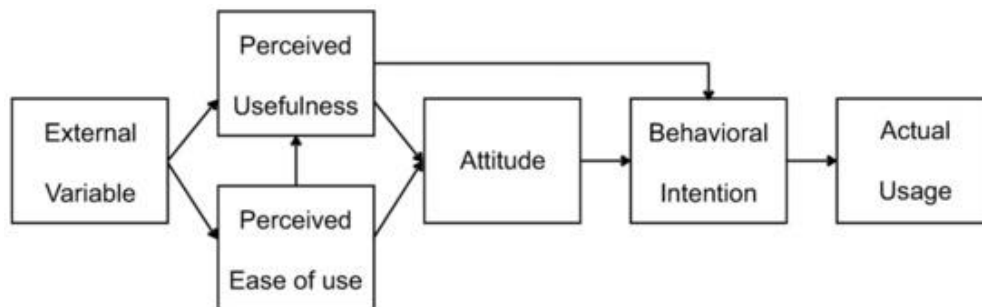
Technology has become an inseparable part of society as a whole and, with that, it became imperative to find ways to measure its acceptance among its users. The Technology Acceptance Model (TAM) is a research model introduced by Fred Davis (1989) that examines exactly that: it examines the factors that influence individuals' acceptance of given technology. Widely used

academically and by marketers, TAM has become a dominant model in research regarding consumers' behavior towards technology.

### 2.2.1 TAM framework logic and its use in academia

TAM bases its model on the notion that people's intention to adopt a piece of technology can be predicted by their perception of it (Davis, 1989 and Lee et al., 2003). Its logic starts with the introduction of two variables: perceived usefulness (PU) and perceived ease of use (PEOU). The first refers to the degree to which individuals believe that they will be more productive if they used technology X. PEOU refers to how difficult individuals believe that using technology X is (Davis, 1989). Furthermore, Davis also demonstrates that PEOU also has some influence over PU because the easier the system is perceived to be to be used, the more likely it becomes perceived as a useful tool.

Thereby, these two core variables influence another variable, namely "attitude toward use" (ATT), which in turn shape individuals' "behavioral intention to use" (BI) the technology. At the end of this chain sits the actual usage of the technology in matter. This causal model is illustrated in figure 1 below.



**Figure 3.** Technology Acceptance Model (TAM), adapted from Davis (1989). Reproduced in Raza et al., *Applied Sciences*, vol. 10, no. 22, 2020, p. 8299, <https://doi.org/10.3390/app10228299>.

The TAM model has been validated by numerous studies and has established itself as a theoretical basis in analyzing users' adoption of digital platforms (Venkatesh and Davis, 2000). It is commonly used in literature as a complimentary theory to other behavior-focused models such as Roger's Diffusion of Innovations (2003) and the Unified Theory of Acceptance and Use of Technology (Venkatesh et al., 2003). TAM has also sparked discussions on its limitations. Schepers and Wetzels (2007) have analyzed 51 studies that utilized TAM and have determined that the proposed relationship chain is functional but the piece of technology being examined in particular had significant effects on users' behavior. Additionally, TAM has seen

a more limited use in the fitness mobile app sector; however, some studies have pointed to its efficiency in estimating app usage and general satisfaction based on initial expectations (Yousaf et al., 2021).

## **2.3 Adoption, engagement and retention in digital platforms**

### **2.3.1 User adoption: barriers and facilitators**

User adoption in digital platforms, as defined by Roger (2003) and commonly agreed upon in academia, is the user's decision to start using a piece of technology after initial exposure to it. In his Diffusion of Innovations theory, Roger highlights the four pillars of an effective, faster adoption rate: a high relative advantage or value, low complexity, easy initial use that facilitates trialability and lastly a strong visibility – visibility of others using the technology. These fundamentals complement TAM's assumption that the actual usage of technology X depends primarily on perceived usefulness (PU) and perceived ease of use (PEOU).

User adoption of new technology can involve overcoming a series of obstacles. If a platform is perceived as difficult to use, people are less likely to continue – or even start – using that technology. This complexity to use is directly related to the PEOU in TAM, suggesting a negative impact in user adoption (Davis, 1989). Similarly, a lack of PU leads to an unclear value coming from the piece of technology, ensuing a disincentive to adoption (Adams et al., 1992; Davis, 1989). This logic has been applied in studies in other areas. In the health sphere, a lack of PU has been identified as a frequent reason causing low willingness to use new digital health tools (Kooji et al., 2018). Another barrier to adoption is simply low awareness, in which the target population is not aware of the new technology. Practical causes can be related to limited marketing campaigns, misplaced targeting, lack of customer loyalty, among others. In this sense, new businesses and SMEs are particularly vulnerable (Akpan et al., 2020).

Nonetheless, these adoption barriers can be counterbalanced through facilitators of adoption that can encourage user adoption of new mobile applications. Social proof in the shape of positive reviews, user stories and user-generated content, for example, credits the business with legitimacy. This informational influence enables the business to build a positive image, contributing to its technology acceptance as well as building its user pool, much necessary for platforms with social media features (Filieri, 2015; Sun et al., 2019). In addition, according to

Diffusion Theory, when a service is easily observed/seen by the target group, this group is more willing to try that new service (Roger, 2003).

Another facilitator is an effective onboarding strategy. A smooth, user friendly first use powered by a guided setup, tutorials and an intuitive design familiarizes new users with the app's features and proposed value (Kalra et al., 2024). Trialability, as argues Roger (2003), enables users to build confidence in the service and strengthen PEOU. This argument is also reinforced by its effect on perceived value. When users clearly understand the app's proposition and features along the start of the customer journey, they become more likely to adopt it (Davis, 1989). For mobile fitness platforms, it becomes essential that they are designed with a simple, intuitive and engaging approach that minimizes user effort while targeting their needs (Lee and Cho, 2016; Mohammadi and Ghaedi, 2020). Such strategies create an environment where new users are motivated to engage with the new technology.

### **2.3.2 User engagement**

Engagement refers to the depth and frequency of interactions users have with a product or service as posed by O'Brien and Toms (2008), two widely cited authors in the subject. Essentially, engagement reflects the level of user involvement with the business, relating to the first's interest and attention. This means that engagement is often a strong indicator of satisfaction and estimation of future usage of digital platforms (Perski et al., 2016). In mobile platforms, engagement is especially critical due to its role in forming habit-based bonds that can lead to longer term retention (Hamari et al., 2014).

Businesses can use engagement mechanisms such as gamification to enhance motivation and overall enjoyment in using the service (Hamari et al., 2014). This method can take shape by using game elements like scores, leaderboards and profile badges to hook the users' attention to the platform. Gamification goes in line with Eyal's (2014) Hook Model on how to build products that form habits, where in-app triggers and rewards allow platforms to cultivate a self-sustained engagement without external incentives. Another powerful tool to drive engagement is personalization. It involves giving the user the ability to tailor his or her usage of the platform according to their preferences. Personalization has shown to grow user satisfaction and perceived relevance of the platform (Kelders et al., 2020). Particularly for sports booking apps, bridging the real and the digital world can introduce the app more deeply in the users' day-to-day life because of real world integration, as seen in similar studies on apps that integrated the

digital and the real world (Althoff et al., 2016). Finally, relating to both social and gamified methods of increasing engagement, it is worth mentioning features that enhance self-efficacy. Features such as progress feedback, leaderboards and goal tracking can help users build confidence, become more motivated and deepen engagement with the brand (Perski et al., 2017).

User engagement is also driven by socio-psychological factors that can be explored through social features in-app. Team creation, shared achievements and peer matching are a few features that can provide a sense of community and participation. With that, user enjoyment and app use increase and the result is a positive emotional association with the platform (Jo and Baek, 2023). Apps are not only judged by functionality anymore; enjoyability and meaning have become essential to keep engagement (O'Brien and Toms, 2008). For Inertia, an engaging design with a well-thought customer journey becomes a must to encourage app use, value perception and push for long term loyalty.

### **2.3.3 Retention and continued use**

When a user continues to use a service over time down the customer journey, that becomes a successful example of retention, aligned with the post-purchase stage of the customer journey. Aligned with Roger's (2003) confirmation stage in the Diffusion of Innovations theory, retention can either mean continued use or, even better, loyalty, where the user propagates their positive experience with the app to their community. For Bhattacharjee (2001), retention is essential for any product's long-term success. Naturally, the goal is to create an engaging app that focuses on user satisfaction, minimizing churn rates.

App users must continually think that the app is useful and valuable for their intended use. Failing to meet this demand, the brand will face higher churn rates due to dissatisfaction (Bhattacharjee, 2001). This principle is closely tied with a decline in PU. In addition, in cases where users trust an app's credibility and overall safety, the brand builds a path towards loyalty (Morgan and Hunt, 1994). Moving back towards socio-psychological behavior, digital products can leverage on community-building features to push for proactive engagement and a sense of belonging. Users are more likely to continue using an app if it allows them to connect with others, allowing them to share progress, support and challenge each other (Hamari and Koivisto, 2015). Friends' workout updates and friend invites to join sports in your area can serve as external motivations to sustain an active user base. Retention can also take shape in re-

engagement tactics that hook the user back from their busy routines. Emails and push notification can serve as strategically timed reminders that bring the users back to the app through an external trigger (Fogg, 2009). These can range from motivation texts with a call to action to a reminder of sessions created nearby, in the case of inertia. However, Fogg highlights that generic or too frequent notifications can push users away from the app instead of bringing lapsed users back in. Essentially, such texts prevent the brand from being forgotten easily by the users.

In addition, retention can be closely tied to feedback after consuming the product. If users have repeated positive experiences with a brand, they become more likely to continue having that posture and behavior (Bhattacharjee, 2001). This post-consumption reaction can be particularly interesting for gamified platforms where users can visualize a positive reinforcement in the app. They can leverage user satisfaction through the users' own feeling of gratification bolstered by trophies, progress tracking or even a simple "well done!" text. At last, user needs and the market itself may evolve to other directions. In this case, listening to user feedback in app stores reviews and forum comments can lead the brand towards the right direction to keep its user base by keeping a user-centric approach. When customers feel they are heard, they are more likely to stay loyal to that brand (Clement et al., 2018). On the other hand, studies have shown that the continuous use of fitness apps in the long-term is rather rare, showing low retention rates (Cho et al, 2020; Lee and Cho, 2016). Early dropouts limit the platform's PU, so brands in this field must emphasize building trust, an engaging experience and tangible value. By developing these retention strategies, brands are closer to guaranteeing that new users evolve loyal users.

## 4. Methodology and Hypothesis

This research paper employs a quantitative approach to data collection and analysis. This discernment comes from several reasons which aim to reach insightful understandings about the preferences and expectations of the Portuguese market towards Inertia. Firstly, collecting primary data through surveys enhance the study's quantitative research reliability and improves the quality of data collection. Secondly, this method allows for a systematic testing of each TAM component and any statistical relationship observed between them. This numerical approach enables the study to look at the research question through regressions and correlations, serving as a numerical complement to TAM's theory-central model. Lastly, quantitative

methods reduce bias and capture underlying effects invisible to qualitative methods (Queirós et al., 2017). This study's research the population targeted by Inertia itself, which includes 16 to 40 years old individuals who reside in Lisbon, Portugal. They may or may not be interested in sports. The survey is available in Portuguese and in English.

This study utilized both regressions and correlations to analyze the underlying relationships between TAM elements. A Pearson correlation analysis is used to measure the strength and linear direction of any associations observed between two variables (Field, 2024). It becomes a useful tool for finding whether the TAM constructs are positively related; however, this analysis does not provide insights into predictions or directionality of such relationships. In contrast, a regression analysis offers a model to examine how one more independent variables explain variations in a dependent variable (Hair et al., 2019). By doing so, it becomes possible to test the sequential nature of TAM while accounting for the impact of multiple predictors from PU to BI. The use of these two models together is commonly found in prior TAM research to examine its causal pathway (Davis, 1989; Venkatesh and Davis, 2000).

### **3.1 Model and Data Preparation**

An online, individual questionnaire was designed on Qualtrics and distributed to Lisbon residents to collect primary, quantitative data from potential users of Inertia with a focus on their sports habits and digital behavior. Given the objectives of this study, an online survey was judged the most appropriate fit due to its easy distribution, cost efficiency and convenience compared to traditional data collecting methods. This method also ensured a structured data collection and a standard format of answers received. Participants of the study were contacted through social media group chats, fitness groups and personal networks to ensure a diverse sample.

The questionnaire measures key constructs that derive from the TAM model such as PU, PEOU, ATT and BI while it also maps the customer journey stages of awareness, consideration and adoption. The causal chain dissected in the TAM framework has been widely validated in academia and has served as a foundational theory for assessing technology adoption of digital platforms (Venkatesh and Davis, 2000). These constructs ensures that one can evaluate how users would respond and evaluate Inertia's concept, even though the product is not yet fully

developed and launched in the market. By mapping TAM constructs into stages of the customer journey, this research opens space for understanding what makes users join the app (BI), identifying which specific features they find useful (PU), track any behavior changes as they interact with Inertia (ATT) and pinpoint barriers along the customer journey.

To ensure data quality, the questionnaire includes screening questions the limit respondents to be within the age of 16 to 40 and residing in the Lisbon metropolitan area. Additional data cleaning procedures had to be applied to remove incomplete responses. The study employed a listwise deletion of respondents, keeping only answers from people who scored in all constructs, which are described below, to avoid potential biases. From 101, the final dataset counts with 78 valid responses to be analyzed through the TAM constructs.

### 3.2 Hypotheses

Given the causal chain format of TAM, this study formulates hypothesis that test the relationships between each TAM element. Ultimately, they aim to provide a foundation for testing any predictions and correlations between the model constructs. The hypotheses are:

**H1:** *Perceived ease of use (PEOU) positively influences perceived usefulness (PU).*

Plenty of prior research have stated that individuals are more likely to perceive a platform as useful if they consider it easy to use (Davis, 1989; Davis and Venkatesh, 2000). Bringing this concept to Inertia, if the sample finds the app intuitive, they will be more likely to view it as beneficial for organizing sports sessions and booking facilities nearby.

**H2a:** *Perceived usefulness (PU) positively influences attitude (ATT) towards using Inertia.*

**H2b:** *Perceived ease of use (PEOU) positively influences attitude (ATT) towards using Inertia.*

Both usefulness and ease of use are considered, and academically treated so, contributing factors in shaping positive user attitude towards technology (Venkatesh et al., 2003). For Inertia's users, this means that if they perceive the app as valuable for their needs and intuitive to use, it is expected that they respond to the brand more positively.

**H3a:** *Perceived usefulness (PU) positively influences behavioral intention (BI) to use Inertia.*

**H3b:** *Attitude toward using Inertia (ATT) positively influences behavioral intention (BI) to use Inertia.*

Inside the TAM framework, BI is the strongest predictor of actual use of the technology. Previous studies have demonstrated that both usefulness and attitude are major determinants of whether or not individuals have the intention to adopt new technology (Davis, 1989; Davis and Venkatesh, 2000). This study predicts that possible users of Inertia become more likely to adopt the app if they clearly identify the value in it as well as they build a positive attitude towards it.

## 5. Quantitative Analysis

### 4.1 Constructs and scoring

To test the proposed research model, each survey item was mapped into four of the main constructs of the TAM:

- Perceived usefulness (PU) is measured in questions inquiring whether respondents thought Inertia would help them booking sports activities and organizing the logistics of a sports session. An example of a question is “I would keep using a sports app if it helped me stay active with friends or meet new people through games.”
- Perceived ease of use (PEOU) is measured by items that reflected how easy respondents’ thought the platform would be simple to use: “What discourages you the most from using fitness planning apps?” followed by a likert scale item “not easy to use.”
- Attitude (ATT) is measured on items that indicate whether respondents had a positive or negative opinion towards the app and whether they thought about adopting the app: “I would recommend an app like this to friends who play sports” in a likert scale.
- Behavioral intention (BI) is measured by questions that examine the chance of respondent to use Inertia in their routine: “I would regularly use an app that saved me time organizing games” in a likert scale.

All items are measure in five-point likert scales and were then coded numerically from 1 to 5. For each TAM construct, composite scores were computed for each respondent by averaging the latter numeric value. For example, a respondent’s PEOU score comes from the mean of all of their answers to questions linked to PEOU. As a result, each respondent receives a mean score for each construct and higher values indicate more positive perceptions of Inertia.

## 4.2 Descriptive statistics

In terms of demographics, the majority of respondents, reaching 68.4% of answers, are between 20 to 30 years old, where 44.3% are between 20 and 25 years old. This distribution shows that the study successfully reached and captured the perspectives of a young population. This aligns with Inertia's intended market and shows a digitally active young population. The gender distribution shows slightly women-dominant results. This group represented 57.5% of all submissions while males reached 35% of answers. 5% identified as non-binary and 2.5% preferred not to disclose their gender. For sports frequency, 32.1% reported exercising 1-2 times per week and 28.2% reported exercising 3-4 times per week, totaling a rough 60% of the sample. In smaller numbers, 11.5% of respondents said they exercise daily and 10.3% exercise 5-6 times a week. 17.9% of respondents do not exercise regularly.

On the whole, the results of the descriptive statistics on each construct showed that Inertia is perceived as useful, easy to use and appealing as a platform not yet launched to the market. Respondents expressed a rather strong likelihood of becoming users of the platform. The results for each construct are described below:

- PU obtained a mean of 4.17 in the 1-5 scale and its standard deviation is 0.87. This indicates that respondents generally think Inertia would be useful in their lives. However, the higher standard deviation shows a greater variation in perception compared to the other constructs.
- PEOU obtained a mean of 4.5 and  $\sigma = 0.58$ . These results show that the respondents found the mockup of the Inertia app included in the survey intuitive and that the description of the app's features throughout the survey seemed easy to use. There is a relative consensus on the responses across the sample.
- ATT has a mean of 4.85 and  $\sigma = 0.40$ , reflecting a very positive overall evaluation of Inertia. The low variability displayed by the standard deviation shows that the favorable attitudes were consistent across the sample.
- BI's results averaged to 4.67 and its  $\sigma = 0.62$ , suggesting a strong willingness to adopt and engage with Inertia. However, it had a wider spread of responses compared to ATT which indicates that there is a variation in actual adoption intention.

### 4.3 Reliability analysis

This study employs a reliability test using Cronbach's alpha to evaluate internal inconsistency of TAM constructs. Generally, values above 0.7 demonstrate credibility and values above 0.6 are acceptable for exploratory works (Hair et al., 2019). Results of this analysis are described below.

PU's alpha is measured over 9 items of the survey and the results show excellent consistency, where  $\alpha = 0.88$ . This provides strong evidence that PU items maintained coherence and are reliable for analysis. The ATT construct's  $\alpha$  equaled to 0.63, demonstrating a lower credibility but still acceptable for an exploratory study. This lower number can be partially explained by the small number of items linked to this construct because  $\alpha$  tends to fail to properly represent the liability in smaller scales. Similarly, BI's reliability analysis indicated low credibility, reaching a  $\alpha$  value of 0.49. That is so because of the also lower number of items being taken into consideration, with only 3. While BI's  $\alpha$  needs to be interpreted with caution, it can still be useful for exploratory insights into adoption. In the case of PEOU, its interpretation relies within descriptive statistics, where it showed consistent positive perception by the audience, since the platform is not yet launched in the Portuguese market.

### 4.3 Regression analysis of TAM constructs

To test the TAM relationships and identify if any constructs predict each other, three regression models are estimated. On the whole, the analysis confirms key links between the TAM constructs in which earlier constructs predict the constructs down the TAM and consequently down the customer journey.

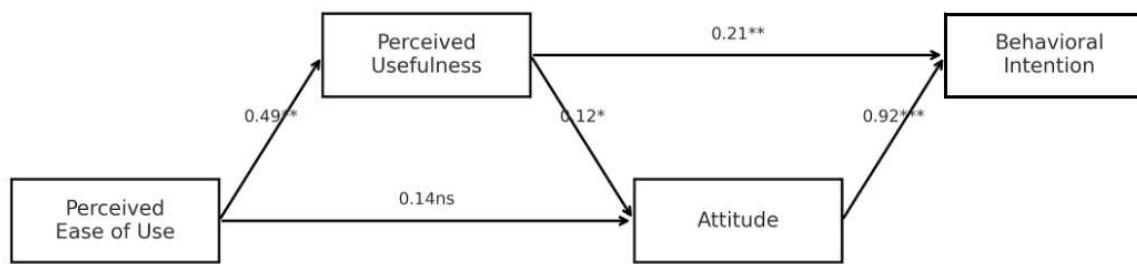
| Model | Constructs      | Predictor | $\beta$ | p-value | R <sup>2</sup> |
|-------|-----------------|-----------|---------|---------|----------------|
| 1     | PU ~ PEOU       | PEOU      | 0,49    | 0,004   | 0,104          |
| 2     | ATT ~ PU + PEOU | PU        | 0,124   | 0,018   | 0,148          |
| 2     | ATT ~ PU + PEOU | PEOU      | 0,135   | 0,086   | 0,148          |
| 3     | BI ~ PU + ATT   | PU        | 0,205   | 0,001   | 0,549          |
| 3     | BI ~ PU + ATT   | ATT       | 0,918   | 0       | 0,549          |

**Figure 4.** Results of regressions of TAM constructs in 3 models. Source: survey data.

In model 1, PEOU demonstrated a strongly positive, statically significant impact on PU with a  $\beta$  of approximately 0,49 and  $p < 0.004$ . PEOU alone accounts for approximately 10% of the variance in perceptions of its utility, according to the  $R^2$  of 0.104. This finding is consistent with Davis's (1989) finding that PEOU is strongly correlated with PU. Hence, in practice, if Portuguese users find Inertia's platform intuitive and easy-to-use, they become more likely to find the app useful for their needs. A user journey considered smooth by the users would make the app's benefits more noticeable and hence encourage customers to keep returning to the app.

Next, both PEOU and PU are used to predict ATT in a multiple regression in model 2. In this test, PU had a moderately significant, positive effect on ATT with a p-value of 0.018 and a  $\beta$  of approximately 0.12. In the case of PEOU, it had a weaker and not statistically significant impact on ATT, scoring a p-value of 0.086, above the 0.05 threshold, and  $\beta = 0.135$ . So, PU and PEOU together had 14,8% effect on shaping user attitude towards Inertia. Such number shows that possible users of Inertia form a positive attitude of the app primarily when they consider the app to be useful rather than being easy to use; at least when considering PEOU alone. Although intuitiveness of the app is appreciated among the respondents, perceived usefulness of Inertia has a stronger effect in shaping a positive attitude in the sample. This could be explained, though, by the effect PEOU has on PU, as developed in the last paragraph. Thus, in order to drive positive attitude among its users, Inertia should deliver meaningful value on top of having a simple, intuitive interface.

At last, model 3 uses a multiple regression with BI as the dependent variable and PU and ATT as predictors. The regression showed a  $R^2$  of 0.549, indicating that together the predictors explain close to 55% of the variance in users' intention to use Inertia. Deeper, ATT emerged as the strongest predictor of BI, reaching a beta of 0.918 and  $p < 0.001$ , which indicates that users that have a more positive attitude towards Inertia are far more likely to use it. As for PU, it also had a highly significant effect on BI, counting for 20.5% of the variance and a p-value of 0.001. This shows that the Portuguese market is more likely to adopt and engage with Inertia if they perceive it as useful even after accounting for their attitude towards the app. In the context of Inertia, providing features that users find truly useful will directly increase the app's userbase. Given the dominant role of attitude in shaping intention to use, a positive user experience and overall favorable perception measured by user satisfaction are essential for customer retention.



**Figure 5.** Visualization of TAM's sequential path diagram with regression  $\beta$  coefficients.

When brought together, the progression from lower  $R^2$  values in models 1 and 2 to a much higher value in model 3 showcases a cumulative effect particularly true to TAM and its causal chain nature. While PEOU and PU shape ATT, this causal chain becomes much more predictive once ATT and PU are combined to explain BI. For Inertia, that means that creating a positive overall attitude towards using the app and delivering clear benefits to using the app are critical to keep an engaged and loyal customer base.

#### 4.4 Correlation analysis of TAM constructs

In this section, a Pearson correlation analysis is developed. They are used to examine the associations between each TAM construct. Figure 6 displays this correlation matrix and description of results follow. P-values are exhibited in figure 7.

| r    | PU    | PEOU  | ATT   | BI    |
|------|-------|-------|-------|-------|
| PU   | 1     | 0.323 | 0.337 | 0.489 |
| PEOU | 0.323 | 1     | 0.284 | 0.366 |
| ATT  | 0.337 | 0.284 | 1     | 0.689 |
| BI   | 0.489 | 0.366 | 0.689 | 1     |

**Figure 6.** Correlation matrix of TAM constructs. Source: survey data.

| p-value | PU    | PEOU  | ATT   | BI    |
|---------|-------|-------|-------|-------|
| PU      | 1     | 0,004 | 0,003 | 0     |
| PEOU    | 0,004 | 1     | 0,012 | 0,001 |
| ATT     | 0,003 | 0,012 | 1     | 0     |

|           |   |       |   |   |
|-----------|---|-------|---|---|
| <b>BI</b> | 0 | 0,001 | 0 | 1 |
|-----------|---|-------|---|---|

**Figure 7.** P-values of correlation analysis. Source: survey data.

The strongest positive correlation observed in this analysis is seen between ATT and BI, reaching a coefficient of 0.689 a statically significant p-value smaller than 0.001. This indicates that respondent that had more favorable attitudes towards the presentation of Inertia also showed significantly higher behavioral intention to use the app.

Next, the analysis shows that PU had a moderate, positive effect on both ATT and BI, reaching correlations of approximately 0.34 and 0.49, respectively. Both had significant p-values. These results suggest that users who considered Inertia useful also showed stronger attitudes towards the app and a stronger intention to engage with it.

At last, PEOU was found to be positively associated with all PU ( $r = 0.323$ ,  $p = 0.004$ ), ATT ( $r = 0.284$ ,  $p = 0.012$ ), and BI ( $r = 0.366$ ,  $p = 0.001$ ). Even though these correlations were weaker than the ones before, they were still statistically significant. So, it indicates that PEOU contributes to incentivising users to try and engage with Inertia.

Ultimately, all pairs of correlation were positive and statistically significant, demonstrating consistency with assumptions in TAM theory.

## 6. Discussion

This study has examined the determinants behind securing user adoption, ensuring active engagement and focusing on extended retention of Inertia's customer base through an analysis based on the Technology Acceptance Model. A combination of reliability tests, regression and correlation models have hence highlighted the importance of perceived ease of use, perceived usefulness, attitude and behavioral intention in shaping actual usage of the app. Now, this section aims to interpret the quantitative analysis to answer the research questions and discuss implications for Inertia's venture in Portugal.

For the first research question "*How can Inertia enhance engagement and increase retention of its customers in the Portuguese market*", the results of the study have shown that ATT is the strongest driver of BI, which is the closest to predicting actual use of the platform. As evidenced in both regression and correlation analyses, hypothesis H3b is confirmed. While PU and PEOU

also demonstrated to contribute to actual use, having a positive overall evaluation of the app is ultimately the biggest determinant of behavioral intention to use Inertia. Hence, engagement and retention strategies employed by Inertia should go beyond being easy to use and communicating their benefits; they should promote favorable attitudes through customer satisfaction and building deeper, emotional connection with the audience. In practice, that could take shape in community-centered engagement, gamified processes in progress tracking and social challenges, for instance. Doing so, Inertia would ensure that their users are engaged and remain motivated in the long-term to return to the app.

Moving to the second research question *“What fitness app features are most valued by Portuguese users and how should they be implemented”*, PU was repeatedly identified as a major predictor of both ATT and BI. So, it is possible to confirm hypotheses H2a and H3a, showing that perceived usefulness is crucial to form positive attitudes and increasing users’ intention to use the app. So, it is recommended that Inertia clearly state and implement its solution. That can take shape in easy booking of sports facilities and a smooth coordination of sports sessions with others. Likewise, PEOU strongly predicted PU, confirming H1. This indicates that usability greatly impacts users’ perception of value. Keeping that in mind, Inertia should bring in tangible, useful features along its customer journey that also are intuitive to use and have a seamless interface.

Lastly, for the third research question *“What are the barriers to adoption of Inertia in the Portuguese market? What strategies can Inertia implement to overcome these obstacles”*, the analysis pointed that although PEOU indirectly influences actual use through TAM’s causal chain, its direct effect on ATT was weak and not statistically significant. However, correlation tests showed modest, positive association to ATT. With that, hypothesis H2b is only partially supported. That means that while usability indirectly contributes to user attitude through perceived usefulness, PEOU alone is not sufficient to significantly drive actual use of the app. Hence, Inertia’s biggest challenge in the Portuguese market is fostering sufficient perceived usefulness in their target audience to shape a strong attitude. To overcome this barrier, the company must make sure that its features are clearly delineated along the customer journey, since these are the points where users interact with the brand. Such values should appeal to the targeted population independently of age, gender and degree of active lifestyle within that group. A clear communication of advantages to using the app have showed to strengthen attitudes towards the platform, ultimately boosting user adoption and engagement.

In conclusion, the regression and correlation analyses in this study reveal a cumulative process in TAM that is consistent to its theory. Ease of use improves perception of usefulness, which contributes to shaping a positive user attitude and finally drive behavioral intention to use, the closest predictor of actual use. Although ATT seems to be the decisive factor in enhancing adoption, engagement and retention, PEOU first acts as an enabler and PU as a motivator to ensure Inertia's possible users have positive attitudes towards the platform. Thus, Inertia's strategies should deliver true value through features that are tangible to the Portuguese user while ensuring usability and, above all, build a positive user attitude through satisfaction.

## 7. Limitations and future research

Despite providing value for Inertia with meaningful insights for its venture in Portugal, this study naturally contains limitations. Acknowledging these is essential to provide real academic and managerial value as a thesis project; and so is guiding future research efforts in the field of digital fitness apps in Portugal or in TAM so they can build on existing work.

First, this study only relied on quantitative data collected through a survey. Even though it is pertinent for a study based on statistical testing, it may fail to capture invisible tendencies such as individual experiences, inner motivations or any other factors that may influence user adoption, engagement and retention. With that in mind, this thesis is exclusively limited to its generalization offered by statistical testing. Future works should combine quantitative methods with qualitative sampling as well. In-depth interviews provide richer insights into user's expectations and motivations and hence complement this study

Second, the sample size poses a limitation to a more complex analysis. This smaller sample with an overrepresentation of younger people may have caused bias in the analysis considering the Inertia targets all Lisbon residents between 16 and 40 years old. Future research should aim for larger, more diverse samples coming from different parts of the Lisbon Metropolitan Area to provide a clearer notion of the market in this location.

Third, the brand's app is not yet launched in the Portuguese market. So, survey respondents did not have access to the real platform while answering the survey. They based their evaluation on descriptions and app mock-ups that emulate that effect; however, it is important to mention that constructs like PEOU, for example, could have received different scores if the audience had

access to the finalized app. Once and if Inertia is launched in Portugal, future research should track any changes in PU, PEOU, ATT and BI over time. This would show interesting shifts in the population as well as portraying the app's true value more clearly to the participants of these studies.

A last limitation would be the results of Cronbach's reliability test. They showed that ATT and BI had lower alpha values, demonstrating lower reliability. This suggests that measurements of these TAM elements should be expanded in future studies to strengthen the analysis. To combat this, future studies should expand the measurement of ATT and BI to improve their reliability in shaping the actual use of Inertia.

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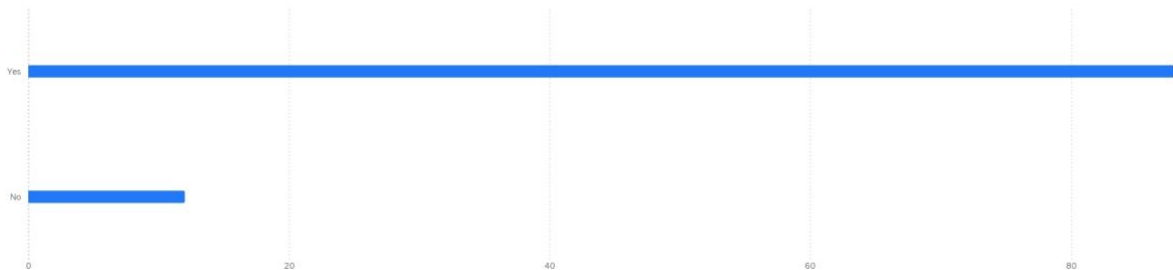
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## 8. Appendix

### A. Qualtrics' results dashboard

Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years? 100 ⓘ



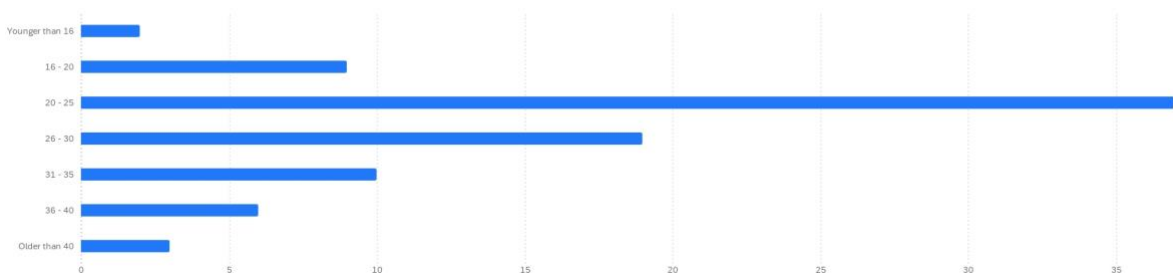
Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years? 100 ⓘ

| Q2 - Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years? | Count | Count |
|-----------------------------------------------------------------------------------------------------------|-------|-------|
| Yes                                                                                                       | 88%   | 88    |
| No                                                                                                        | 12%   | 12    |

Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years? 100 ⓘ

| Q2 - Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years? | Average (Q2 - Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years?) | Minimum (Q2 - Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years?) | Maximum (Q2 - Do you currently reside or have resided in the Lisbon metropolitan area anytime in the last 3 years?) | Count |
|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------|
| No                                                                                                        | 2.00                                                                                                                | 2.00                                                                                                                | 2.00                                                                                                                | 12    |
| Yes                                                                                                       | 1.00                                                                                                                | 1.00                                                                                                                | 1.00                                                                                                                | 88    |

How old are you? 86 ⓘ



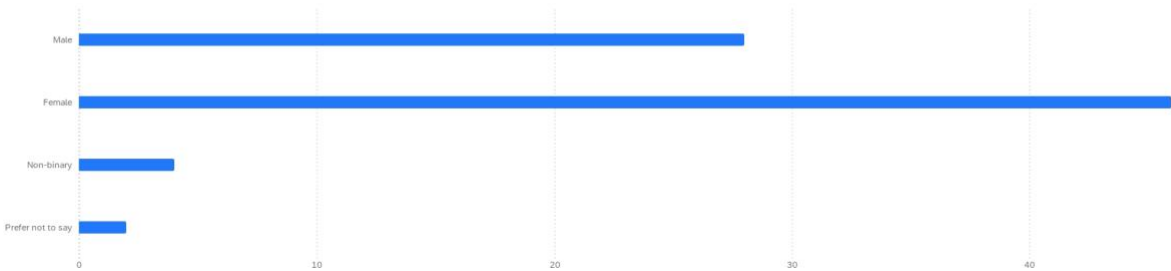
How old are you? 86 ⓘ

| Q3 - How old are you? | Count | Count |
|-----------------------|-------|-------|
| Younger than 16       | 2%    | 2     |
| 16 - 20               | 10%   | 9     |
| 20 - 25               | 43%   | 37    |
| 26 - 30               | 22%   | 19    |
| 31 - 35               | 12%   | 10    |
| 36 - 40               | 7%    | 6     |
| Older than 40         | 3%    | 3     |

How old are you? 86 ⓘ

| Q3 - How old are you? | Average (Q3 - How old are you?) | Minimum (Q3 - How old are you?) | Maximum (Q3 - How old are you?) | Count |
|-----------------------|---------------------------------|---------------------------------|---------------------------------|-------|
| 16 - 20               | 2.00                            | 2.00                            | 2.00                            | 9     |
| 20 - 25               | 3.00                            | 3.00                            | 3.00                            | 37    |
| 26 - 30               | 4.00                            | 4.00                            | 4.00                            | 19    |
| 31 - 35               | 5.00                            | 5.00                            | 5.00                            | 10    |
| 36 - 40               | 6.00                            | 6.00                            | 6.00                            | 6     |
| Older than 40         | 7.00                            | 7.00                            | 7.00                            | 3     |
| Younger than 16       | 1.00                            | 1.00                            | 1.00                            | 2     |

What is your gender? 80 ⓘ



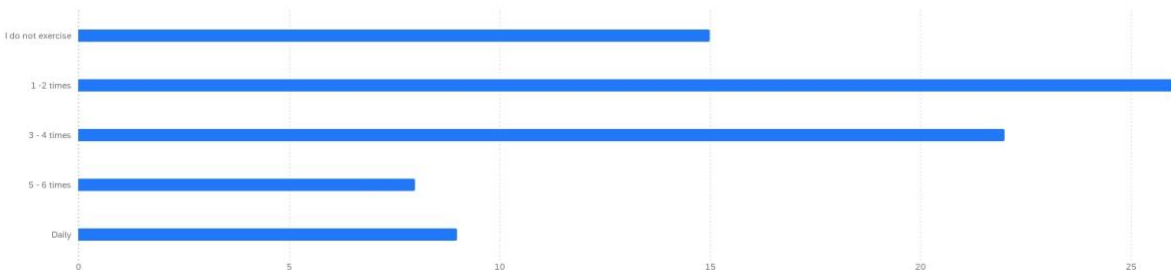
What is your gender? 80 ⓘ

| Q4 - What is your gender? | Count | Count |
|---------------------------|-------|-------|
| Male                      | 35%   | 28    |
| Female                    | 58%   | 46    |
| Non-binary                | 5%    | 4     |
| Prefer not to say         | 3%    | 2     |

What is your gender? 80 🔍

| Q4 - What is your gender? | Average (Q4 - What is your gender?) | Minimum (Q4 - What is your gender?) | Maximum (Q4 - What is your gender?) | Count |
|---------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------|
| Female                    | 2.00                                | 2.00                                | 2.00                                | 46    |
| Male                      | 1.00                                | 1.00                                | 1.00                                | 28    |
| Non-binary                | 3.00                                | 3.00                                | 3.00                                | 4     |
| Prefer not to say         | 4.00                                | 4.00                                | 4.00                                | 2     |

How many times a week do you practice sports? 80 🔍



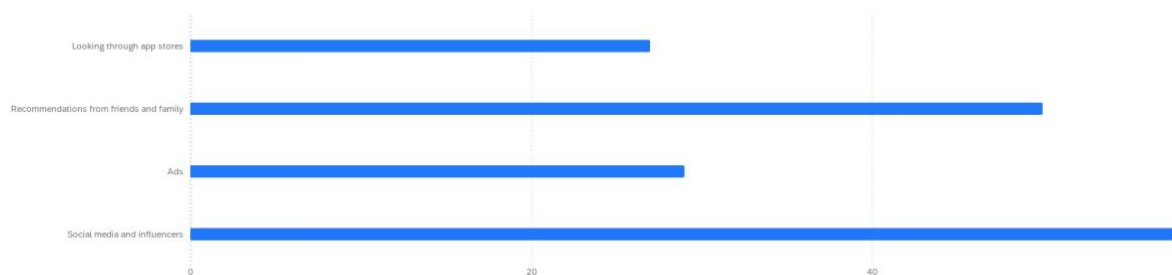
How many times a week do you practice sports? 80 🔍

| Q5 - How many times a week do you practice sports? | Count | Count |
|----------------------------------------------------|-------|-------|
| I do not exercise                                  | 19%   | 15    |
| 1 - 2 times                                        | 33%   | 26    |
| 3 - 4 times                                        | 28%   | 22    |
| 5 - 6 times                                        | 10%   | 8     |
| Daily                                              | 11%   | 9     |

How many times a week do you practice sports? 80 🔍

| Q5 - How many times a week do you practice sports? | Average (Q5 - How many times a week do you practice sports?) | Minimum (Q5 - How many times a week do you practice sports?) | Maximum (Q5 - How many times a week do you practice sports?) | Count |
|----------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|-------|
| 1 - 2 times                                        | 2.00                                                         | 2.00                                                         | 2.00                                                         | 26    |
| 3 - 4 times                                        | 3.00                                                         | 3.00                                                         | 3.00                                                         | 22    |
| 5 - 6 times                                        | 4.00                                                         | 4.00                                                         | 4.00                                                         | 8     |
| Daily                                              | 5.00                                                         | 5.00                                                         | 5.00                                                         | 9     |
| I do not exercise                                  | 1.00                                                         | 1.00                                                         | 1.00                                                         | 15    |

How do you usually find out about new apps? (Multiple answers allowed) 80 ①



How do you usually find out about new apps? (Multiple answers allowed) 80 ①

| Q6 - How do you usually find out about new apps? (Multiple answers allowed) - Selected Choice | Count | Count |
|-----------------------------------------------------------------------------------------------|-------|-------|
| Looking through app stores                                                                    | 34%   | 27    |
| Recommendations from friends and family                                                       | 63%   | 50    |
| Ads                                                                                           | 36%   | 29    |
| Social media and influencers                                                                  | 73%   | 58    |

How do you usually find out about new apps? (Multiple answers allowed): Other - please specify - Text 101 ①

Other - please specify

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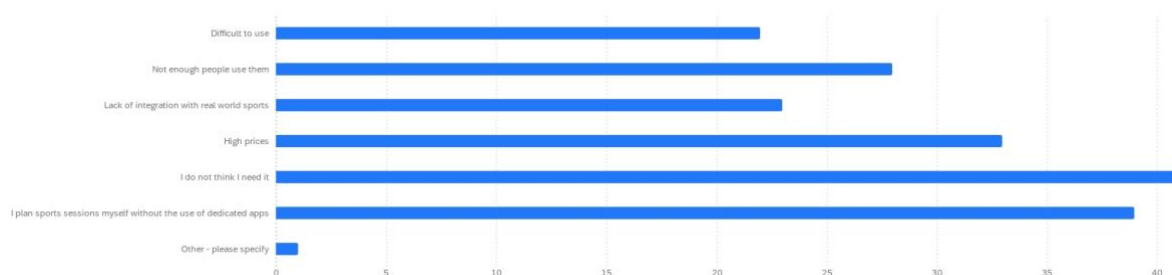
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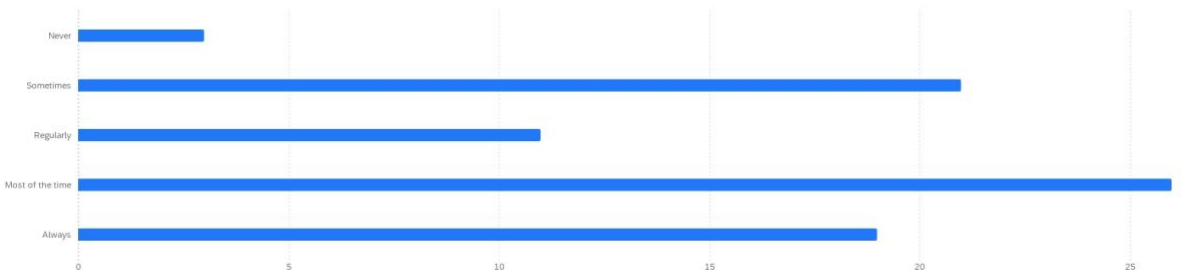
What discourages you the most from using fitness planning apps? (Multiple answers allowed) 80 ①



What discourages you the most from using fitness planning apps? (Multiple answers allowed) 80 1

| Q7 - What discourages you the most from using fitness planning apps? (Multiple answers allowed) | Count | Count |
|-------------------------------------------------------------------------------------------------|-------|-------|
| Difficult to use                                                                                | 28%   | 22    |
| Not enough people use them                                                                      | 35%   | 28    |
| Lack of integration with real world sports                                                      | 29%   | 23    |
| High prices                                                                                     | 41%   | 33    |
| I do not think I need it                                                                        | 51%   | 41    |
| I plan sports sessions myself without the use of dedicated apps                                 | 49%   | 39    |
| Other - please specify                                                                          | 1%    | 1     |

How often do you struggle to find sports venues or people to play sports with? 80 1



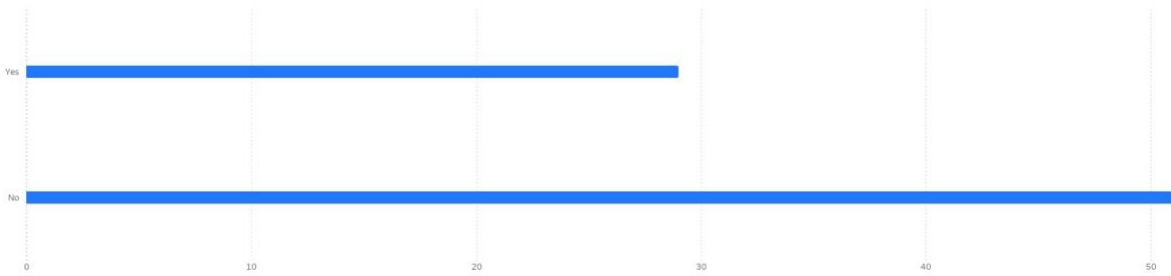
How often do you struggle to find sports venues or people to play sports with? 80 1

| Q8 - How often do you struggle to find sports venues or people to play sports with? | Count | Count |
|-------------------------------------------------------------------------------------|-------|-------|
| Never                                                                               | 4%    | 3     |
| Sometimes                                                                           | 26%   | 21    |
| Regularly                                                                           | 14%   | 11    |
| Most of the time                                                                    | 33%   | 26    |
| Always                                                                              | 24%   | 19    |

How often do you struggle to find sports venues or people to play sports with? 80 1

| Q8 - How often do you struggle to find sports venues or people to play sports with? | Average (Q8 - How often do you struggle to find sports venues or people to play sports with?) | Minimum (Q8 - How often do you struggle to find sports venues or people to play sports with?) | Maximum (Q8 - How often do you struggle to find sports venues or people to play sports with?) | Count |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------|
| Always                                                                              | 5.00                                                                                          | 5.00                                                                                          | 5.00                                                                                          | 19    |
| Most of the time                                                                    | 4.00                                                                                          | 4.00                                                                                          | 4.00                                                                                          | 26    |
| Never                                                                               | 1.00                                                                                          | 1.00                                                                                          | 1.00                                                                                          | 3     |
| Regularly                                                                           | 3.00                                                                                          | 3.00                                                                                          | 3.00                                                                                          | 11    |
| Sometimes                                                                           | 2.00                                                                                          | 2.00                                                                                          | 2.00                                                                                          | 21    |

Have you ever used social media groups or messaging apps to organize sports matches with friends or others? 80 ①



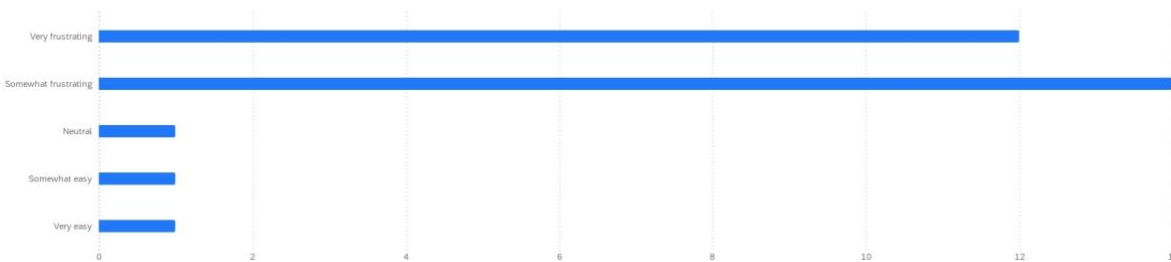
Have you ever used social media groups or messaging apps to organize sports matches with friends or others? 80 ①

| Q9 - Have you ever used social media groups or messaging apps to organize sports matches with friends or others? | Count | Count |
|------------------------------------------------------------------------------------------------------------------|-------|-------|
| Yes                                                                                                              | 36%   | 29    |
| No                                                                                                               | 64%   | 51    |

Have you ever used social media groups or messaging apps to organize sports matches with friends or others? 80 ①

| Q9 - Have you ever used social media groups or messaging apps to organize sports matches with friends or others? | Average (Q9 - Have you ever used social media groups or messaging apps to organize sports matches with friends or others?) | Minimum (Q9 - Have you ever used social media groups or messaging apps to organize sports matches with friends or others?) | Maximum (Q9 - Have you ever used social media groups or messaging apps to organize sports matches with friends or others?) | Count |
|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------|
| No                                                                                                               | 2.00                                                                                                                       | 2.00                                                                                                                       | 2.00                                                                                                                       | 51    |
| Yes                                                                                                              | 1.00                                                                                                                       | 1.00                                                                                                                       | 1.00                                                                                                                       | 29    |

How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments 29 ①



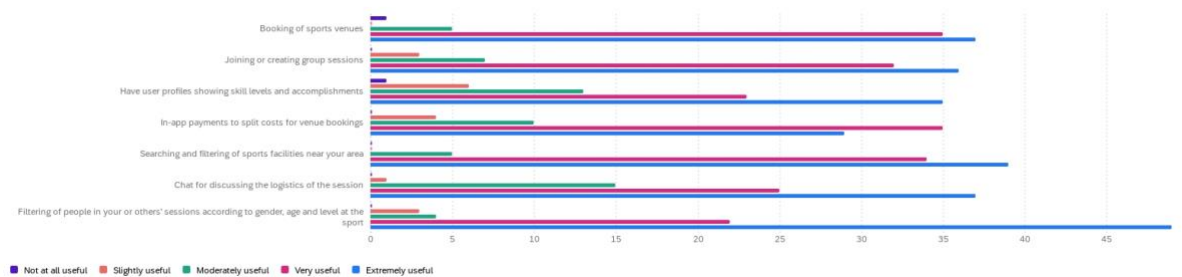
How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments 29 ⓘ

| Q10 - How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments | Count | Count |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| Very frustrating                                                                                                                                                                                                                                                                                                           | 41%   | 12    |
| Somewhat frustrating                                                                                                                                                                                                                                                                                                       | 48%   | 14    |
| Neutral                                                                                                                                                                                                                                                                                                                    | 3%    | 1     |
| Somewhat easy                                                                                                                                                                                                                                                                                                              | 3%    | 1     |
| Very easy                                                                                                                                                                                                                                                                                                                  | 3%    | 1     |

How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments 29 ⓘ

| Q10 - How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments | Average (Q10 - How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments) | Minimum (Q10 - How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments) | Maximum (Q10 - How would you rate your overall experience using social media or messaging apps to organize sports activities in group, in terms of: Helping you organize the activity Choosing a time and sports venue - football field, padel court, swimming pools, etc Finding enough participants Collecting potential payments) | Count |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Neutral                                                                                                                                                                                                                                                                                                                    | 3.00                                                                                                                                                                                                                                                                                                                                 | 3.00                                                                                                                                                                                                                                                                                                                                 | 3.00                                                                                                                                                                                                                                                                                                                                 | 1     |
| Somewhat easy                                                                                                                                                                                                                                                                                                              | 4.00                                                                                                                                                                                                                                                                                                                                 | 4.00                                                                                                                                                                                                                                                                                                                                 | 4.00                                                                                                                                                                                                                                                                                                                                 | 1     |
| Somewhat frustrating                                                                                                                                                                                                                                                                                                       | 2.00                                                                                                                                                                                                                                                                                                                                 | 2.00                                                                                                                                                                                                                                                                                                                                 | 2.00                                                                                                                                                                                                                                                                                                                                 | 14    |
| Very easy                                                                                                                                                                                                                                                                                                                  | 5.00                                                                                                                                                                                                                                                                                                                                 | 5.00                                                                                                                                                                                                                                                                                                                                 | 5.00                                                                                                                                                                                                                                                                                                                                 | 1     |
| Very frustrating                                                                                                                                                                                                                                                                                                           | 1.00                                                                                                                                                                                                                                                                                                                                 | 1.00                                                                                                                                                                                                                                                                                                                                 | 1.00                                                                                                                                                                                                                                                                                                                                 | 1     |

In your opinion, how useful are the following proposed features for Inertia? 78



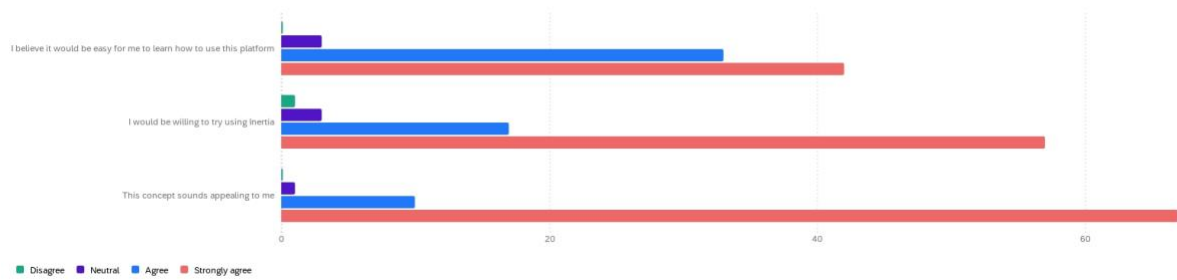
In your opinion, how useful are the following proposed features for Inertia? 78

| In your opinion, how useful are the following proposed features for Inertia...                  | Not at all useful | Slightly useful | Moderately useful | Very useful | Extremely useful |
|-------------------------------------------------------------------------------------------------|-------------------|-----------------|-------------------|-------------|------------------|
| Booking of sports venues                                                                        | 1                 | 0               | 5                 | 35          | 37               |
| Joining or creating group sessions                                                              | 0                 | 3               | 7                 | 32          | 36               |
| Have user profiles showing skill levels and accomplishments                                     | 1                 | 6               | 13                | 23          | 35               |
| In-app payments to split costs for venue bookings                                               | 0                 | 4               | 10                | 35          | 29               |
| Searching and filtering of sports facilities near your area                                     | 0                 | 0               | 5                 | 34          | 39               |
| Chat for discussing the logistics of the session                                                | 0                 | 1               | 15                | 25          | 37               |
| Filtering of people in your or others' sessions according to gender, age and level at the sport | 0                 | 3               | 4                 | 22          | 49               |

In your opinion, how useful are the following proposed features for Inertia? 78

| In your opinion, how useful are the following proposed features for Inertia...                  | Average | Minimum | Maximum | Count |
|-------------------------------------------------------------------------------------------------|---------|---------|---------|-------|
| Booking of sports venues                                                                        | 4.37    | 1.00    | 5.00    | 78    |
| Joining or creating group sessions                                                              | 4.29    | 2.00    | 5.00    | 78    |
| Have user profiles showing skill levels and accomplishments                                     | 4.09    | 1.00    | 5.00    | 78    |
| In-app payments to split costs for venue bookings                                               | 4.14    | 2.00    | 5.00    | 78    |
| Searching and filtering of sports facilities near your area                                     | 4.44    | 3.00    | 5.00    | 78    |
| Chat for discussing the logistics of the session                                                | 4.26    | 2.00    | 5.00    | 78    |
| Filtering of people in your or others' sessions according to gender, age and level at the sport | 4.50    | 2.00    | 5.00    | 78    |

To what extent do you agree with the following statements about Inertia? 78



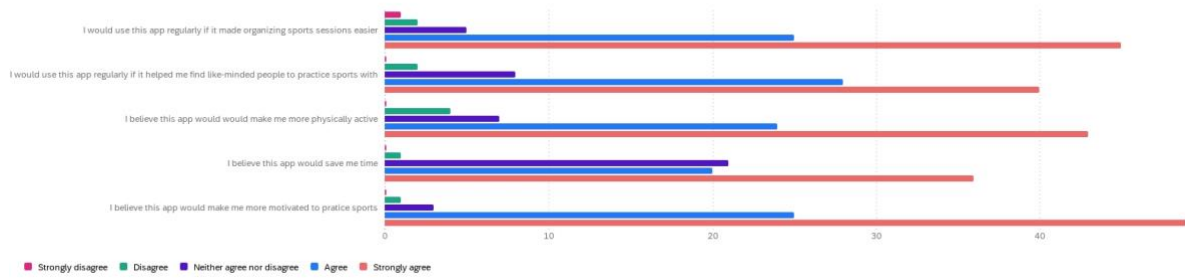
To what extent do you agree with the following statements about Inertia? 78

| To what extent do you agree with the following statements about Inertia? | Disagree | Neutral | Agree | Strongly agree |
|--------------------------------------------------------------------------|----------|---------|-------|----------------|
| I believe it would be easy for me to learn how to use this platform      | 0        | 3       | 33    | 42             |
| I would be willing to try using Inertia                                  | 1        | 3       | 17    | 57             |
| This concept sounds appealing to me                                      | 0        | 1       | 10    | 67             |

To what extent do you agree with the following statements about Inertia? 78

| To what extent do you agree with the following statements about Inertia? | Average | Minimum | Maximum | Count |
|--------------------------------------------------------------------------|---------|---------|---------|-------|
| I believe it would be easy for me to learn how to use this platform      | 4.50    | 3.00    | 5.00    | 78    |
| I would be willing to try using Inertia                                  | 4.67    | 2.00    | 5.00    | 78    |
| This concept sounds appealing to me                                      | 4.85    | 3.00    | 5.00    | 78    |

To what extent do you agree with the following statements about Inertia? 78



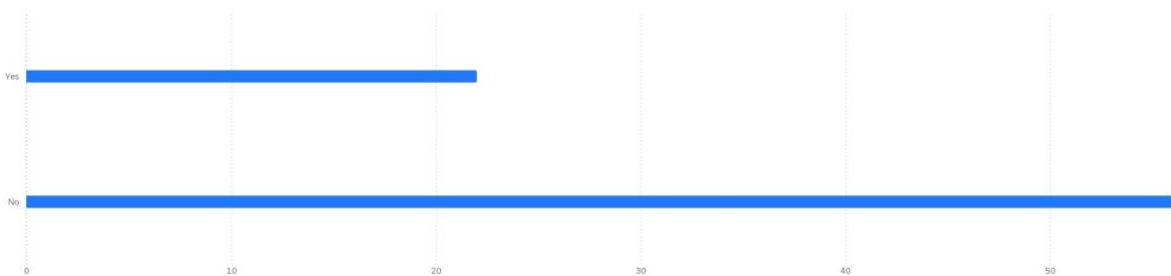
To what extent do you agree with the following statements about Inertia? 78

| To what extent do you agree with the following statements about Inertia?                       | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree |
|------------------------------------------------------------------------------------------------|-------------------|----------|----------------------------|-------|----------------|
| I would use this app regularly if it made organizing sports sessions easier                    | 1                 | 2        | 5                          | 25    | 45             |
| I would use this app regularly if it helped me find like-minded people to practice sports with | 0                 | 2        | 8                          | 28    | 40             |
| I believe this app would make me more physically active                                        | 0                 | 4        | 7                          | 24    | 43             |
| I believe this app would save me time                                                          | 0                 | 1        | 21                         | 20    | 36             |
| I believe this app would make me more motivated to practice sports                             | 0                 | 1        | 3                          | 25    | 49             |

To what extent do you agree with the following statements about Inertia? 78

| To what extent do you agree with the following statements about Inertia?                       | Average | Minimum | Maximum | Count |
|------------------------------------------------------------------------------------------------|---------|---------|---------|-------|
| I would use this app regularly if it made organizing sports sessions easier                    | 4.42    | 1.00    | 5.00    | 78    |
| I would use this app regularly if it helped me find like-minded people to practice sports with | 4.36    | 2.00    | 5.00    | 78    |
| I believe this app would make me more physically active                                        | 4.36    | 2.00    | 5.00    | 78    |
| I believe this app would save me time                                                          | 4.17    | 2.00    | 5.00    | 78    |
| I believe this app would make me more motivated to practice sports                             | 4.56    | 2.00    | 5.00    | 78    |

Do you already participate in any groupchats or social media groups dedicated to booking sports sessions? 78



Do you already participate in any groupchats or social media groups dedicated to booking sports sessions? 78 ⓘ

| Q15 - Do you already participate in any groupchats or social media groups dedicated to booking sports sessions? | Count | Count |
|-----------------------------------------------------------------------------------------------------------------|-------|-------|
| Yes                                                                                                             | 28%   | 22    |
| No                                                                                                              | 72%   | 56    |

Do you already participate in any groupchats or social media groups dedicated to booking sports sessions? 78 ⓘ

| Q15 - Do you already participate in any groupchats or social media groups dedicated to booking sports sessions? | Average (Q15 - Do you already participate in any groupchats or social media groups dedicated to booking sports sessions?) | Minimum (Q15 - Do you already participate in any groupchats or social media groups dedicated to booking sports sessions?) | Maximum (Q15 - Do you already participate in any groupchats or social media groups dedicated to booking sports sessions?) | Count |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-------|
| No                                                                                                              | 2.00                                                                                                                      | 2.00                                                                                                                      | 2.00                                                                                                                      | 56    |
| Yes                                                                                                             | 1.00                                                                                                                      | 1.00                                                                                                                      | 1.00                                                                                                                      | 22    |

Would you try Inertia even if you already participate in a sports groupchat or social media group? 22 ⓘ



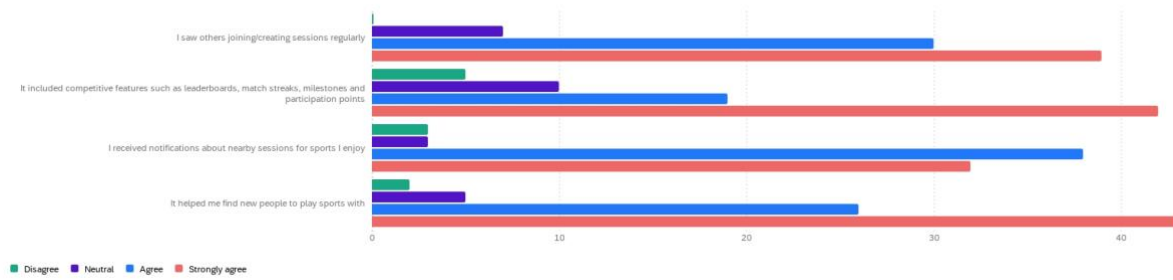
Would you try Inertia even if you already participate in a sports groupchat or social media group? 22 ⓘ

| Q16 - Would you try Inertia even if you already participate in a sports groupchat or social media group? | Count | Count |
|----------------------------------------------------------------------------------------------------------|-------|-------|
| Probably yes                                                                                             | 27%   | 6     |
| Definitely yes                                                                                           | 73%   | 16    |

Would you try Inertia even if you already participate in a sports groupchat or social media group? 22 ①

| Q16 - Would you try Inertia even if you already participate in a sports groupchat or social media group? | Average (Q16 - Would you try Inertia even if you already participate in a sports groupchat or social media group?) | Minimum (Q16 - Would you try Inertia even if you already participate in a sports groupchat or social media group?) | Maximum (Q16 - Would you try Inertia even if you already participate in a sports groupchat or social media group?) | Count |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-------|
| Definitely yes                                                                                           | 5.00                                                                                                               | 5.00                                                                                                               | 5.00                                                                                                               | 16    |
| Probably yes                                                                                             | 4.00                                                                                                               | 4.00                                                                                                               | 4.00                                                                                                               | 6     |

To what extent do you agree with the following statements about Inertia? I would be more motivated to keep using Inertia if... 76



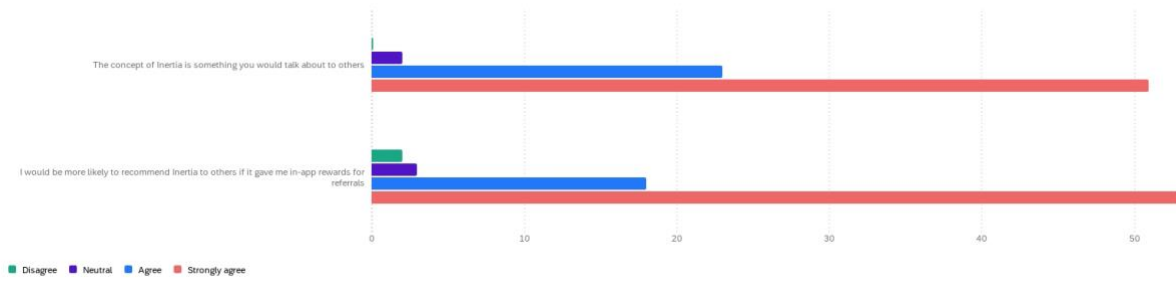
To what extent do you agree with the following statements about Inertia? I would be more motivated to keep using Inertia if... 76

| To what extent do you agree with the following statements about Inertia? L...                             | Disagree | Neutral | Agree | Strongly agree |
|-----------------------------------------------------------------------------------------------------------|----------|---------|-------|----------------|
| I saw others joining/creating sessions regularly                                                          | 0        | 7       | 30    | 39             |
| It included competitive features such as leaderboards, match streaks, milestones and participation points | 5        | 10      | 19    | 42             |
| I received notifications about nearby sessions for sports I enjoy                                         | 3        | 3       | 38    | 32             |
| It helped me find new people to play sports with                                                          | 2        | 5       | 26    | 43             |

To what extent do you agree with the following statements about Inertia? I would be more motivated to keep using Inertia if... 76

| To what extent do you agree with the following statements about Inertia? L...                             | Average | Minimum | Maximum | Count |
|-----------------------------------------------------------------------------------------------------------|---------|---------|---------|-------|
| I saw others joining/creating sessions regularly                                                          | 4.42    | 3.00    | 5.00    | 76    |
| It included competitive features such as leaderboards, match streaks, milestones and participation points | 4.29    | 2.00    | 5.00    | 76    |
| I received notifications about nearby sessions for sports I enjoy                                         | 4.30    | 2.00    | 5.00    | 76    |
| It helped me find new people to play sports with                                                          | 4.45    | 2.00    | 5.00    | 76    |

To what extent do you agree with the following statements? 76



To what extent do you agree with the following statements? 76

| To what extent do you agree with the following statements?                                       | Disagree | Neutral | Agree | Strongly agree |
|--------------------------------------------------------------------------------------------------|----------|---------|-------|----------------|
| The concept of Inertia is something you would talk about to others                               | 0        | 2       | 23    | 51             |
| I would be more likely to recommend Inertia to others if it gave me in-app rewards for referrals | 2        | 3       | 18    | 53             |

To what extent do you agree with the following statements? 76

| To what extent do you agree with the following statements?                                       | Average | Minimum | Maximum | Count |
|--------------------------------------------------------------------------------------------------|---------|---------|---------|-------|
| The concept of Inertia is something you would talk about to others                               | 4.64    | 3.00    | 5.00    | 76    |
| I would be more likely to recommend Inertia to others if it gave me in-app rewards for referrals | 4.61    | 2.00    | 5.00    | 76    |

## B. Survey mapping of questions to respective customer journey stage and TAM construct

| Survey Question                                                 | Customer Journey Stage | TAM Construct |
|-----------------------------------------------------------------|------------------------|---------------|
| Do you reside in Lisbon metro area?                             | None                   | None          |
| How old are you?                                                | None                   | None          |
| What is your gender?                                            | None                   | None          |
| How many times a week do you practice sports?                   | None                   | None          |
| How do you usually find out about new apps?                     | Awareness              | None          |
| What discourages you the most from using fitness planning apps? | Consideration          | PEOU, ATT     |

|                                                                                |               |      |
|--------------------------------------------------------------------------------|---------------|------|
| How often do you struggle to find sports venues or people to play sports with? | Awareness     | PU   |
| Have you ever used social media groups to organize sports matches?             | Consideration | None |
| How would you rate your experience using social/messaging apps?                | Consideration | PU   |
| Usefulness of: Booking sports venues                                           | Consideration | PU   |
| Usefulness of: Creating or joining sessions                                    | Consideration | PU   |
| Usefulness of: Skill-based user profiles                                       | Consideration | PU   |
| Usefulness of: In-app payments                                                 | Consideration | PU   |
| Usefulness of: Search/filter nearby facilities                                 | Consideration | PU   |
| Usefulness of: Chat for logistics                                              | Consideration | PU   |
| Usefulness of: Filtering participants by gender/age/level                      | Consideration | PU   |
| It would be easy for me to learn how to use this platform                      | Consideration | PEOU |
| I would be willing to try using Inertia                                        | Consideration | BI   |
| This concept sounds appealing to me                                            | Consideration | ATT  |
| Do you already participate in sports group chats?                              | Consideration | None |
| Would you try Inertia even if you already use group chats?                     | Adoption      | BI   |
| I would use this app regularly if it made organizing easier                    | Adoption      | BI   |
| I would use this app if it helped me find like-minded people                   | Adoption      | PU   |
| I believe this app would make me more physically active                        | Adoption      | PU   |
| I believe this app would save me time                                          | Adoption      | PU   |
| I believe this app would motivate me to practice sports                        | Adoption      | PU   |
| I would be more motivated if others joined/created sessions regularly          | Retention     | ATT  |
| I would be more motivated if the app included competitive features             | Retention     | PU   |
| I would be more motivated if I received notifications about nearby sessions    | Retention     | PU   |
| I would be more motivated if it helped me meet new people                      | Retention     | PU   |
| The concept of Inertia is something I would talk about                         | Advocacy      | ATT  |
| I would be more likely to recommend Inertia if there were in-app rewards       | Advocacy      | BI   |