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noma : a social network for bars and restaurants

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Este trabalho apresenta o desenvolvimento do **noma**, uma solução computacional projetada para apoiar a descoberta, a organização e o resgate de experiências gastronômicas por meio de uma plataforma digital **mobile-first**. Nesse contexto, o objeto de estudo é a dificuldade enfrentada pelos usuários em lembrar e organizar experiências relacionadas à gastronomia ao longo do tempo, especialmente em ambientes urbanos e socialmente ativos. Assim, o principal objetivo do projeto é conceber, implementar e validar uma solução tecnológica alinhada às reais necessidades do mercado, ao mesmo tempo em que se estrutura um plano de negócios para apoiar sua futura introdução no mercado. Para alcançar esse objetivo, a abordagem metodológica combina análise de mercado, definição de hipóteses de negócio e de produto, e desenvolvimento de software ágil orientado por princípios de design centrado no usuário. Como resultado, foi desenvolvido um **Produto Mínimo Viável (MVP)** utilizando uma arquitetura cliente-servidor e serviços em nuvem, incorporando funcionalidades como autenticação de usuários, feed social, avaliações, reviews, locais salvos, favoritos, listas e estatísticas de uso. Embora a solução ainda não tenha sido lançada no mercado, os resultados do projeto incluem uma arquitetura técnica validada e um plano estruturado de **Go-To-Market (GTM)**, que prioriza um lançamento inicial na cidade de São Paulo, com foco em um escopo geográfico limitado, aquisição orgânica de usuários por meio do compartilhamento social e parcerias estratégicas com estabelecimentos gastronômicos selecionados. Além disso, a estratégia proposta enfatiza a escalabilidade gradual com base no engajamento dos usuários e no feedback contínuo. Conclui-se que o projeto demonstra a viabilidade técnica e a coerência estratégica do **noma**, indicando seu potencial de relevância de mercado e escalabilidade, ao mesmo tempo em que estabelece uma base sólida para futuras validações, iterações e expansões.

Palavras-chave: plataformas digitais; experiências gastronômicas; aplicação móvel; descoberta social; empreendedorismo.

ABSTRACT

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This work presents the development of **noma**, a computational solution designed to support the discovery, organization, and recall of gastronomic experiences through a mobile-first digital platform. In this context, the object of study is the difficulty faced by users in remembering and organizing food-related experiences over time, particularly in urban and socially active environments. Therefore, the main objective of the project is to design, implement, and validate a technological solution aligned with real market needs, while also structuring a business plan to support its future introduction to the market. To achieve this objective, the methodological approach combines market analysis, definition of business and product hypotheses, and agile software development guided by user-centered design principles. Consequently, a Minimum Viable Product (MVP) was developed using a client-server architecture and cloud-based services, incorporating features such as user authentication, social feed, reviews, ratings, saved places, favorites, lists, and user statistics. Although the solution has not yet been launched to the market, the results of the project include a validated technical architecture and a structured Go-To-Market (GTM) plan, which prioritizes an initial launch in the city of **São Paulo**, focusing on a limited geographic scope, organic user acquisition through social sharing, and strategic partnerships with selected food establishments. Moreover, the proposed strategy emphasizes gradual scaling based on user engagement and continuous feedback. In conclusion, the project demonstrates the technical feasibility and strategic coherence of **noma**, indicating its potential market relevance and scalability, while also establishing a solid foundation for future validation, iteration, and expansion.

Keywords: digital platforms; gastronomic experiences; mobile application; social discovery; entrepreneurship.

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List of Abbreviations and Acronyms

GTM	Go-To-Market
MVP	Minimum Viable Product
TAM	Total Adressable Market
SAM	Serviceable Available Market
SOM	Serviceable Obtainable Market
KPI	Key Performance Indicator
CAC	Customer Acquisition Cost
MAU	Monthly Active Users

Summary

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1 Introduction

1.1 Context and Motivation:

The food and hospitality sector has undergone significant digital transformation in recent years, driven by the widespread adoption of smartphones, location-based services, and social platforms. Consumers increasingly rely on digital tools to discover, evaluate, and share experiences related to restaurants, bars, and cafés. Despite the abundance of available platforms, the process of discovering and remembering meaningful gastronomic experiences remains fragmented and inefficient.

In this context, users often visit remarkable establishments but later struggle to recall their names, locations, or specific details. Existing solutions tend to prioritize reviews, ratings, or reservations, but they fail to capture the experiential and social dimension of gastronomy in a structured and memorable way. This gap reveals a clear market opportunity for a solution focused on experience recall, social interaction, and personalized discovery within the food and beverage ecosystem.

1.2 Problem Definition and Value Proposition:

The core problem addressed by this project is the lack of a user-centric platform that allows individuals to easily register, organize, and rediscover their gastronomic experiences over time. From the customer's perspective, this results in lost references, reduced engagement with establishments, and limited ability to leverage past experiences for future decisions.

noma proposes a digital platform designed to function as a personal and social memory of food experiences. By enabling users to save places they have visited, associate them with contextual information (such as occasions, preferences, or companions), and explore recommendations based on trusted social connections, the solution alleviates the cognitive burden of remembering past experiences. At the same time, it generates value for restaurants by increasing visibility, engagement, and long-term customer recall.

1.3 Objectives of the Work:

- General: To create and validate a computational solution and develop a business plan for its introduction into the market.
- Specifics:
 - Design and develop a MVP of the noma platform;
 - Validate the solution through user testing with potential customers;
 - Analyze user behavior and feedback to refine the value proposition;
 - Define and evaluate viable revenue and monetization models;
 - Assess the technical, operational, and economic feasibility of the solution.

1.4 Justification and Contributions:

From a market perspective, the project addresses a growing demand for personalized and experience-driven digital services within the food and hospitality sector. Technologically, it contributes to the application of modern software development practices, including mobile-first design, cloud-based architectures, and data-driven recommendation mechanisms. Economically, the solution presents potential for scalable monetization through partnerships, premium features, and value-added services for establishments.

1.5 Work Structure:

This document is organized to provide a clear and progressive understanding of the noma project, from its initial context to its validation outcomes. Following this introduction, Chapter 2 (Solution Development) presents the foundations and execution of the project, beginning with Section 2.1, which defines the main market assumptions and business hypotheses that guided the product direction. Subsequently, Section 2.2 details the market sizing analysis through TAM, SAM, and SOM, as well as the customer segmentation and persona profiling. In sequence, Section 2.3 examines the competitive landscape by identifying direct and indirect competitors and by defining the differentiators that support noma's competitive advantage. Moreover, Section 2.4 describes the technological solution, including functional and non-functional requirements, architectural decisions, implementation details of the MVP, and the adopted testing strategy. Furthermore, Section 2.5 consolidates the business plan by presenting the Business Model Canvas, the marketing and sales strategy, and the financial feasibility assessment. Finally, Section 2.6 reports the validation methodology and results, including market-based evidence, qualitative feedback, expected KPIs, and the main risks and mitigation actions. Chapter 3 (Conclusion) summarizes whether the project objectives were achieved and outlines future projections for the venture, while the final section presents the References used to support the study.

2 Solution Development

2.1 Definition of Market Assumptions and Hypotheses

2.1.1 Problem Hypothesis

The central problem hypothesis of this project is that urban consumers who frequently visit restaurants, bars, and cafés experience difficulty in remembering, organizing, and rediscovering past gastronomic experiences over time. This issue becomes more evident as the number of visited places increases and when recommendations are shared informally through conversations or messaging applications.

The hypothesis assumes that this audience values a structured and intuitive way to record their experiences and that they are willing to adopt a digital solution to reduce cognitive effort, improve future decision-making, and enhance social interaction related to food experiences.

2.1.2 Solution Hypothesis

The solution hypothesis states that a mobile-first digital platform focused on experience registration, social interaction, and personalized discovery is an effective way to solve the identified problem. By combining features such as saved places, social connections, and contextual recommendations, noma is assumed to provide a superior user experience compared to existing platforms that focus primarily on reviews, ratings, or reservations.

The hypothesis also assumes that integrating personal memory with social signals creates stronger user engagement and long-term retention.

2.1.3 Value Hypothesis

The value hypothesis assumes that users perceive sufficient value in the proposed solution to accept a freemium-based revenue model. Basic features are expected to remain free for users, while advanced functionalities and services for establishments may generate revenue through subscriptions, promoted visibility, or premium analytics.

It is assumed that both users and business partners consider the pricing structure fair in relation to the benefits offered, particularly in terms of visibility, engagement, and customer recall.

2.2 Market Sizing and Analysis

2.2.1 Market Size (TAM, SAM, SOM)

The **Total Addressable Market (TAM)** represents the total number of individuals who frequently visit bars and restaurants in Brazil and, therefore, could potentially benefit from a digital platform focused on gastronomic experience discovery and recall. According to data published by Sebrae, approximately 93% of the Brazilian population reports regular consumption of food and hospitality services. Considering an estimated total population of 214 million inhabitants, the TAM is calculated at approximately 199.02 million people, representing the maximum potential market for the proposed solution at a national level.

The **Serviceable Available Market (SAM)** corresponds to the portion of the TAM that is geographically and strategically accessible during the initial phase of the project. In this work, the SAM is defined as the population of the city of São Paulo that frequently visits bars and restaurants. São Paulo has an estimated population of 11.45 million inhabitants, and applying the same consumption rate of 93%, the serviceable available market is estimated at approximately 10.64 million people. This segment reflects the primary target audience for the initial launch, given the city's high concentration of establishments, digital adoption, and gastronomic diversity.

The **Serviceable Obtainable Market (SOM)** represents the realistic share of the SAM that the project aims to capture during its early stages of operation. For the first year of market entry, a conservative adoption target of 0.5% of the SAM was established, considering the early-stage nature of the platform and the planned organic growth strategy. Based on this assumption, the SOM is estimated at approximately 53,200 active users, which is considered sufficient to validate the value proposition, assess user engagement, and support subsequent scaling strategies.

2.2.2 Customer Segmentation and Profiling

The target market for noma is composed primarily of urban consumers who frequently engage in food and hospitality experiences and actively use digital platforms to support discovery and decision-making. From a demographic perspective, the core segment includes individuals aged between 20 and 45 years, residing in large metropolitan areas, with the initial focus on the city of São Paulo. This segment typically presents medium to high digital literacy, regular smartphone usage, and an active social lifestyle.

From a behavioral standpoint, the target users frequently visit restaurants, bars, cafés, and similar establishments, value discovering new places, and often rely on recommendations from friends or trusted sources rather than anonymous reviews. They tend to save or share references informally through messaging applications or social networks, which indicates an unmet need for a structured and persistent way to organize gastronomic experiences. These users are also inclined toward personalization, curated content, and social interaction, making them receptive to features such as saved places, favorites, lists, and activity feeds.

Psychographically, the target customer values experience over transaction, prioritizing memorable moments, social context, and emotional connection with places. They seek authenticity, trust, and relevance in recommendations, and they demonstrate openness to digital tools that simplify recall and planning without introducing excessive cognitive effort.

A representative persona for noma is an urban professional living in São Paulo, who regularly explores new restaurants with friends or colleagues and uses mobile applications to guide decisions. This user appreciates intuitive interfaces, socially validated recommendations, and the ability to track personal habits over time. While the primary persona reflects digitally savvy users, the platform is also designed to be accessible to less tech-oriented individuals, ensuring inclusiveness and broad adoption within the target segment.

Overall, this customer segment aligns strongly with noma's value proposition, as it combines high frequency of use, clear unmet needs related to experience recall and organization, and strong potential for engagement through social and community-driven features.

2.3 Competitive Analysis and Differentials

Identification of Direct and Indirect Competitors

The competitive landscape of the noma platform includes both direct and indirect competitors operating within the digital food and hospitality ecosystem. Direct competitors are platforms whose core value proposition is related to gastronomic discovery and food experiences, such as Beli, which focuses on restaurant ratings and personal taste tracking. Indirect competitors include large-scale location and review platforms such as Tripadvisor and Google Maps, which, although not exclusively focused on gastronomy, are widely used by consumers to search for restaurants and consult reviews.

These platforms collectively shape user expectations regarding usability, information availability, and recommendation mechanisms; however, they differ significantly in terms of focus, depth of personalization, and community engagement.

Competitor Analysis: Features, Strengths, and Weaknesses

Tripadvisor and Google Maps offer extensive databases, global coverage, and high brand recognition. Their main strengths lie in scale, search functionality, and the volume of available reviews. However, both platforms are primarily transactional and utility-oriented, emphasizing ratings, rankings, and navigation rather than personal experience recall. Personalization is limited, recommendations are largely algorithm-driven, and community interaction is secondary to content aggregation.

Beli presents a more specialized approach, positioning gastronomy as a core element and offering features such as personal taste tracking and curated recommendations. Its strengths include a clearer focus on food experiences and a more refined user experience compared to generalist platforms. Nevertheless, Beli has limited geographic coverage and does not emphasize a strong community-driven model or a comprehensive personal history of gastronomic experiences, particularly in the Brazilian market.

In contrast, noma was designed to combine the strengths of specialized gastronomic platforms with a strong social and contextual layer. Unlike its competitors, noma emphasizes personal history, social discovery, and community interaction as first-class features, rather than as secondary elements.

Competitive Advantage and Differentiating Factors

The main competitive advantage of noma lies in its positioning as a personal and social memory platform for gastronomic experiences, rather than a traditional review or navigation tool. The solution integrates personal history, curated lists, favorites, and user statistics with social features such as following other users and viewing their activities, enabling discovery through trusted connections.

Additionally, gastronomy is treated as the core business of the platform, not as a complementary feature. This focus allows for deeper engagement, higher emotional connection, and more meaningful recommendations. Another relevant differentiator is the initial strategic focus on the Brazilian market, particularly the city of São Paulo, which enables cultural alignment, localized features, and partnerships with local establishments.

By combining personalization, community, and local focus, noma differentiates itself from large global platforms and niche competitors alike, establishing a clear and defensible value proposition within the digital gastronomy ecosystem.

2.4 Technological Solution

2.4.1 Requirements and Specifications:

Functional Requirements

Table 1 - Functional Requirements	
FR1	The application shall allow new users to create an account using email and password.
FR2	The application shall allow users to log in using their credentials.
FR3	The application shall provide a feed displaying activities and recommendations.
FR4	The application shall allow users to search for establishments and other users.

Table 1 - Functional Requirements	
FR5	The application shall allow users to view an establishment's detail page.
FR6	The application shall display photos, address or map, opening hours, category, and price range for each establishment.
FR7	The application shall display aggregated ratings and recent reviews for each establishment.
FR8	The application shall display friends' recommendations and activities related to an establishment.
FR9	The application shall allow users to create reviews for establishments.
FR9	The application shall allow users to edit or delete their own reviews.
FR10	The application shall allow users to follow other users.

Table 2: Functional Requirements	
FR11	The application shall allow users to view their followers and following lists.
FR12	The application shall display recent activities from other users, including reviews, favorites, and lists.
FR13	The application shall allow users to save establishments.
FR14	The application shall allow users to view their saved establishments.
FR15	The application shall allow users to mark establishments as favorites.

Table 2: Functional Requirements	
FR16	The application shall allow users to create lists of establishments.
FR17	The application shall allow users to add establishments to lists.
FR18	The application shall allow users to view their personal profile.
FR19	The application shall allow users to edit their profile information, including photo, bio, and preferences.
FR20	The application shall display user statistics, such as visited places, categories, average ratings, and cities.
FR21	The application shall provide access to a consolidated view of the user's activity, including reviews, favorites, and lists.

Non-Functional Requirements

Table 3: Non-Functional Requirements		
NFR1	Security	the system shall implement secure authentication mechanisms, including token management, expiration, and revocation.
NFR2	Privacy	the system shall provide privacy controls for profiles and activities and respect user-defined visibility settings.

Table 3: Non-Functional Requirements		
NFR3	Performance	the feed shall load efficiently using pagination or infinite scrolling, with caching when applicable.
NFR4	Scalability	the system shall support gradual user growth through a scalable backend and database architecture.
NFR5	Availability	the system shall aim for high availability and fault tolerance, including graceful error handling.
NFR6	Usability	the user interface shall be intuitive and consistent, minimizing steps for frequent actions (save, favorite, rate, review).
NFR7	Accessibility	the application shall follow accessibility best practices, including contrast, readability, and navigability.
NFR8	Observability	the system shall track product events (e.g., reviews, follows, saves, favorites, list creation) for analytics and insights.

Use Cases

Table 4: Use Cases	
UC1	As a new user, I want to create an account using email and password, so that I can access noma in a personalized way.
UC2	As a user, I want to log in with my credentials, so that I can access my saved data and preferences.

Table 4: Use Cases	
UC3	As a user, I want to view a feed with activities and recommendations, so that I can discover relevant places and content.
UC4	As a user, I want to search for establishments and users, so that I can quickly find a specific place or profile.
UC5	As a user, I want to view an establishment's detail page, so that I can obtain complete information before deciding to visit it.
UC6	As a user, I want to see photos, address/map, opening hours, category, and price range, so that I can better understand the establishment.
UC7	As a user, I want to see aggregated ratings and recent reviews of an establishment, so that I can understand the community's perception.
UC8	As a user, I want to see friends' recommendations and activities related to an establishment, so that I can make more trusted decisions.
UC9	As a user, I want to create a review for an establishment, so that I can record and share my experience.
UC10	As a user, I want to edit or delete my reviews, so that I can keep my history accurate and up to date.

Table 5: Use Cases	
UC11	As a user, I want to follow other users, so that I can receive recommendations from people I trust. As a user, I want to view my

Table 5: Use Cases	
	followers and following lists, so that I can manage my social connections.
UC12	As a user, I want to see other users' recent activities (e.g., reviews, favorites, lists), so that I can discover new places.
UC13	As a user, I want to save a place, so that I can build my personal collection of gastronomic references.
UC14	As a user, I want to view my saved places, so that I can plan future visits based on my history.
UC15	As a user, I want to favorite a place, so that I can highlight it as a priority among my saved items.
UC16	As a user, I want to create lists, so that I can organize places by intention or context. As a user, I want to add a place to a list, so that I can categorize my saved places efficiently.
UC17	As a user, I want to view my profile, so that I can track my identity and history on noma.
UC18	As a user, I want to edit my profile (photo, bio, preferences), so that it reflects my interests and improves recommendations.
UC19	As a user, I want to view my statistics (e.g., visited places, categories, average ratings, cities), so that I can better understand my habits.
UC20	As a user, I want to see my consolidated activity (reviews, favorites, lists), so that I can easily access my history.

2.4.2 Architecture and Technology:

The architecture, as shown in the figure (Figure 1) below, was designed following a client–server model, in which a React Native mobile application serves as the presentation layer, a NestJS backend concentrates business logic and API exposure, and PostgreSQL is used for transactional data persistence. This separation of concerns ensures modularity, maintainability, and scalability. React Native was chosen to enable cross-platform development with a single codebase, thus reducing development time while maintaining a native user experience. Authentication is handled by Firebase Authentication, which provides a secure and reliable identity management solution and simplifies the implementation of login and social authentication flows. Consequently, authenticated users interact with the backend through JWT-based authorization, allowing stateless and scalable request validation.

Moreover, the backend was containerized using Docker and deployed on Render, which simplifies environment standardization, deployment automation, and operational management, especially during early-stage growth. The use of PostgreSQL ensures data consistency and integrity, supporting structured relationships and efficient queries required by core features such as feeds, reviews, and user interactions. Additionally, Firebase Cloud Messaging was integrated to enable push notifications, thereby supporting user engagement and retention strategies. Overall, these architectural choices provide a robust, secure, and extensible foundation, balancing rapid development with technical reliability and future scalability.

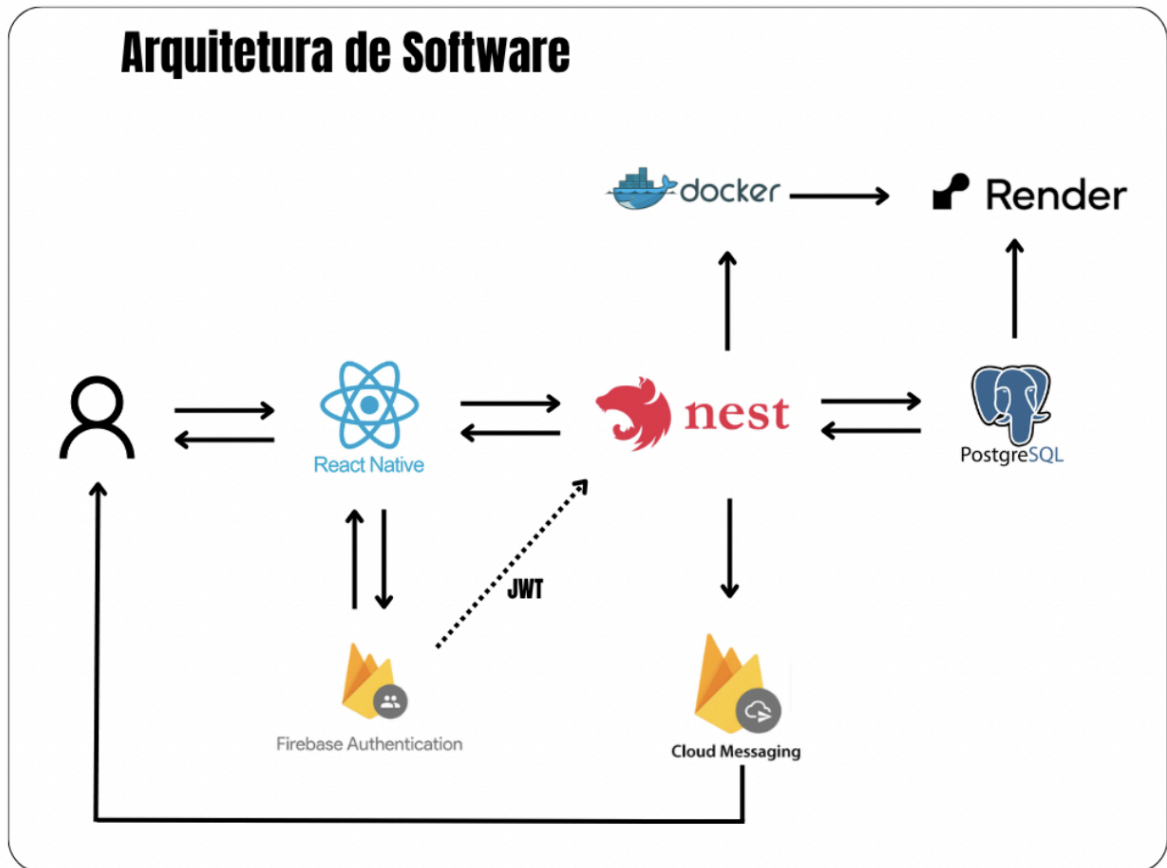


Figure 1: Architecture

2.4.3 Development and Implementation (MVP):

The development followed the Scrum agile methodology, chosen for its iterative, incremental, and feedback-oriented approach, which is well suited to exploratory and entrepreneurial software projects. Scrum structures development into fixed-length iterations called sprints, enabling continuous delivery of value, frequent validation, and rapid adaptation to new insights. In this project, Scrum was applied through short development cycles, weekly alignment meetings with the supervisor, and formal deliverables at the end of each sprint, ensuring transparency,

accountability, and progressive refinement of both technical and business aspects of the solution.

The project was organized into four major modules, each lasting ten weeks, totaling twenty sprints, with each sprint having a duration of two weeks. The first module focused on ideation, initial validation, and business planning, including problem exploration, market analysis, competitive benchmarking, definition of TAM, SAM, and SOM, and the construction of the business model and roadmap. The second module addressed the design and development of the MVP, covering requirements elicitation, user stories, user journey definition, wireframing, architectural design, infrastructure setup, and the initial implementation of backend and frontend components. The third module concentrated on development and refinement, with the implementation of core application features such as authentication, user profiles, social interactions, reviews, saved places, and lists, as well as iterative improvements in user experience and system integration, supported by unit, integration, and usability testing. Finally, the fourth module focused on finalization and preparation for launch, including UX refinement, completion of frontend and backend functionalities, cloud deployment, beta launch preparation, and pitch development. As a result, the MVP delivered a fully functional, technically validated, and market-oriented solution, aligned with agile principles and ready for future market testing and iteration.

2.4.4 Testing and Technical Evaluation:

The testing strategy adopted for the noma platform was designed to ensure both technical robustness and positive user experience, combining unit testing, integration validation, and acceptance-oriented usability testing. This multi-layered approach aimed to validate the system from internal correctness to external usability,

ensuring consistency between business logic, system behavior, and user expectations.

Unit testing was applied extensively at the backend level to validate the correctness and reliability of core business logic. Controllers and services were tested in isolation using mocked external dependencies, ensuring deterministic behavior and clear validation of both success and failure scenarios. Tests covered authentication, user management, profiles, places, reviews, lists, saved places, categories, and social interactions. Particular emphasis was placed on error handling, authorization rules, and edge cases, such as invalid identifiers and empty datasets. As a result, all tested entities achieved 100% coverage across statements, branches, and functions (Figure 2), demonstrating a high level of technical robustness and significantly reducing the risk of regressions during future development cycles.

Coverage Summary

Entity	Layer	Statements	Branches	Functions
Authentication	Controller	100%	100%	100%
Authentication	Service	100%	100%	100%
Category	Controller	100%	100%	100%
Category	Service	100%	100%	100%
Follow	Controller	100%	100%	100%
Follow	Service	100%	100%	100%
List	Controller	100%	100%	100%
List	Service	100%	100%	100%
Place	Controller	100%	100%	100%
Place	Service	100%	100%	100%
Profile	Controller	100%	100%	100%
Profile	Service	100%	100%	100%
Review	Controller	100%	100%	100%
Review	Service	100%	100%	100%
Saved Places	Controller	100%	100%	100%
Saved Places	Service	100%	100%	100%
User	Controller	100%	100%	100%
User	Service	100%	100%	100%

Figure 2: Backend coverage

In addition to unit testing, integration validation was performed implicitly through the interaction between frontend and backend components during feature development and refinement phases. These validations ensured that APIs, authentication flows, and data persistence mechanisms operated consistently across system boundaries, particularly in flows such as onboarding, content creation, saving places, and list management.

Finally, acceptance testing was conducted through structured usability tests (Figure 3) involving real users with diverse backgrounds and levels of technological familiarity. These tests evaluated end-to-end user flows, including onboarding and login, exploration and search, saving and favoriting places, list creation and management, and review publication and consultation. The results demonstrated that the platform is generally intuitive and functional across different user profiles, while also highlighting specific areas for improvement, such as clearer category navigation for less tech-savvy users, stronger feedback for favorite actions, and minor refinements in the review creation process.

Flow	Eduardo (59, tech)	Kelly (55, non-tech)	João Pedro (21, social media)
Onboarding & Login	Completed quickly, minor hesitation with UI	Completed successfully, no major issues	Completed easily and very fast
Explore Categories & Search	Clear navigation, used search more than browse	Took longer to locate categories, required clarification	Very intuitive, switched between filters easily
Add to Favorites	Understood icon, expected stronger feedback	Recognized icon after short hesitation, completed task	Completed instantly, found interaction obvious
Create & Manage Lists	Managed to create/edit, noted need for guidance	Completed with some effort, required extra attention	Completed with ease, suggested shortcuts
Publish / Consult Reviews	Posted successfully, commented on text box size	Completed task but found the process slightly confusing	Completed easily, suggested emoji integration

Figure 3: Usability test result

Overall, the combined results of unit, integration, and acceptance testing confirm that the noma platform is technically stable, functionally complete for an MVP, and usable across a broad range of users. Moreover, the insights obtained from usability testing provide clear guidance for iterative improvements, reinforcing testing as a continuous and strategic component of the product's development lifecycle.

2.5 The Business Plan

2.5.1 Market and Competitor Analysis:

Segmentation and Target Audience (Persona)

The target audience for noma consists primarily of urban consumers aged between 20 and 45 years, who frequently visit restaurants, bars, and cafés and actively use digital platforms to support discovery and decision-making. The initial geographic focus is the city of São Paulo, due to its large population, high concentration of food and hospitality establishments, and strong digital adoption. These users are socially active, value personalized experiences, and tend to rely on recommendations from trusted social circles rather than anonymous reviews.

A representative persona is an urban professional living in São Paulo who regularly explores new places with friends, tracks favorite spots mentally or through informal tools, and seeks a more structured and social way to remember and share gastronomic experiences. This persona values intuitive interfaces, relevance, and authenticity, and is receptive to platforms that combine personal history with social discovery.

SWOT Analysis

From a strengths perspective, noma benefits from a clearly differentiated value proposition focused on personal and social memory of gastronomic experiences. The platform integrates discovery, organization, and social interaction in a single environment, supported by a scalable and modern technical architecture. Its localized initial focus enables cultural alignment and targeted market entry.

In terms of weaknesses, noma operates as an early-stage platform with limited brand recognition and a smaller user base when compared to established global competitors. As a digital product that relies on network effects, its perceived value increases with adoption, which may initially constrain engagement and growth.

Regarding opportunities, the growing demand for personalized and experience-driven digital services within the food and hospitality sector creates favorable conditions for adoption. The fragmentation of existing solutions and the lack of platforms focused on experience recall and trusted social recommendations represent clear gaps in the market. Additionally, future partnerships with establishments, events, and content creators can expand reach and monetization.

Finally, threats include strong competition from large, well-funded platforms with extensive user bases and data assets, as well as the risk of feature imitation by existing players. Changes in user behavior, privacy regulations, or platform dependency policies may also impact growth and scalability.

Competitor and Product Differentiation Analysis

Within the competitive landscape, Google Maps and Tripadvisor serve as indirect competitors, offering restaurant discovery primarily through search, ratings, and anonymous reviews. Although these platforms are widely adopted, their focus on utility and scale results in limited personalization and weak support for long-term experience recall. In contrast, Beli represents a direct competitor by positioning itself as a gastronomy-focused application centered on personal taste and ratings; however, its limited penetration in Brazil and reduced emphasis on social interaction constrain its relevance for the initial target market.

noma differentiates itself by integrating the strengths of gastronomy-focused platforms with a strong social and memory-oriented approach. Unlike Google Maps and Tripadvisor, noma treats gastronomy as its core business rather than a complementary feature. Compared to Beli, it expands the scope beyond ratings by incorporating social feeds, curated lists, favorites, and user statistics, enabling discovery through trusted connections. This combination of personalization, social context, and local market focus establishes a clear and defensible competitive position for noma within the digital gastronomy ecosystem.

2.5.2 Business Model (Business Model Canvas - BMC):

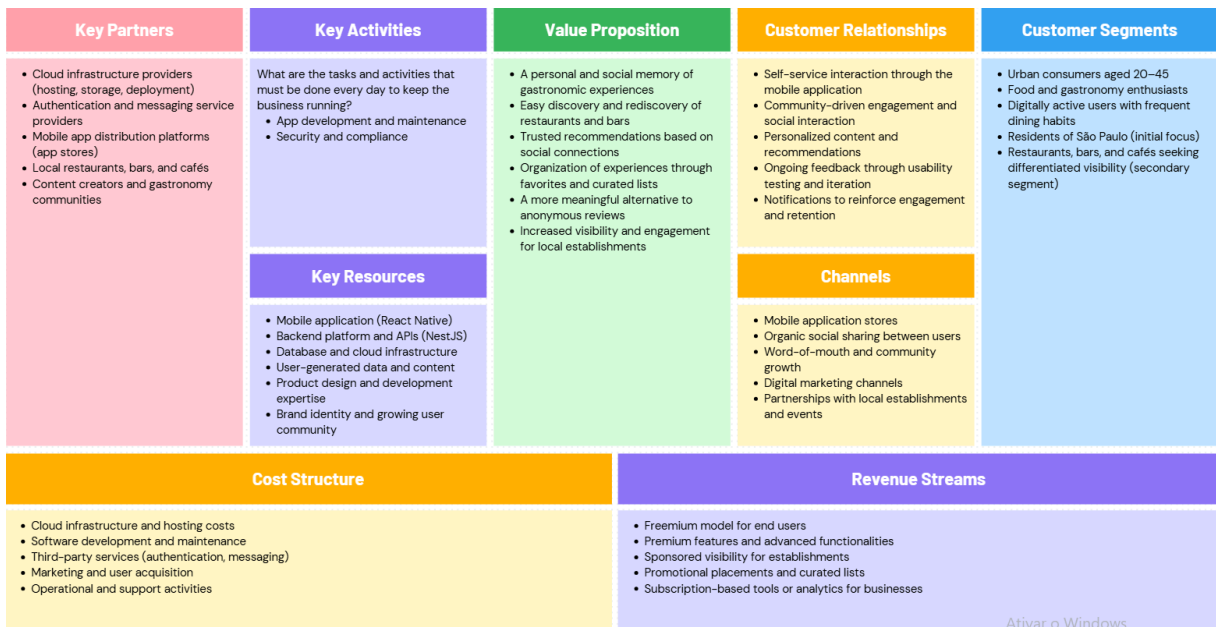


Figure 4: Business Model Canvas

Key Partners

This block, as shown in the figure above, identifies the external entities that are essential for the operation and scalability of noma. Technology providers supply cloud infrastructure, authentication, and messaging services, ensuring reliability and security. App distribution platforms enable access to users, while partnerships with local restaurants, content creators, and gastronomy communities enhance content quality, visibility, and user engagement, especially in the initial launch phase.

Key Activities

Key activities encompass the core actions required to build, operate, and evolve the platform. These include continuous software development, backend and infrastructure maintenance, user experience optimization, and data analysis to improve recommendations. Additionally, community management, partnerships, and marketing initiatives are fundamental to sustaining engagement and supporting user acquisition.

Value Proposition

The value proposition defines the unique benefit delivered by noma to both users and establishments. For users, the platform provides a personal and social memory of gastronomic experiences, enabling trusted discovery, organization, and recall of places. For establishments, it offers increased visibility and engagement through authentic, experience-based interactions. This positioning differentiates noma from traditional review or navigation platforms.

Customer Relationships

Customer relationships are primarily based on self-service and community-driven interaction. Users engage autonomously with the platform through social features, personalized feeds, and content creation. Notifications and continuous product improvements reinforce retention, while user feedback supports iterative refinement and long-term relationship building.

Customer Segments

This block defines the groups of customers targeted by noma. The primary segment consists of urban, digitally active consumers aged 20 to 45, with frequent dining habits and an interest in discovering new experiences, initially focused on São Paulo. A secondary segment includes restaurants and cafés seeking differentiated digital presence and closer engagement with customers.

Key Resources

Key resources include the mobile application, backend services, and cloud infrastructure that support platform operations. Human capital, particularly in software development and product design, is critical to continuous innovation. Additionally, user-generated data, brand identity, and the growing community represent strategic intangible resources.

Channels

Channels describe how noma reaches and delivers value to its customers. Distribution occurs primarily through mobile application stores, supported by organic social sharing, word-of-mouth, and digital marketing efforts. Partnerships with local establishments and events further strengthen reach and user acquisition.

Cost Structure

The cost structure outlines the main expenses involved in operating the platform. These include cloud infrastructure and hosting, software development and maintenance, third-party services, and marketing and user acquisition activities. The scalable nature of the architecture allows costs to grow progressively with user adoption.

Revenue Streams

Revenue streams describe how noma generates income while maintaining accessibility. The platform adopts a freemium model for users, complemented by premium features and business-oriented offerings such as sponsored visibility and subscriptions. This approach enables monetization to scale alongside platform growth without compromising user experience.

2.5.3 Marketing and Sales Strategy:

Go -to -market strategy

The GTM strategy for noma is designed to support a controlled and localized market entry, prioritizing validation, learning, and progressive scale. In this sense, the initial launch will focus on the state and city of São Paulo, which represents the most strategic starting point for the platform due to its scale and density within the food and hospitality sector. According to data published by the Brazilian Association of Bars and Restaurants (Abrasel), the state of São Paulo concentrates more than 150,000 active bars, restaurants, and food establishments, and, as a result, constitutes the largest and most dynamic gastronomy market in the country.

Given this context, the high concentration of establishments creates a favorable environment for testing discovery, social interaction, and experience-based features, while simultaneously increasing the likelihood of frequent user engagement. Therefore, by restricting the initial rollout to São Paulo, the project aims to closely observe user behavior, validate core hypotheses, and iterate rapidly based on real usage data. Moreover, the GTM approach emphasizes a soft launch and organic adoption, positioning noma as a social and experiential platform rather than a transactional review tool. In addition, strategic partnerships with selected local establishments will support visibility and credibility during the early stages, whereas curated content and social sharing mechanisms will facilitate initial traction and community growth.

Customer acquisition and retention strategies

Customer acquisition will primarily rely on organic and community-driven channels, including word-of-mouth, in-app social sharing, and referral dynamics enabled by the platform's social features. At the same time, targeted digital marketing efforts will focus on users located in São Paulo, leveraging social media and content aligned with gastronomy, lifestyle, and urban experiences. Furthermore, partnerships with local establishments and gastronomy-related communities will amplify reach and strengthen alignment with the defined target audience.

Retention strategies are primarily driven by the social dimension of the platform and by data-driven self-reflection mechanisms. Specifically, by allowing users to visualize their own activities and, when desired, share these activities with others, noma reinforces social validation, comparison, and discovery through trusted connections. In parallel, the presentation of personal statistics—such as visited places, preferred categories, and geographic patterns—encourages users to reflect on their habits and motivates continued engagement. Consequently, these elements transform individual interactions into ongoing narratives, thereby strengthening emotional connection, fostering habitual use, and supporting long-term retention.

2.5.4 Financial Projection and Feasibility:

Revenue Model and Pricing Structure

The financial strategy of noma is based on a phased and low-risk monetization approach, aligned with the maturity of the platform and its Go-To-Market strategy. In the short term (validation phase), revenue generation is intentionally limited and focused exclusively on B2B monetization, through sponsored highlights, promoted local recommendations, and segmented visibility for restaurants within the platform. To validate willingness to pay without creating barriers for adoption, a conservative average price of R\$ 300 per restaurant per month was defined.

In the medium term (scaling phase), after validating product–market fit and recurring B2B demand, the revenue model expands to include subscription-based plans for restaurants, freemium premium features for users, and transaction-based revenues, such as commissions on reservations. In the long term (expansion phase), the model evolves into a broader ecosystem, incorporating loyalty and cashback integrations, curated gastronomic experiences, and geographic expansion to Latin America and the United States, thereby increasing revenue diversification and scalability.

Projected Expenses and Cost Structure

During the validation phase, noma adopts a founder-led execution model, with no external hires and minimal marketing investment. As a result, operating costs are significantly reduced and concentrated almost exclusively on infrastructure and essential operational services.

Estimated monthly operating costs in the short term are presented below:

Table 6: Projected Monthly Expenses		
Cost Category	Description	Monthly Cost (R\$)
Infrastructure	Backend hosting, PostgreSQL database, basic storage	250 – 400
Third-party services	Authentication, messaging, monitoring	0 – 100
Operational tools	Domain, email, basic management tools	50 – 100
Marketing	Organic growth and local partnerships	0 – 200
Total Monthly Cost		500 – 800

For analytical purposes, an average monthly operating cost of R\$ 650 was adopted.

Annual operating cost calculation:

$$R\$650 \times 12 = R\$7.800$$

In the medium and long term, operating costs are expected to increase due to infrastructure scaling, marketing investments, and potential hiring; however, these increases are designed to occur proportionally to revenue growth, preserving operational efficiency.

Break-Even Analysis

The break-even point was calculated by comparing the average monthly operating cost with the expected monthly revenue per paying restaurant.

Break-even formula:

$$Breakeven = Monthly Cost / Monthly Revenue$$

Applying the defined assumptions:

$$Breakeven = 650 / 300 \approx 2.17$$

Since partial customers are not feasible, the platform reaches break-even with three paying restaurants. This result demonstrates that financial sustainability can be achieved very early in the project lifecycle and does not depend on large-scale user adoption during the validation phase.

Medium-Term Financial Outlook (Scaling Phase)

In the medium term, once the value proposition and B2B willingness to pay are validated, noma is expected to enter a controlled scaling phase. At this stage, selective investments in marketing, infrastructure expansion, and operational support are introduced. Monthly operating costs increase; however, this growth is accompanied by a diversification of revenue streams, including recurring restaurant subscriptions, premium user features, and reservation-based commissions.

As user adoption grows within São Paulo, the marginal cost per additional user decreases, while recurring revenues become more predictable. Consequently, operating margins improve, and the platform strengthens its ability to self-finance growth without immediate reliance on external capital.

Long-Term Financial Outlook (Expansion Phase)

In the long term, the financial strategy focuses on geographic expansion and ecosystem consolidation. With a validated model in São Paulo, noma may expand to other metropolitan regions and potentially to international markets. Revenue streams are further diversified through advanced business subscriptions, loyalty and cashback integrations, curated gastronomic experiences, and strategic partnerships.

Although absolute costs increase due to scale and market expansion, the platform benefits from economies of scale, as technology and development costs grow at a slower pace than revenues. Network effects, high user retention, and recurring B2B revenues become the primary drivers of long-term profitability and sustained ROI.

Initial Investment Requirement

noma does not require a significant upfront capital investment. Instead, the project operates under a recurring operational investment model, equivalent to its monthly operating costs. During the validation phase, this investment ranges between R\$ 500 and R\$ 800 per month, resulting in an estimated annual investment of R\$ 7.800.

This approach is consistent with a bootstrapped MVP strategy and allows continuous validation with minimal financial exposure.

Financial Feasibility Assessment

The financial analysis demonstrates that noma is highly feasible, particularly in the short term, due to its low-cost structure, early break-even potential, and positive ROI. The founder-led execution model minimizes fixed costs and enables disciplined validation of both product and revenue assumptions. In the medium and long term, the combination of scalable revenue streams and controlled cost growth positions the platform for sustainable expansion and consistent financial returns.

2.6 Validation and Results

2.6.1 Validation Methodology:

The validation of the noma project was conducted through a mixed approach, combining secondary market data analysis with qualitative feedback obtained from real users and evaluators. Rather than relying exclusively on hypothetical assumptions, the project leveraged established industry research to validate core business hypotheses related to user behavior, trust in recommendations, and reliance on digital platforms for gastronomic discovery. This data-driven approach

was complemented by direct feedback from potential users and formal evaluation during the academic pitch presentation.

Market validation was primarily supported by existing consumer behavior studies, such as the Local Consumer Review Survey published by BrightLocal, which provides longitudinal insights into how users discover and trust local businesses. In parallel, acceptance of the MVP concept and value proposition was assessed through informal interviews, discussions, and demonstrations conducted within the university environment, among close friends and extended social networks, as well as through structured feedback from the pitch evaluation committee.

2.6.2 Market Validation Results:

Validation Methodology

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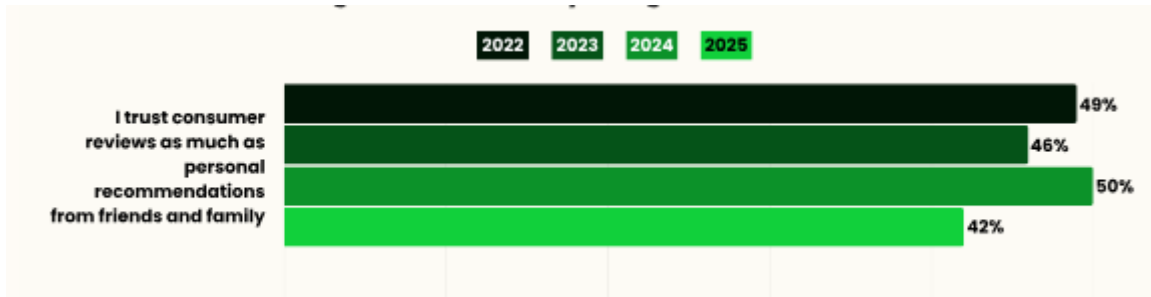


Figure 5: Consumer's trust in online recommendations I

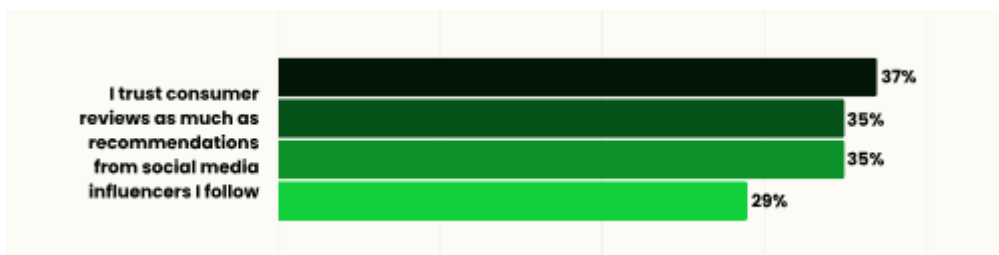


Figure 6: Consumer's trust in online recommendations II

Market Validation Results

The analysis of secondary market data strongly supports the relevance of noma's value proposition. According to the BrightLocal surveys, a significant majority of consumers report reading online reviews regularly or always when browsing for local businesses, confirming that digital platforms play a central role in local discovery and decision-making. Furthermore, the data indicates that a substantial portion of consumers trust online reviews as much as personal recommendations from friends and family, reinforcing the importance of social validation and perceived authenticity—both central elements of noma's proposed solution.

In addition, while trust in influencer-based recommendations is comparatively lower, the findings highlight a clear preference for peer-driven and socially

contextualized information. This insight aligns directly with noma's focus on social connections and personal experience tracking, rather than anonymous or purely promotional content.

From a qualitative validation perspective, the product concept received consistently positive feedback across different contexts. The idea was well accepted within the university community, among close friends and friends of friends, who widely recognized the difficulty of remembering and organizing gastronomic experiences as a real and recurring problem. Moreover, the project obtained highly favorable feedback from the pitch evaluation committee, which validated the coherence between the identified problem, the proposed solution, and the chosen Go-To-Market strategy.

During the evaluation process, one member of the committee suggested a potential strategic pivot in which the solution could be offered as a private-label product for large gastronomy and delivery platforms, such as iFood or Meituan. This alternative positioning was discussed as a possible long-term opportunity, particularly in a B2B or B2B2C context. However, based on the current validation results and the project's objectives, the decision was to persist with the original direct-to-consumer model, while acknowledging the private-label approach as a viable future strategic option.

2.6.3 Key Performance Indicators (KPIs):

To support continuous validation and data-driven decision-making, a set of KPIs was defined to monitor the performance, sustainability, and scalability of the noma platform. These indicators were selected based on industry standards for digital platforms and are aligned with the project's GTM strategy and phased monetization model.

Customer Acquisition Cost (CAC)

Definition:

CAC represents the average cost incurred to acquire a new user or paying customer.

Relevance:

CAC is a critical indicator for evaluating the efficiency of marketing and growth strategies. Given that noma's initial acquisition strategy relies primarily on organic growth, social sharing, and community-driven adoption, maintaining a low CAC is essential to preserve financial sustainability.

Expected Value:

During the validation phase, CAC is expected to remain very low, ranging between R\$ 0 and R\$ 2 per user, due to minimal paid marketing and reliance on organic channels. For B2B customers (restaurants), CAC is expected to be limited to direct outreach and relationship-building efforts, remaining below R\$ 50 per establishment.

Churn Rate**Definition:**

Churn Rate measures the percentage of users or customers who stop using or paying for the service within a given period.

Relevance:

Churn is a key indicator of perceived value and long-term engagement. For noma, low churn is directly linked to the effectiveness of social features and the relevance of personal activity tracking and statistics.

Expected Value:

In the early stages, user churn is expected to be relatively higher as the product evolves; however, for paying restaurants, a monthly churn rate below 5% is considered acceptable. As features mature and value perception increases, churn is expected to decrease progressively.

Monthly Active Users (MAU) and Engagement Rate

Definition:

MAU measures the number of unique users actively engaging with the platform within a month, while engagement rate reflects the frequency and depth of interactions.

Relevance:

These metrics are essential for validating product-market fit and understanding whether users find recurring value in the platform.

Expected Value:

During the initial launch in São Paulo, the platform aims to reach 1,000 to 3,000 Monthly Active Users within the first validation cycle. Engagement is expected to be reflected through repeated actions such as saving places, viewing activities, and consulting statistics.

Conversion Rate (Restaurants to Paid Plans)

Definition:

This KPI measures the percentage of restaurants exposed to the platform that convert into paying partners.

Relevance:

The conversion rate directly validates the commercial appeal of the platform for businesses and the effectiveness of the value proposition offered to establishments.

Expected Value:

A conservative expected conversion rate ranges between 0,25% and 0,5%, which is consistent with early-stage B2B digital platforms offering promotional visibility and local engagement.

Retention Rate

Definition:

Retention rate measures the percentage of users who continue to use the platform over time.

Relevance:

Retention is particularly important for noma due to its emphasis on social activity visibility and personal statistics, which encourage habitual use.

Expected Value:

An initial 30-day user retention rate between 20% and 30% is considered realistic for the validation phase. As social dynamics strengthen and data insights accumulate, retention rates are expected to improve.

2.6.4 Risks and Mitigation Plan:

The development and prospective market introduction of noma involve a set of risks that are inherent to early-stage digital platforms, particularly those operating in competitive and data-driven environments. Therefore, identifying these risks in advance and defining structured mitigation strategies is essential to ensure financial sustainability, technical reliability, legal compliance, and strategic coherence throughout the project lifecycle. The critical risks identified for noma are classified into financial, technological, legal, competitive, and market adoption risks, as detailed below.

Financial Risks

From a financial perspective, the primary risk is associated with delays or limitations in revenue generation, especially during the early validation phase, when monetization depends on the willingness of restaurants to adopt paid promotional features. This risk becomes particularly relevant if revenue growth does not keep

pace with operational expenses or if the conversion of potential partners into paying customers occurs more slowly than anticipated.

However, this exposure is significantly mitigated by the adoption of a lean, founder-led execution model, which drastically reduces fixed costs and limits monthly operating expenses to a range between R\$ 500 and R\$ 800. Moreover, the low break-even threshold—achieved with only a small number of paying establishments—reduces dependency on scale and allows the project to remain financially viable even under conservative revenue scenarios. In addition, the phased monetization strategy ensures that new revenue streams are introduced only after initial assumptions have been validated, thereby minimizing financial risk.

Technological Risks

From a technological standpoint, risks include potential system instability, performance degradation under increased usage, or limitations in scalability if adoption accelerates more rapidly than anticipated. Such risks are common in platforms that rely on real-time interactions, user-generated content, and continuous data processing.

To mitigate these challenges, noma was designed with a modular and cloud-based architecture, which allows infrastructure resources to scale incrementally in response to demand. Furthermore, the use of managed services for authentication, databases, and messaging reduces operational complexity and dependency on custom infrastructure. This approach is reinforced by comprehensive backend unit testing and early integration validation, which collectively enhance system robustness, reduce regression risks, and support reliable evolution of the platform over time.

Market Adoption and Strategic Risks

Finally, there is a risk related to user adoption and behavioral inertia, as potential users may be reluctant to change established habits or adopt a new platform for organizing and discovering gastronomic experiences. This risk is

particularly relevant in markets where users are already accustomed to general-purpose platforms.

To mitigate this challenge, noma prioritizes a low-friction onboarding experience, combined with social visibility mechanisms and features that deliver immediate personal value, such as activity tracking and personalized statistics. Moreover, early qualitative validation within academic and social communities reduces uncertainty by confirming both interest and perceived usefulness prior to a broader market launch, thereby supporting informed decisions regarding feature prioritization and communication strategies.

3 Conclusion

This document presented the conception, development, and validation of noma, a digital platform designed to support the discovery, organization, and recall of gastronomic experiences through a mobile-first approach. Based on the results obtained throughout the development process, it can be concluded that the objectives initially defined for the project were successfully achieved. Specifically, a computational solution was designed and implemented, a MVP was developed and technically validated, and a structured business plan was elaborated to support its future introduction to the market.

From a technical perspective, the project demonstrated the feasibility of the proposed architecture and the robustness of the implemented solution, supported by comprehensive testing strategies and usability evaluations. Moreover, from a business standpoint, the project validated key assumptions regarding user behavior and market demand through the analysis of existing industry data, qualitative feedback from potential users, and economic feasibility assessments. As a result, the project confirmed the relevance of the identified problem and the adequacy of the proposed value proposition.

Looking forward, the future projections for noma involve a phased market entry and expansion strategy, beginning with a controlled launch in the city of São Paulo, followed by gradual scaling based on user engagement, feedback, and validated revenue streams. In the medium and long term, the platform may evolve to incorporate additional monetization models, strategic partnerships, and geographic expansion, while preserving its core focus on social discovery and personal experience tracking. Furthermore, alternative strategic paths, such as private-label offerings for large gastronomy platforms, remain viable options for future exploration.

In conclusion, the project establishes a solid foundation for the continued evolution of noma, both as a technological solution and as a business venture. By combining technical rigor, market awareness, and a disciplined validation approach, the work contributes not only to the development of a viable digital product but also to a broader understanding of how social and experience-driven platforms can be structured and validated in a real-world context.

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