

# Product & Packaging Design based on Design Methodologies

A thesis submitted for the degree of Master of Science (MSc) in Strategic Product Design

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I hereby declare that the work submitted is mine and that where I have made use of another's work; I have attributed the source(s) according to the Regulations set in the Student's Handbook.

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## 1. Introduction

- 1.1 Brief
- 1.2 Description
- 1.3 Basic Structure

## 2. Research

- 2.1 Product Development
  - 2.1.1 Product Development analysis
    - 2.1.1.1 Product Development Definition
    - 2.1.1.2 Product Development Structure
    - 2.1.1.3 New Product Development Process
    - 2.1.1.4 Product Development Models
  - 2.1.2 Food Product Development
    - 2.1.2.1 Food Product Development Definition
    - 2.1.2.2 Introduction
    - 2.1.2.3 Why to undertake New Food Product Development
    - 2.1.2.4 Phases & Milestone Structure
    - 2.1.2.5 Important factors for a successful food product
    - 2.2.1.6 Environmental Considerations

# 2.2 Packaging Design

- 2.2.1 Packaging & Labeling Design
  - 2.2.1.1 Packaging Definition
  - 2.2.1.2 Labeling Definition
  - 2.2.1.3 The purposes of Packaging and package Labels
  - 2.2.1.4 Packaging Types
  - 2.2.1.5 Package Environments
  - 2.2.1.6 Environmental Considerations
- 2.2.2 Food Packaging Design
  - 2.2.2.1 Food Packaging Definition
  - 2.2.2.2 Food Packaging History
  - 2.2.2.3 Food Packaging Types
- 2.3.3 Food Packaging Aesthetics / Trends
  - 2.3.3.1 Food Packaging Trends
  - 2.3.3.2 Food Packaging & Label Aesthetics
- 2.3 Food Industries
  - 2.3.1 Food Industries Today
    - 2.3.3.1 Food Industry Definition
    - 2.3.3.2 Food Industry Trends
  - 2.3.2 Mediterranean Food & Diet

- 2.3.2.1 Mediterranean diet Definition
- 2.3.2.2 Health Effects
- 2.3.2.3 Dietary components

# 2.4 Royal Mediterranean Company

- 2.4.1 Company's History
- 2.4.2 Company's Analysis
- 2.4.3 Company's Values / Statements
- 2.4.4 Company's Products
- 2.4.5 Company's Brand Identity

## 2.5 Interviews

- 2.5.1 Interview 1
- 2.5.2 Interview 2
- 2.5.3 Interviews' Conclusions

## 2.6 Questionnaire

- 2.6.1 Questionnaire Analysis
- 2.6.2 Questionnaire Conclusions
- 2.7 Conclusions

# 3. Product Description

- 3.1 Problematic Area
- 3.2 Food Product Selection
- 3.3 Target Audience
- 3.4 Personas
- 3.5 Moodboards
- 3.6 Extended Brief
- 3.7 Context of Use
- 3.8 Design Guidelines
  - 3.8.1 General Guidelines
  - 3.8.2 Aesthetic Guidelines
  - 3.8.3 Volume-Dimensions Guidelines

## 4. Ideation

- 4.1 Design concepts
- 4.2 Relation with Design Guidelines
- 4.3 Concepts Evaluation Table

# 5. Final Product Proposal

5.1 Final Label Design Description

- 5.2 Detailed Final Label Design
- 5.3 Detailed Final Product Design
- 5.4 Photorealistic Images

# 6. References - Bibliography

# 1. Introduction

## 1.1 Brief

The goal of this dissertation is to find and develop a new product for a current company after conducting extensive research on its product line and the market to which it is targeted. The next step is to develop a complete packaging solution that showcases the product's features and will help it gain traction and distribution in the chosen market, attracting as many of the target audience as possible.

# 1.2 Description

In recent years, continual scientific and technological advancement has made a substantial contribution to the enhancement of the user experience when interacting with various types of products.

As the public's desire for things that are truly useful or useful to him grows, more corporations are devoting resources and time to finding them. In order to be contacted in the best possible way in the market and to the target audience, the design of the new items and their packaging must now be well documented and thoroughly analyzed. [1] In addition to the product itself, the user has now been sufficiently schooled to realize the importance of well-designed and visually beautiful packaging.

The purpose of this dissertation is to conduct research for an existing company in the Mediterranean food industry in order to grow its product line based on market needs and potential, and then to produce a flawless packaging design using design processes and tools.[2]

Even if it differs greatly from the existing product range, the product in issue must be able to integrate seamlessly into the corporate product line. At the same time, the packaging design must be consistent with the corporate identity and accurately reflect the company's values.

The study's major goal is to emphasize the importance and utility of methodologies and design tools in the development of new products and the thorough design of their packaging in order to provide a complete and well-documented presence for a new product.

## 1.3 Basic Structure

#### Research Stage

The research chapter is pioneered in the early phases of this dissertation, and it makes extensive use of bibliographies and varied sources, while also employing various design tools and methodologies that aid in the construction of meaningful conclusions.

The goal of the research phase is to gain a basic understanding of the issues that concern us in order to aid in the subsequent design stages and to make well-documented decisions with the ultimate goal of a successful final product and result. [3]

This study covers a wide range of topics connected to our research interests as well as the design of the final product picture. Initially, the research conducted focuses on the term of product development and the packaging design associated with them. Then, in order to obtain a better understanding of the company we're researching, we look into the food industry as well as current Mediterranean food choices and trends. The packaging sector is then thoroughly researched in terms of its current presence, materials, aesthetics, and, of course, its presence in food products/ goods. A very important point in general of the present dissertation is the presentation and the detailed report on the company for which we are working. [4] At this level, history and principles are analyzed; its existing products and its goals for the future are examined. Conducting an interview with the company's sales manager was a key tool for the follow-up with the questionnaire coming to answer any questions that had remained unanswered until this phase.

The conclusions are considered extremely important and very helpful for the next stages, being a springboard for the identification of the product and the design specifications.

## **Product Description Stage**

At the product description stage, we're attempting to thoroughly define the project and cover all of the topics that need to be addressed so that we can proceed to a comprehensive design later. The goal of this phase is to extract detailed and well-documented guidelines that will aid in the development of a final product that fully fits the needs identified throughout the research stages.

Initially, the overall picture of the project is conveyed by relating it to the research stage findings. At this point we intend to get a clearer knowledge of the context in which the product is expected to move. Following that, the new product's target audience is established, together with its primary demographic and quality characteristic, on the basis of which some Personas are created, along with their corresponding usage scenarios, which are incredibly crucial in drawing important conclusions for the next design stages. Some mood boards were made based on what was recorded for the target audience just before it was

determined that we were able to capture the extended brief of the whole design project. Having a much clearer picture of what we need to do next, the context of use of the product under development is recorded in detail, together with precise design specifications and guidelines grouped into four subcategories, giving us a much clearer image of what we need to do next.

#### Ideation & Final Product Proposal

Using the detailed data we obtained in the previous chapters, we proceed to the ideation phase, where concepts are created and then evaluated based on the degree of their contact with the design guidelines. In the last stages of the dissertation, the detailed presentation of the design proposal is made. It includes a description of the final product, its photo realistic depictions and a summary of all of them in the final product and packaging presentation. At the end the bibliography used is attached, along with some online sources and images.

# 2. Research

# 2.1 Product Development

## 2.1.1 Product Development analysis

## 2.1.1.1 Product Development Definition

In business and engineering, new product development (NPD) refers to the complete ability to bring a new product to market, updating an old product, or launching a product into a new market. NPD is influenced by product designs as well as a variety of commercial considerations. New product development is the process of turning a market opportunity into an item that can be sold. The products of an organization supply it with the capability to generate revenue. Many technology-intensive companies tailor their strategies to take advantage of technical breakthroughs in an ever-changing industry. The product can be physical (i.e., something that can be felt) or intangible (i.e., a service or an experience), with services and other processes being distinguished from "products" on occasion. Client wants and wishes, as well as the challenging market and its dynamics, must all be considered in NPD. Customers' requirements are mostly influenced by three factors: price, time, and quality. By generating new products on a regular basis and focusing on these three criteria, innovative firms develop continuous procedures and strategies to better meet customer requirements and increase their own market share. Companies must deal with a variety of risks and issues during the process. For the NPD's management, the use of evidence - based practices and the elimination of communication obstacles are the most important concerns. [7][9]

#### 2.1.1.2 Product Development Structure

The product development process consists of a series of steps that businesses take to finish the lengthy process of bringing new products to market. A process management technique is used to provide structure. Conception, design, manufacture, and market introduction are just a few of the stages/phases that every new product must go through. There are a variety of ways to explain and break down the product development process, and many of them include the phases and stages listed below:

 The fuzzy front-end (FFE) is a set of activities carried out before a more official and well-defined requirements document is completed. With varying degrees of specificity, requirements outline what the product should do or have in terms of meeting a perceived market or business demand.

- Product design at both the large and detailed levels, is the process of changing the
  "what" of the wants into a clear "how" this particular product would satisfy those
  objectives. The design process normally overlaps the most, but it can also include
  industrial design and even purely aesthetic parts of design. On the marketing and
  strategy side, this phase culminates with a pre-commercialization evaluation.
- **Product implementation** refers to the last steps of thorough engineering design (such as refining electrical or mechanical equipment, technology, commodities, or other product forms), but also test techniques that can be used to validate that the prototype genuinely meets all design specifications.
- The action phases when production and market launch take place are referred to as the fuzzy back-end or commercialization phase.

#### 2.1.1.3 New Product Development Process

The new product development process is a stage process method that all new businesses and entrepreneurs should follow in order to create a customer-focused, high-quality product with the best chance of success in today's highly competitive environment. In an attempt to explain the design process, many market professionals believe there are six or seven phases. However, the amount fluctuates depending on how thorough the research is in each situation.

- Idea Generation: The development process begins with the idea generating stage.
   The company creates a variety of innovative ideas from both internal and external sources during this period. Internal idea sources are typically the company's internal research and development groups, whereas external sources include things like competitor innovations, client requests, suppliers and retailers, and so on. As a result, the company focuses on developing as many feasible concepts as possible.
- 2. Ideas Screening: The next stage is to narrow down this often-large collection of ideas. This stage's major purpose is to focus on concepts that are in line with the company's customer profitability and financial goals. The purpose of this stage is to eliminate concepts that aren't strong or viable, while keeping those that have a great deal of potential. This is to avoid the corporation losing money by pursuing speculative ideas that do not yield adequate profitability.
- 3. Concept Development and Testing: The third stage in the product development process involves concept development and testing. At this level, good product ideas should be refined into specific product concepts and articulated in a consumer-friendly manner. The concept must be developed in order to reflect the product on the basis of how consumers see it, as well as how it might be perceived in the

markets and by which type of buyer. This idea must then be sorely tested by presenting it to the target group and taking their input into account.

- 4. **Marketing Strategy Development:** The development of new products is the focus of the fourth stage of the marketing process. At this point, the company is looking for ways to introduce a possible product to the market. The corporation must determine the price, potential revenue numbers, as well as promotion and distribution channels, in this step.
- 5. **Business Analysis**: A detailed business analysis or test is performed on the product concept in order to forecast sales and revenue, analyze risk, and establish whether the product's manufacturing is economically sustainable. The company's objectives are taken into account, and if they have been accomplished, the product advances to the next step.
- 6. Product Development: This is the stage when a company's board concludes that a product concept seems to be in accordance with the company's goals and approves it for development. The company's R&D department then develops for months, the product concept to construct a functional and practical prototype of the proposed product.
- 7. **Test Marketing:** The product and the planned marketing program are put through their paces in actual conditions as part of the final stages of the product development cycle. This stage provides insight into how the product will be introduced to the marketplace, marketed, produced, packaged, distributed, and ultimately sold to customers, enabling for any necessary adjustments.
- 8. **Commercialization:** This is the final stage of the product development process. Based on the information gathered during the test marketing phase, the business management may decide whether to continue with the product release or not. If authorization is granted, the product is actually released onto the market, a process known as commercialization. This time is typically associated with high costs, both in terms of initial infrastructure spending as well as sales efforts and ads..

The major goal of the entire product development process is to provide superior consumer value and assure a positive market response. More importantly, every organization must assess the level of commitment that product creation necessitates, as well as whether or not such a commitment can be met with the financial and administrative resources at its disposal. This eight-stage product development process is by no means a rigid framework that determines whether a product succeeds or fails, but it does provide a good beginning place for any company trying to introduce a new product to the market. [6]

## **2.1.1.4 Product Development Models**

Over the years, conceptual models have been developed to aid in the seamless creation of products. The following are some of the most distinctive ones:

## • The IDEO approach.

The IDEO concept, which is a design and consulting organization, is a five-step technique that is one of the most investigated procedures in terms of new product development [16]. Following is a list of the steps in chronological order:

- 1) Recognize and observe the market, the client, the technology, and the problem's restrictions.
- 2) Synthesize the data gathered in the first phase.
- 3) Consider how new clients will interact with the product.
- 4) Prototype, test, and improve the idea.
- 5) Design changes that are connected with more technologically advanced procedures will take longer to implement, thus this step will take longer.

[11]

#### BAH Model

The Booz, Allen and Hamilton (BAH) Model, initially published in 1982, is one of the earliest created models that corporations still use in the NPD process today. This is the most well-known model because it is the foundation for later NPD systems. This model serves as the foundation for all other models that have since been developed. Significant effort has gone into developing better models, yet these models can simply be linked to the BAH model. New product strategy, concept generation, screening and evaluation, business analysis, development, testing, and marketing are the seven steps of the BAH model.

## 2.1.2 Food Product Development

#### 2.1.2.1 Food Product Development Definition

Food product development is a series of stages that a business goes through, whether a home based company or corporate business, to bring a new food product or innovation to the consumer market.[15]

#### 2.1.2.2 Introduction

Food product development describes the stages that a company takes to develop and promote a new food product (or alternatively: refine an established product). This method

involves a great deal of forethought, imagination, experimenting, and testing. A new food product can take anywhere from a few months to five years to develop. Food scientists, marketers, regulatory specialists, manufacturers, researchers, and testers make up the product development team. Many businesses lack these resources, therefore they hire a contract food maker to handle the entire process (or parts of it).

What role does food product development play in the food industry? For a variety of reasons, businesses produce new food products (or modify old ones):

- Increase sales and market share.
- Maintain your industry's competitiveness.
- Gain new clients by catering to changing cuisine preferences.
- Expand your geographic reach.
- By catering to dietary restrictions, you can attract new clients.
- Comply with ever-changing laws and regulations.

Basic Steps in the development of a food product:

**Idea generation**: Based on market research, the marketing team generates an idea, which is subsequently refined by the product development team.

**Screening and testing**: In the test kitchen, a group of food scientists produces a prototype. In-house, there's a lot of experimenting and tasting. Before moving on to the next level, the product is tested on a larger scale by people outside the organization, and changes are made.

**Product development**: entails fine-tuning the recipe, conducting more tests, procuring ingredients, mass-producing the product, implementing quality control, and properly packing and storing the product.

**Marketing and rollout:** The last phase is to launch the product, which entails marketing to specific buyers and determining the optimal launch time. Customer feedback is crucial at this stage since it helps establish whether any future changes are required.

[14]

#### 2.1.2.3 Why to undertake New Food Product Development

Five major forces drive the demand for innovative food product development:

- Every product has a life cycle. If the brand or the manufacturer is to survive, they must be replaced or rejuvenated by strong marketing or consumer rejuvenation.
- New goods provide an opportunity for aggressive growth in order to meet management's long-term business objectives.

- New markets, such as organic or functional foods, may emerge, and corporations may be enticed to enter with their products. Markets may evolve; for example, e-commerce has emerged, necessitating the development of new items better adapted to the changes.
- New understanding and advances in technology have made previously unthinkable food product ideas practically achievable. New findings in the health sciences point to new food products that are more adapted to today's consumers' healthy lifestyles.
- New food products may be required as a result of changes in government legislation, health programs, agricultural policy, or agricultural assistance programs. [16]

#### 2.1.2.4 Phases & Milestone Structure

The food product development process and its phases and structure are being well presented by the following images & figures [13] from Marvin J. Rudolph who clarifies that a good process is flexible and continuously evolving.

#### **Product Definition Phase**

#### Strategic Plan

The skier (product developer) starts the race from the starting gate, following a strategic strategy put in place that is being called "third generation R&D". Third-generation R&D is essentially the integration of commercial and technological objectives. Third-generation R&D, which is gaining traction in major corporations, is the way of the future. It explains the obstacles that the company must overcome in order to define an overall technology strategy, set project values and objectives, allocate resources among R&D projects, manage the R&D portfolios and track progress. The core concept is that corporate business and R&D executives must collaborate to integrate corporate, business, and R&D objectives into a cohesive plan of action that best supports the company's short-, mid-, and long-term goals. A primary outcome of third-generation R&D is a picture of the company's trajectory; it characterizes the marketplaces served and the competitive environment, identifies regulatory constraints, and defines the company's market positioning, core capabilities, and profitability targets.

#### Market Opportunity assessment

Following the development of a strategy plan, the next step is to characterize the market potential. This implies the establishment of market demands. In the food sector, this primarily pertains to consumer research. Focus groups are regularly used to find new product opportunities. Focus groups are appealing because of their "open nature," which

frequently results in qualitative (anecdotal) remarks that can be misinterpreted when observer bias is present.

## • Product Business plan

The consequences of consumer real-time knowledge elicitation in the preceding steps include the discovery of possible consumer demands and product concepts that may be integrated in a product business strategy, a document that explains marketing opportunities and the plan required to achieve them. The business plan which is normally created for a year, accomplishes the following:

- Establishes a set of defined business goals;
- Defines the marketing strategy and programs required to meet the goals.
- o Identifies who is responsible for the program's execution.
- Establishes program execution timelines and tracking systems.
- o Translates goals and programs into predictions and budgets for others to plan.

#### Product Definition

Product definition is the final stage in this phase. The integration of numerous, and often conflicting, objectives is crucial to product definition. Consumer needs, corporate goals, product delivery requirements, and regulatory restrictions must all be integrated. In this step we must concentrate our efforts on satisfying the demands of our customers: who are our customers, and what do they want? What will our product do to meet those needs?

## **Product Implementation Phase**

## • Prototype Development

Following the definition of the food product, a "works like, looks like, tastes like" product prototype is built or developed. Here the profile attribute analysis (PAA) is used to show that the product prototype in its imagined final form will meet the technical and business objectives set. PAA is utilized in the development of product prototypes in two ways: competitive product evaluations (benchmarking) and product optimization.

## Market Strategy and Testing

The company has invested time and money in producing a new product from concept through optimization at this step in the product development process. The goal after this is to plan for a full-scale launch if marketing forecasts look promising. However, models that are reasonably realistic representations of market response are used in the product

definition process and results may not keep pace with real market conditions. Several models have been developed that expose the new product to consumers in a realistic setting and use direct consumer measures to forecast cumulative trial and repeat purchases. Commercially, new services are continually being created, and it is clear that technically proficient models and measuring techniques will be widely available to anticipate sales of new packaged food products in the near future.

## Scale-up and trial production

Finally, the new food product must be developed to suit the consumer's requirements. Early engagement of the manufacturing function in the product development process helps to avoid issues that arise when customer expectations clash with engineering limits. The level of compromise established between the R&D and manufacturing operations is frequently linked to the product's success. A whole quality program that continuously discovers, examines, and controls risk is implicit in the scale-up and trial production of the new food product.

## **Product Introduction Phase**

#### Product Introduction

Sales are in charge of the product introduction milestone, but it is backed by all other functional areas, particularly marketing and distribution. The product has undergone field testing and is designed to fulfill the needs of the consumer. To express the necessary messages of quality and value, the food has been packed and priced accordingly. Transport packaging has been tested, and the product has been supplied in a timely and accurate manner, allowing it to move freely through the distribution system. People see the item for what it is in this phase, which is both exciting and nerve-wracking. Their immediate reaction usually shows if the product has a chance of succeeding or failing.

#### Finish product support

Because it gives back useful information to other functional areas that can drive the process for line extensions, product upgrades, and the development of all new opportunities, product support is a complimentary milestone that creates product success and customer retention.

The "infantry" for the battle at the retail shelf is product support; it's the first line of contact from the point of purchase back to the company.

[13]

## 2.1.2.5 Important factors for a successful food product

Companies in the food business appear to prefer to redevelop existing items (incremental change) rather than generate new products (radical change). Because the development of food products is a high-risk endeavor, the gradual change technique could be an attempt to boost success rates. Ironically, this ostensibly "safe" strategy contributes to the high rate of food product failure, because truly creative items are often more profitable for a corporation (Stewart-Knox & Mitchell, 2003)

Tetra Pak (2004) discovered that new products that succeed in the marketplace have one or more of the following characteristics. As a result, these could be used to **screen ideas** during the product development process:

- distinguishing details that are vital to the consumer;
- serve the consumers' demand for convenience, youth, better diet, less stress, excellent flavor and variety;
- reliable brand;
- · advertising breakthrough

Calatone and Cooper [Stewart-Knox & Mitchell, 2003] conducted groundbreaking research in the late 1970s that proved that product success is based on various elements during the product **development process**. The following factors were drawn from De Brentani & Kleinschmidt, 2004; and Stewart-Knox & Mitchell, 2003:

- a commitment of sufficient resources to the NPD program;
- cross-functional teams;
- effective communication between product development team personnel;
- careful planning at the concept stage of product development;
- top management support;
- involvement of senior personnel;
- thorough market research;
- effective market research

On the other hand, factors that are associated with **product failure** were reported as:

- lack of market knowledge, e.g. due to poor market research;
- misdirected marketing efforts;
- dynamic and competitive markets;
- inadequate market size;
- resistance by marketing staff;
- technical problems;

- high prices;
- distribution problems;
- internal conflicts.

[12]

# 2.2 Packaging Design

## 2.2.1 Packaging & Labeling Design

## 2.2.1.1 Packaging Definition

Packaging is the science, art and technology of enclosing or protecting products for distribution, storage, sale, and use. Packaging also refers to the process of designing, evaluating, and producing packages. Packaging can be described as a coordinated system of preparing goods for transport, warehousing, logistics, sale, and end use. Packaging contains, protects, preserves, transports, informs, and sells. In many countries it is fully integrated into government, business, institutional, industrial, and personal use.

#### 2.2.1.2 Labeling Definition

Package labeling (American English) or labelling (British English) is any written, electronic, or graphic communication on the package or on a separate but associated label.

[18]

#### 2.2.1.3 The purposes of Packaging and package Labels

• Physical protection:

The contents of the packaging may require protection from mechanical shock, vibration, electrostatic discharge, compression, and temperature, among other things.

Barrier protection:

A barrier to oxygen, water vapor, dust, and other contaminants is frequently necessary. Permeation is an important consideration in design. To aid extend shelf life, some products include desiccants or oxygen absorbers. In some food containers, modified atmospheres or

regulated atmospheres are also maintained. A key function is to keep the contents clean, fresh, sterile, and safe for the duration of the desired shelf life. In circumstances where segregation of two materials prior to end usage is essential, such as in the case of specific paints, glues, medical fluids, and so on, a barrier is also used.

## • Containment or agglomeration:

For storage and marketing purposes, little goods are usually put together in one package. A single box of 1000 stones, for example, requires less physical interaction than 1000 individual stones. Containment is required for liquids, powders, and granular materials.

#### • Information Transmission:

The instructions on how to use, move, recycle, or dispose of the package or product are printed on the packaging or label. Some sorts of information are needed by government legislation for pharmaceuticals, food, medical, and other items. Some labels and containers are also used for tracking and tracing purposes. The packaging of most things includes serial and lot numbers, and in the case of food, medicine, and some chemicals, the packaging frequently includes an expiry/best-before date, usually in an abbreviated format. A sign on a package may identify the material used in its manufacturing.

#### Marketing:

Marketers can utilize packaging and labeling to persuade potential consumers to buy a product. For decades, packaging graphic design and physical layout have been crucial and ever-changing phenomena. The surface of the packaging, as well as the point of sale display, are covered in marketing communications and graphic design. On the one hand, most packages are intended to reflect the brand messages and identity, while on the other hand, accentuating the particular product concept.

#### Security:

Packaging can help to reduce the security concerns associated with shipments. To deter manipulation, packages can be constructed with better tamper resistance and tamper-evident features that show when tampering has occurred. Packages can be designed to help limit the danger of package pilferage, as well as product theft and resale. Anti-counterfeiting systems can reduce or eliminate counterfeit consumer products, unauthorized transactions (diversion), material replacement, and manipulation. Authentication seals and security printing may be used on packages to help signal that the package and contents are not fake. Anti-theft devices may also be included in some packages. Retail loss prevention can be accomplished by utilizing packaging in this manner.

#### Convenience:

Packages can have features that make distribution, handling, stacking, display, and selling easier, as well as features that make opening, reclosing, using, dispensing, reusing, recycling, and disposal easier.

#### Portion Control:

To limit usage, single serving or single dosage packaging has an exact amount of contents. Bulk goods (such as salt) can be broken into more manageable packets for individual households. It also helps with inventory control by selling sealed one-liter milk bottles rather than requiring customers to bring their own bottles to be filled.

#### Branding / Positioning:

Packaging and labels are increasingly being used to move beyond marketing and into brand positioning, with the materials used and the design chosen being critical to the brand development storytelling factor. This component of packaging is becoming increasingly important in the digital age due to the increasingly fragmented media landscape.

[21]

#### 2.2.1.4 Packaging Types

Packaging comes in a variety of shapes and sizes. A shipping container, such as a transportation package or distribution box, is used to carry, store, and manage the product or within parcels. According to certain definitions, a consumer package is one that is directed at a single individual or household. Packages are classified according to their layer or function, such as primary, secondary, and so on.

- → **Primary Packaging**: Primary packaging is the material that enfolds and retains the items for the first time. This is the packaging that has direct contact with the contents and is often the smallest distribution or use unit.
- → **Secondary Packaging**: Secondary packaging could be used outside of primary packaging to prevent misappropriation or to cluster primary goods together.
- → **Tertiary or transit packaging:** Is employed in mass handling, warehouse storage, and transportation. The most common is a packaged unit load, which fits comfortably into containers.

Packaging can also be divided into groups based on the shape of the packaging. The terms thermoform packaging and flexible packaging, for example, cover a wide range of applications.

[20]

## 2.2.1.5 Package Environments

In three separate contexts, the package must accomplish its functions. Poorly constructed packages, increased expenses, consumer complaints, and even customer avoidance or rejection of the product will ensue if all three environments are not considered during package construction.

#### A. Physical Environment

This is the setting in which the product can be physically damaged. It includes shocks from drops, falls, and bumps, as well as damage from vibrations caused by transportation modes such as road, rail, sea, and air, as well as compression and crushing damage caused by stacking during shipment or storage in warehouses, retail outlets, and the home.

#### B. Ambient Environment

This is the area in which the package is placed. Gasses (particularly O2), water and water vapor, light (particularly UV radiation), and temperature, as well as microorganisms (bacteria, fungi, molds, yeasts, and viruses) and macroorganisms (rodents, insects, mites, and birds) that are common in many warehouses and retail outlets, can all cause damage to the product. Contaminants in the surroundings, such as automotive exhaust fumes, dust, and dirt, can also enter the product unless the container serves as an effective barrier.

#### C. Ambient Environment

This is the context in which the package interacts with humans, and developing packages for this environment necessitates an understanding of the wide range of skills that consumers possess, including vision, strength, weakness, dexterity, memory, and cognitive behavior. Liability, litigation, legislation, and regulation are examples of the outcomes of human activity.

#### 2.2.1.6 Environmental Considerations

While developing a package, consider sustainability, ecological integrity, and appropriate environmental and recycling legislation. A life cycle assessment of the package's energy and material inputs and outputs, as well as the packed product's (contents), packaging procedure, logistics chain, waste disposal, and so on, should have been included. The most

important regulatory requirements for manufacturing, sale, and use must be known. The "three R's" of reduce, reuse, and recycle are all part of a waste management hierarchy that can be considered when developing products and packaging.

- → **Prevention:** One of the most essential objectives is to eliminate waste. Only utilize packaging when it is absolutely required. Proper packing might also help to reduce waste. Packaging serves an important function in preventing the loss or damage of commodities (contents). The packaged product's energy content and material utilization are frequently substantially higher than the package's.
- → Minimization: Minimize overpackaging to get rid of it . The total mass of packaging (per unit of contents) can be evaluated and used as criteria for reducing the package throughout the design phase. In most circumstances, "reduced" packaging aids in cost-cutting. Engineers are still attempting to reduce the quantity of packaging that is used.
- → Reuse: Reusable packaging has long proved beneficial in closed-loop logistics systems (and financially feasible). Cleaning, repair, and recouperage are all things that must be done on a regular basis. Some companies repurpose the packaging of the entering elements as packaging for the existing product or as part of the product itself.
- → Recycling: Recycling is the reprocessing of resources (pre- and post-consumer) into new items. Steel, aluminum, paper, plastics, and other important package core components are prioritised for recycle. It is possible to select small parts that are easy to isolate and do not compromise recycling operations. To make recycling easier, packages might be designed to separate components.

Governments, standards organizations, customers, packagers, and retailers are all interested in designing environmentally friendly packaging. Sustainability is the fastest-growing driver for package development, especially for packaging makers who cooperate with the world's greatest brands, because their CSR (Corporate Social Responsibility) criteria sometimes exceed those of the EU Directive.

## 2.2.2 Food Packaging Design

## 2.2.2.1 Food Packaging Definition

Food packaging is packaging for food. A package provides protection, tampering resistance, and special physical, chemical, or biological needs. It may bear a nutrition facts label and other information about food being offered for sale. [25]

#### 2.2.2.2 Food Packaging History

From the prehistoric era to the industrial revolution, the use and application of technology in the packaging of food products has changed dramatically. Some of the most important dates are the following:

**7000 BC:** The introduction of pottery and glass, which led to the beginning of industrialisation approximately 1500 BC.

**1800:** In answer to inquiries about prolonging the product shelf life for the French Army, Nicolas Appert used glass bottles and thermal food treatment. Metal cans have since taken the place of glass in this application.

**1870:** Paper board is first used, and corrugated materials are patented.

**1880:** Quaker Oats is the first cereal to be packaged in a folding box in the 1880s.

**1890:** William Painter patents the crown top for glass bottles in the 1890s.

**1960:** In the United States, the two-piece drawn and wall-ironed metal cans, as well as the ring-pull opener and the Tetra Brik Aseptic carton container, were developed in the 1960s.

**1970:** The barcode system was first used in the retail and manufacturing industries in the 1970s. PET blow-mold bottle technology, which is widely utilized in the beverage industry, has been introduced.

**1990:** The use of digital printing on food packages became widespread in the 1990s.

## 2.2.2.3 Food Packaging Types

There are different types of food packages and containers such as:

Aseptic processing	Primary	Liquid whole eggs or dairy products
Trays	Primary	Portion of fish or meat
Bags	Primary	Potato chips, apples, rice

Boxes	Secondary	Corrugated box of primary packages: box of cereal cartons, frozen pizzas
Cans	Primary	Can of tomato soup
Cartons, coated paper	Primary	Carton of eggs, milk or juice cartons
Flexible packaging	Primary	Bagged salad
Pallets	Tertiary	A series of boxes on a single pallet used to transport from the manufacturing plant to a distribution center
Wrappers	Tertiary	Used to wrap the boxes on the pallet for transport

[26]

#### 2.2.2.3 Food Reducing & Recycling

Packaging that is less wasteful and more environmentally friendly is becoming more common. Government rules, consumer pressure, retailer pressure, and cost control are all possible motivations. Reduced packing frequently saves money on packaging.

Organic matter that remains in the food packaging after use must be removed from the packaging. The food packing may also need to be rinsed. Food packaging is made from a range of materials, including plastics, metals, papers, and glass. Recycling these products differs from simply reusing them in that the recycling process has its own algorithm that includes collecting, sourcing, processing, manufacturing, and marketing.

# 2.3.3 Food Packaging Trends / Aesthetics

## 2.3.3.1 Food Packaging Trends

We must examine the current market trends that are extensively dispersed over the world in order to create a complete design product. Part of the modern modifications in the

appropriate sector of activity should be incorporated into an up to date product as much as possible.

Food packaging trends are always evolving, and they experience a great deal of innovation and change throughout time. Customer demands, on the other hand, evolve in tandem with technological advancements. With the use of smart marketing and branding, many individuals are increasingly eager to connect with specific businesses.

To connect and interact with its customers, consumer packaged goods come in a variety of styles, packaging, and aesthetics. After all, it's typically the package that entices first. As a result, many types of packaging have arisen today to help brands advance and stand out among their competitors while also connecting with their target market.

Below are some trends around the packaging industry that are definitely worth considering before the design process. [29]

## 1. Technology-enabled solutions

One of the food packaging trends for 2021 is smart packaging solutions. It's also one of the most effective methods of delivering and bringing value to your food packaging today. Technology-enabled solutions that can be reached using smartphone gadgets such as QR codes not only are a trend nowadays, but they also use the end-experience user's with the product, because it has the ability to communicate with customers and offer them with more product information.

You can direct your clients to online information by including a QR code on your food packaging. QR codes are created utilizing an online QR code generator, which offers a variety of QR solutions or kinds that you may employ in your packaging based on the information you want to convey. For instance, you can place a video QR code on your box that will take customers to a film describing your product's manufacturing process or a webpage QR code that directs them to your site or company, allowing them to learn more about your organization. With such adaptable technology, there are various specific QR code options for your needs.

## 2. Sustainable and environmental-friendly product driven packaging

You may use your food packaging to encourage long-term sustainability while also helping the environment. The sustainable food packaging trend necessitates the use of fewer natural resources, allowing businesses to continue producing food product packaging at a lower cost

and increase long-term sustainability. According to the Global Sustainability Index Institute, sustainability goals have more than doubled at 400 of the world's most famous businesses.

Furthermore, by incorporating QR codes into their food packaging, businesses and organizations can generate new chances for innovation while remaining environmentally conscious. CPG (consumer packaged goods) brands, for example, can replace the manual or instructional guides on food packaging with a PDF QR code.By scanning the information, food production businesses and other business-related industries can directly deliver it to the end-user via their smartphone devices. PDF QR code may be printed with food packaging, resulting in a little pamphlet that will save many businesses money by eliminating the need to print thousands of pages, which is both expensive and harmful to the environment. A PDF QR code is both cost-effective and ecologically friendly, as well as inventive.

#### 3. Story-driven food packaging trend

Customers are interested in learning more about your company's personal narrative. It's much more straightforward and simple if customers may access it with a simple scan of their smartphone devices. When customers identify with a company's ideas and values, they form a strong bond with it, increasing their chances of choosing it again. You may create a movie QR code or an image gallery QR code using the QR code element and use it into your food packaging to create an interactive food packaging trend while also entertaining your clients.

#### 4. Minimalism

In the world of food package design, minimalism is still very popular. Some companies in the packaging business have moved away from ornate and chaotic designs in favor of simplicity and straightforward labeling and packaging. Minimalism and simplicity in packaging design are here to stay and will continue to be popular in the future. Furthermore, it assists in emphasizing the product's value while avoiding overpowering buyers with extravagant visuals and creative works.

Consumers are already overburdened and accustomed to lavish and colorful packaging, so giving them a clean design is a welcome change. The packaging looks clean, elegant, simple, and refreshing in the vision when the design is kept basic and modest. However, it lowers the cost of your manufacturing process.

#### 5. Personalization - Customized Design

The desire for a personalized style is one of the most prominent trends in food packaging. More personalized design packaging is expected in the future of food packaging design and development to bridge the gap between consumer wants and product reality. Food packaging customisation is getting more popular as production speeds grow. Consumers expect their food and snacks to match their specific, ever-changing needs, and inventive packaging design with a personal touch can assist firms in meeting this challenge. Due to the rapid increase of premium packaging among many multinational and even local firms, the global customized packaging market has seen a surge in growth in recent years.

#### 6. From offline commerce to online

During the onset of the Coronavirus pandemic, the rise of online shopping exploded, according to supermarket news. According to studies, 43 percent of people purchase groceries online during the last six months, compared to 24 percent two years earlier. With the world gone contactless, food retailers can employ in-store QR codes as a non - contact way to shop.

For instance, Tesco, a well-known grocery shop with numerous locations throughout the world, has essentially constructed a strategy focused on the country's lifestyle, South Korea. Food package items contain a QR code that, when scanned, displays the items on the user's smartphone screen, allowing them to place orders while waiting for trains or buses.

## 7. Anti-counterfeit packaging

Counterfeit items are not just common in the garment business; the counterfeiting problem in the food industry has also spread widely, and the food manufacturing industry is still grappling with it. QR codes on food goods can be used to detect and monitor fake food items, which can help to tackle this problem.

#### 2.3.3.2 Food Packaging & Label Aesthetics

Our research into current trends extends not only to the packaging of the final product, but also to the aesthetics of the labels of them. We must keep track of the most important market trends in terms of aesthetic design approach to the market, as the world of design and technology is always growing at a quick speed.

Food packaging has a big influence on who buys it, when they purchase it, where they buy it, and why they buy it. It's smart to have food packaging that is both efficient and marketable.

New trends and innovations have emerged as a result of shifting client preferences. The food packaging industry has undergone major advancements as a result of technological advancements. The resulting outcome of a product's labels must now be thoroughly studied and executed as design becomes more cutting-edge. [30]

## 1. Die-cut Shapes

Every label is a die-cut label, but not every company uses a custom die, which is what today's market is all about. Food labels must have shelf appeal and durability, and such labels are less likely to tear from the container, while we may produce a label shape that completely matches the design purpose. We can employ die-cut labels for practically any product or function by adjusting the printing procedure. Die-cuts can be used to create a variety of label shapes to showcase the products.





Source: packagingoftheworld.com/2017/01/wild-honey-student-project.htm

Figure 1. Die Cut Shapes in Food Packaging Examples

#### 2. Flat-2D Illustrations

The bigger focus on simplicity of design, hues, and typography is one factor for 2D or flat examples picking up the market. The minimalist approach enables designers to use flat images as an effective way to develop structures on printed material, such as bottle label designs. They're also a versatile drawing style that may be used to represent a variety of different brands. Flat graphics are particularly appealing for packaging design since they are very easy to print on a variety of packaging substrates.





Source: behance.net/gallery/110793287/Summer-Day-Packaging

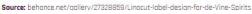
Source: behance.net/gallery/101033527/Juice-Packaging-Design

Figure 2. Flat 2D Illustrations in Food Packaging Examples

## 3. Loud Design

Product label design should stand out from the competition on the shelf, thus it should not be dull or monotonous. Ornate designs, detailed embellishments, and eye-catching colors should all be present. Bold design isn't just for artists any more and if cluttered backdrops aren't appropriate for your business, we can indeed release a remark with bold typography as it is one of the best methods to express creativity. It's totally made up of patterns or images, starting with simple sans serif letters with a hefty stroke. Participants viewed 42 percent more bolder advertisements than plain listings, according to a phone book experiment. Labels stand out better when they have big borders, such as strong, diagonal lines rather than tiny stripes or no lines.







Source: behance.net/gallery/103066301/Fresh-Up

Figure 3. Loud Design in Food Packaging Examples

## 4. See through Label Packaging

A see-through food label is widely considered as one of the best methods to ensure that consumers notice the products. The "no-label" approach has been so successful in the beverage and food industries, but it's encouraging to see brands incorporating explicit material and transparent components into their food labels. Transparencies can serve as a clear way to attract attention as people are more aware of what they consume these days, especially with COVID-19. Thus transparency allows people to have faith in the visible product.



Figure 4. See through Label in Food Packaging Examples

#### **5. Contrasting Palettes**

One of the most creative abilities and one of the most crucial things someone in the design field can do, is to gain confidence in color choices. Knowing what colors work together is a skill in and of itself, and it can benefit in many aspects of life. Color contrast may elicit strong emotions in people, so picking the right shade is crucial. They merely assist us in distinguishing between objects. It enables skilled designers but marketers as well, to direct the attention of visitors, both with and without the use of color. When compared to similar colors, complementary colors produce a greater contrast and, as a result, a stronger visual involvement. As a result, complementary-color packages are likely to have higher purchase intent.





Source: behance.net/gallery/102470763/Letteringillustration-Labelpostersstickers-design

Figure 5. Contrasting Palettes in Food Packaging Examples

#### 6. Patterns and textures

In label design, the current years will be dominated by textures and patterns. While being digitized, a design pattern is a recurring element that provides texture room and material that can be experienced through the tactile. Both can be used to enhance a brand without detracting from the logo. The use of pattern and texture on the label enhances the customer experience and contributes to the development of the brand's individuality. The appearance however must not be overly busy, as this will make it difficult for customers to read and the magnitude of patterns and textures to be deliberate and consistent.





uts-Honey-Spread **Source:** behance.net/gallery/62075791/Gama-Curvas-Wine-Packaging-Design

Figure 6. Patterns and textures in Food Packaging Examples

#### 7. Vintage Style

Aged design is currently being valued as gold, bringing nowadays a nostalgic sense. People will be reminded of simpler times by food label designs with a vintage vibe, which can relate to any design or indication of a bygone era or a mix of times. Utilizing vintage-inspired textures, shapes, materials, exterior packaging, and picture choices to go beyond logos and labels and incorporate the entire brand experience. The original designs were created in the past, and retro usually refers to new designs that are modeled after these older patterns and as a result, rather than actual vintage designs, the blueprints are vintage-inspired.





Source: packagingoftheworld.com/2010/07/sir-kensingtons-ketchup.html

Source: behance.net/gallery/52854103/wine-lobel-concept

Figure 7. Vintage Style in Food Packaging Examples.

Trends come and go every year, but the most essential thing for a company is to stay current so you don't fall behind in the market. The requirement for clean, intelligent, convenient, and sustainable solutions, among other things, has driven emerging trends in the food label sector. Decision makers must embrace new trends for their businesses in order to move forward. Investing time and effort into perfecting food label design will result in increased sales and consumer loyalty in the upcoming years. Evaluating and utilizing the best possible solutions for food label designs can lead to future success.

## 2.3 Food Industries

## 2.3.1 Food Industries Today

## 2.3.3.1 Food Industry Definition

The food industry is a vast, global network of firms that supplies the bulk of the world's food. The term "food industries" relates to the manufacturing, distribution, processing, transformation, preparation, storage, shipping, licensing, and packaging of food. Food manufacturing has evolved into a very varied industry, ranging from tiny, labor-intensive, family-run companies to massive, capital-intensive, highly automated industrial processes. Many food-related businesses rely almost entirely on local agriculture, produce, and fisheries. It's tough to find a holistic solution that addresses all aspects of food production and delivery. According to the UK Food Standards Agency, the food business includes "the entire food sector - from food manufacture, packaging, and distribution, through retail and catering".

## 2.3.3.2 Food Industry Trends

Everything is in flux. The way we eat, technology, and people's expectations are all having an impact on the food sector, from the materials we buy to the software we use to manufacture meals. In the worldwide food and beverage business, capital expenditure for automation is estimated to be around US\$19 billion. Process equipment automation is worth \$9 billion, packaging and material handling equipment is worth \$7 billion, and production line automation is worth \$3 billion. In a very dynamic mass consumer industry with several competitors, food and beverage goods must continue to be imaginative and costcompetitive. As a result, the manufacturing process must be able to adapt flexibly in a short period of time in order to respond to the short product's life cycle and small and diverse product specifications while preserving quality. Because of the wide range of food and beverage substitute options, the wider populace has high price sensitivity in the raw material acquisition and sales market of industry foodservice. A small price adjustment could result in a massive drop in demand in the short term. When it relates to raw material supply, however, the food and beverage industry has a low relative pricing. For the time being, most manufacturers chose to absorb costs rather than pass them on to consumers. The key reason for this is to account for the possibility of losing customers. [31]

#### 1. Safety standards in the post-Covid era

People need to eat, thus food production has become an important sector all around the world, despite the pandemic. The flip side of remaining open, though, is having to deal with ever-tighter limits and measures. While the rollout of the Covid-19 vaccine has been largely beneficial, restrictions remain in place in many countries, making safety a prominent and crucial trend for the coming year. Physical inspections of food processing industries are expected to increase this year as social distancing restrictions around the world are eased, allowing inspectors to resume their duties. Workers should be prepared for a series of stringent assessment standards, as well as the possibility of more interruption, as a result of the tighter safeguards.

#### 2. Sustainability

When it comes to food, consumers today are concerned about sustainability. In fact, the International Food Information Council (IFIC) found that 54% of respondents feel sustainability is extremely or somewhat important. The global food industry is emitting around 3.3 billion tonnes of CO2 annually, according to the UN's Food and Agricultural Organization. It also contributes to a major portion of land surface use, which is causing environmentalists to become concerned. Food waste is an important aspect of food sustainability to consider. According to the United Nations, over 1.6 billion tonnes of "main product equivalent" food is thrown away globally, with food being lost or squandered on 28% of agricultural land. The entire annual financial effects are estimated to be around US\$750 billion.

## 3. Plant based foods

Plant-based foods are becoming increasingly popular, and they're taking over grocery shelves and freezers all over the world. Indeed, the plant-based meat business in the United States is worth over \$900 million, and 14% of US households say they buy plant-based meat (Good Food Institute). Vegans used to be the only ones who used these substitutes, but now vegetarians, flexitarians, and ordinary omnivores make up a major share of prospective consumers and are driving market expansion. People believe that these selections are healthier and health is a big concern for today's customer. Of course, long-term viability (sustainability) is equally important. Consumers are constantly assaulted with stories of animal maltreatment in the agriculture industry, and they are concerned about the long-term viability of meat-based foods over plant-based alternatives. This has resulted in significant short-term growth in the industry: according to Nielsen statistics (compiled by FoodDive), sales of meat alternatives increased by 129 percent during the pandemic.

## 4. Healthy choices

Health foods have been popular for many years, but the pandemic has given them a whole new meaning. Changes in consumer behavior, for example, demonstrate that individuals are becoming increasingly concerned about their immune systems and how their dietary choices may affect them. As a result of Covid-19, 57 percent of worldwide customers said they are now more concerned about their immunity. This has resulted in an increase in the market for probiotics, prebiotics, and postbiotics. People are worried about more than just their immune systems. Concerns about cardiovascular disease, weight loss, personal nourishment, and mental health are all driving behavioral changes that are affecting product growth. To put it another way,

nearly half of consumers intend to purchase food products related to their health and well-being, and a third of them have already done so.

## 5. Buying food that lasts

Covid-19 had a significant impact on customer behavior. A switch from fresh to frozen goods is one big behavioral adjustment. When confronted with a supply disruption of the fresh item they meant to buy, 28 % of consumers will choose a frozen or processed option, according to Deloitte. This is supported by reports that customers are buying for groceries less frequently than in the past:

- Customers who used to buy fresh food many times a week have cut in half
- Consumers shop 40 % less frequently than before the outbreak.

Perishables may be at jeopardy if manufacturers are unable to maintain a steady supply and maintain their appeal to strained customers. When Deloitte surveyed participants about their stockout substitutes, about half claimed they prefer the replacement product sometimes and don't plan to return.

## 6. <u>Just-in-time supply chain under pressure</u>

For decades, the just-in-time supply chain model has ruled the food business, assisting organizations upstream and downstream in reducing waste and controlling prices. This approach, however, has become too fragile for the present day under the intense strain of Covid-19. Experts foresee — and are seeing — a large-scale transition away from JIT and toward just-in-case in the food industry. Of course, this necessitates a fundamental revamp of the distribution chain; while there are advantages (upstream partners are under less pressure to produce items at the same frantic pace, while downstream partners create resilience to supply chain interruption), it comes at a cost. For example, larger stockpiles may increase the risk of shrinking. As a result, technology is a vital investment for food processors to explore in 2022 — something that will help them organize, monitor, and analyze important processes like inventory management in order to maintain awareness over operations and reduce the danger of excessive shrinkage.

Other alternatives include:

- New suppliers are introduced.
- Diverse sourcing methods
- Diversification of sourcing
- Redesigning products in a near-shoring environment

## 7. <u>Investments in food manufacturing processes and automations</u>

Costs are already high enough without adding to them as a result of shifts in customer behavior and supply chain constraints. Modern food manufacturing software is one method many food businesses are trying to reduce expenses. This type of software focuses on giving you visibility and control over your stock as it enters and exits your facility. This openness leads to improved business intelligence, which can help you make more educated, evidence-based decisions (perhaps a specific item is selling poorly, or particular raw ingredients are growing more difficult to acquire). In today's world, business information is essential for success. Visibility and real-time tracking enable an organization to accurately control expenditures while also allowing it to make modifications in response to changing trends.

Aside from software, 2022 could be a good year to invest in tangible technology, such as automation. Now, automation is a difficult topic to broach, and it isn't appropriate for every company. However, other analysts believe it'll be the life saver for food businesses trying to recover from Covid-19 (along with other big economic shifts such as the United Kingdom's exit from the European Union) while facing devastating labor shortages. All automation initiatives must be assessed against the needs of the human employees and the role they may play in the future of your company.

## 8. Food Label Transparency

Transparency on food labels is a crucial trend for 2022, and it's a means for companies to promote their sustainability and healthful diet activities. Consumers struggle to recognize ecologically responsible sources in their food, according to the IFIC poll. 60 percent stated they have no idea which of their food selections are ecologically friendly, and 63 percent said it would have a bigger impact on their purchasing choice if it were easier. Furthermore, according to an Innova survey, six out of ten worldwide consumers are keen to know where their food is coming from. This emphasizes the need for clear product packaging and storytelling. Product desirability may be influenced by information, sustainable and fair sourcing, supply chain transparency, and clear ingredients.

## 2.3.2 Mediterranean Food & Diet

#### 2.3.2.1 Mediterranean diet Definition

The Mediterranean diet is based on the eating habits of individuals who live in close proximity to the Mediterranean Sea. It was inspired by the gastronomy of Greece, Turkey,

Italy, and Spain when it was first developed in the 1960s. It has since assimilated other Mediterranean cultures, such as those from North Africa, over the years.

A correspondingly high consumption of olive oil, legumes, unrefined cereals, fruits, and vegetables, a medium to high intake of fish, a moderate consumption of dairy products, a moderate intake of wine, and a low intake of non-fish meat products are the main features of this diet. Olive oil has been studied as a potential health factor for reducing all-cause mortality and the risk of chronic disease.

The Mediterranean diet has been related to a lower risk of overall mortality in observational studies. The American Heart Association and the American Diabetes Association both recommend a Mediterranean diet as a healthy eating pattern that may minimize the risk of cardiovascular disease and type 2 diabetes, respectively, because there is some evidence that it reduces the risk of heart disease and premature death. Obese persons may lose weight by following a Mediterranean diet. [32]

### 2.3.2.2 Health Effects

When combined with physical activity, a typical Mediterranean diet rich in fresh fruits and vegetables, nuts, seafood, and olive oil can lower your risk of major mental and physical health problems by:

### Preventing heart disease and strokes.

A Mediterranean diet restricts refined bread, processed foods, and red meat consumption, as well as encouraging the consumption of red wine rather than hard liquor, all of which can help avoid heart disease and stroke.

- Maintaining your flexibility.
- Lowering the risk of Alzheimer's disease.
- Parkinson's disease risk is cut in half.
- Longevity is increasing.
- <u>Defending against the onset of type 2 diabetes</u>.

It is obvious that adopting Mediterranean eating patterns has considerable health benefits for individuals. The documentation of the basic food categories that make up this diet is the next area of inquiry.

### 2.3.2.3 Dietary components

Due to ethnic, cultural, economic, and religious differences, "Mediterranean diet" varies in different nations and among particular groups in the Mediterranean basin.

Dietitians' definition of a "Mediterranean diet" typically consists of the following components that are not typical of Mediterranean diets:

- 1. Olive oil (as the primary source of fat), vegetables (particularly leafy green vegetables, onions, garlic, tomatoes, and peppers), fresh fruits (as desserts or snacks), cereals (mainly whole grains), nuts, and legumes are all consumed in large quantities.
- 2. Fish and other shellfish, poultry, eggs, dairy products (namely yogurt and cheese), and red wine in moderation.
- 3. Red meat, processed meat, refined carbohydrates, and sweets are all regularly consumed.

[32]

## 2.4 Royal Mediterranean Company

### 2.4.1 Company's History

Tsatsoulis (Royal Mediterranean) Company is a powerful, well-focused organization with a well-defined business niche.

From unique harvesting methods, to the one-of-a-kind packaging designs, Royal is always looking to make its process as efficient, eco-friendly, and forward-thinking as possible.

Over the last few generations, our lifestyles have changed radically. We now live at a faster pace and often seem to lack time for balanced, regular meals. For many, processed meals have replaced simple, nourishing wholefoods. They are convenient, but often fail to provide the nutrients we require. Tsatsoulis Mediterranean's mission has been to help people blend healthy nutrition with contemporary life since its inception. Royal has sourced a variety of wholefoods with great nutritional value that can complement rather than force modern lives to alter. Royal Tsatsoulis Bros (RTB) has a substantial international presence and is based in the industrial district of Xanthi in north-eastern Greece. The food and beverage industry,

including the preparation of fresh fruits and vegetables such as peppers, olives, tomatoes, and pickled vegetables, is the company's primary focus.

RTB is a family-owned company that was created in Kavala in 1925 by the present owners' grandfather. As proprietors and managers, the two owners followed their father. The company began by selling enormous quantities of pickles to the Greek market, but has since grown into emerging markets and goods. RTB began exporting to Germany in 1967, making advantage of the extensive Greek immigrant population there. The present owners' grandfather made the company's first step into exporting in 1936, when he agreed to transport pickled vegetables preserved in oak barrels to England. It wasn't until 1986 that the company chose to package its products in jars with its own label.

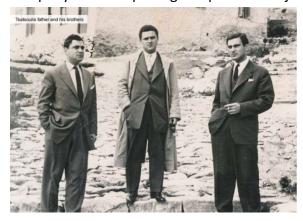




Figure 8. Tsatsoulis Family back in time

Figure 9. Royal Packaging back in time

This decision was bolstered by the company's move to Xanthi in 1998, which provided two major benefits: first, the ability to use a biological system for wastewater treatment, and second, the ability to expand the processing platform by importing modern technology (machines) that would enable the company to offer innovative products in labeled containers and other packages. RTB was able to benefit from economies of scale and advertise products to large merchants, such as supermarkets, after relocating. While consistently extending its production method and product diversity, the company was soon able to access more global markets, such as Saudi Arabia. The company now exports to 28 nations, ranging from the United States to Ukraine, Finland, and Africa. Exports account for about 80% of total revenue. The company is selling to all large supermarkets and may provide customers with their own-brand labeling, resulting in highly personalized items in terms of product and packaging.



Figure 10. Royal Mediterranean Factory, Xanthi, Greece

One of the company's current owners, who has also been the general manager since 1995, studied at the Aristotle University of Thessaloniki and holds a graduate degree in Agricultural Engineering, and a master's degree in Food Technology and Control. He has worked in the company from an early age and is aware of the different procedures and tasks performed in all departments of RTB. Nowadays, he is mainly responsible for the management, while he is also engaged in the research and development Department and quality control. His brother is in charge of the production department.

RTB's yearly turnover surpassed €13 million in 2011, demonstrating a consistent upward tendency over the previous few years. The Greek company employs 75 workers year-round, with an additional 50 people hired on a yearly basis during the harvest season. The personnel have stayed steady throughout the company's history due to the family structure of the firm.

### 2.4.2 Company's Analysis

### **About**

Royal Mediterranean's story starts in Kavala, a northern Greek city. There Alexios Tsatsoulis decided to settle and develop his hobby, his love of good food, into a source of income for his family. He shares dishes from his hometown as well as the centuries-old practice of storing fresh veggies naturally all year. Then he starts making pickles, but in his own special style. He chooses the greatest seasonal veggies, matured at the perfect time, and only from farmers he knows and trusts. With the same care, he selects all of the other materials he requires. Alexios' pickles immediately get a reputation for being exceptionally flavorful and unique, and their fame swiftly travels beyond Kavala's municipal limits. Fame will follow. His pickle company increases over time, and his little workshop expands.

The company's current name, "Royal Mediterranean," is a guarantee of high-quality food and food hygiene. What hasn't changed, is the proper choice of vegetables, the use of high-quality materials, management consistency, a dedicated, experienced staff, and ongoing investments in new equipment, as well as the universal applicability of all global safety and quality management system standards and a commitment to delicious food. All of these things are included in every "Royal Mediterranean" product. The third Tsatsoulis generation is active in the company's day-to-day operations to ensure that the company's founding goals remain alive and well, as "fresh" as it ever was.

### **Trendsetters and innovators**

Whether it's the newest trends and advancements in consumer product ideas, new discoveries in food and health, or streamlining the production process, Royal Mediterranean places a high value on innovation. This manner of operating is one of the company's cornerstones of success and a source of pride. As a result, Royal Mediterranean is the appropriate strategic partner for creating newer concept goods or putting together a current and balanced range.

### Investing in R&D

Royal Mediterranean has a wealth of product development expertise and years of experience. With its own R&D department, the corporation is capable of keeping up with industry trends, stay a market leader, and create new product concepts on a regular basis. The strongest illustration of this is the steady stream of effective product launches.

### **Important Numbers**

### 1925

Processing since then.

2

Ultra modern factories, in the heart of fertile lands.

300

Products, retail and Foodservice, and still counting.

100

Unique product recipes.

### 15000000

Jars leave our production lines every year to reach your table.

30

Countries and still going further, world-around, from New Zealand and Australia to Mexico and Canada.



Figure 11. Royal Mediterranean Map of Distribution

### 2.4.3 Company's Values / Statements

### **Key statements**

- → "Years of experience and continuous improvement of technology combined with a deep knowledge of the traditional and genuine production methods, enable us to provide a complete range of products of unique quality, innovative and colorful packaging."
- → "We are here to make a difference, unlocking the power of food to enhance of life for everyone"

### Key points of interest

Royal Mediterranean insists on working with clients to overcome challenges. Royal customers are theis number one priority.

- **Safety**: Setting standards for toxicological and microbiological hazards, and instituting procedures and practices to ensure that the standards are achieved;
- Passion for environment: Royal Mediterranean is quality, environment and energy certified. The company does not only set high quality levels internally but also ensures that it gets audited regularly. This is to ensure that the products fulfill a

consistent high quality level. Furthermore it is also kept in mind the respectful use of resources and treatment of the environment.

- Quality: Providing sensory characteristics such as taste, aroma, palatability and appearance
- **Nutrition**: Maintaining nutrient levels in food Ingredients and formulating foods with nutritional profiles that contribute to consumer interest in healthful diets;
- Innovation: Providing characteristics of consumer utility and economic advantage, involving attributes such as convenience, packaging and shelf life

### **Key slogans**

→ "Mediterranean in a Jar"

This particular slogan attempts to attribute the immediacy of the transfer of the company's atopic Mediterranean flavors to the table of the final consumer.

→ "Royal Flavors of Mediterranean Sun"

Symbolizing the value of the sun for the mediterranean, the mediterranean diet but also the beneficial properties of the sun in relation to these, this slogan tries to convey in a direct way the high nutritional quality of its products

### **Values**

"Founded on Family Values, We are dedicated to bringing you nothing but the best. It's a tradition grounded in values that still run in our genes"

- 1. Quality: Deliver safe products that meet customers' expectations and specifications
- 2. Safety: Protect the well being of every employee, customer & consumer
- 3. Improvement: Commit to improving ourselves and our business results every day

### **Mission & Vision**

### Mission

What we do:

We give more people access to the freshest, tastiest, cleanest, most responsibly grown produce available.

Why Do We Do It?

For the health of all people, and our planet. It's a big job, and we're up for it.

The business is still family owned to this day, now led by the third generation and we're all very proud to make the finest quality.

### Vision

We are a family company with a set of values based on our expert knowledge, moving forward, rising to challenges, being dependable and protecting our future.

[www.tsatsoulis.gr]

## 2.4.4 Company's Products

The products of RTB extend to a wide range of Mediterranean diet choices and are distinguished for their high quality and excellent taste from the founding of the company until today.

The main product categories are:

- Peppers
- Antipasti
- Olives
- Pickled
- Dips & spreads
- Greek Tomato Sauces
- Sun Dried & Semi Dried Tomatoes
- Peppedoro peppers
- Marmalades & Chutneys

### 2.4.5 Company's Brand Identity

Basic Info:

Royal Mediterranean, keeping pace with the values it stands for over the years, is distinguished by a fine and complete corporate image that extends to its entire range of activities. The 3 basic logos are distinguished by a simple design approach and although in a pretty modern style they highlight a sense of tradition with their aesthetics. RTB's overall image emphasizes the principle of quality by which it wants every aspect of the company to be governed. An important element is that the company has chosen to use two more logos besides its basic logo. In order to better serve specific purposes of the market and marketing in different conditions the totally three released logos are the following.



Figure 12. Royal Mediterranean Logos

### Colors & Fonts:



relationship to the earth and nature.

As far as the font is concerned, a custom Sans serif type font has been chosen in order to highlight the principles that govern the brand. High quality standards and a classic font combined with minimal design structure and elements.

Figure 13. Royal Mediterranean Logo & palette

The predominant corporate color is a kind of blue one, which was inspired by the Mediterranean Sea's blue. The leaf element, which is a shade of green, clearly represents the company's direct

The basic color of the logo a type of Navy Blue one (#011b58) while complementary colors are a choice of nature green (#abcc37) and white (#ffffff).

### Packaging & Labeling:

As far as the packaging of the products is concerned, the company mainly uses glass jars but also metal containers and cans when the quantities are larger (food service). These choices, of course, are not purely related to aesthetic reasons but also to functional and legislative as well as hygienic reasons.

The labels that distinguish the company are characterized by a color stripe around the perimeter of the package in various vivid colors depending on the content. With a clear and strong presence of the corporate logo the company makes the presence of corporate identity felt on its label. The glass jars allow to a large extent the visibility inside the package, emphasizing the main focus of the whole company, which are the quality and tasty food products. The layout is completed by a photo of the product and its name. In general terms, the design of the label can be characterized as simple and minimal with a touch of differentiation to be the color changes depending on the product contained.



Figure 14. Royal Mediterranean Peppers Product Range



Figure 15. Royal Mediterranean Pickled Products Range



Figure 16. Royal Mediterranean Sundried Tomatoes Products Range



Figure 17. Royal Mediterranean Olives Products Range

### 2.5 Interviews

For professional and student research, research interviews are a common choice since they provide particular advantages in generating unique facts and opinions about the research situation. However, it's easy to overlook the difficulties of conducting research interviews, such as obtaining trustworthy responses, arranging and presenting the data, and avoiding the researcher's subjective participation. Designing and preparing interviews, conducting them, and gathering conclusions of interview data are the three key elements of a well-documented interview process. [33]

Interviews are considered as one of the best research tools in order to gather useful conclusions about various kinds of topics. An interview in qualitative research is a conversation where questions are asked to elicit information. Interviews are the most successful method for qualitative research because they allow you to explain, better understand, and investigate the viewpoints, behavior, experiences, and phenomena of your study participants. The majority of interview questions are open-ended, allowing for the collection of detailed information. A qualitative interview is a more personal form of research compared to questionnaires where the interviewer can probe or ask follow-up research questions of the interview participant. [34]

The next step in this dissertation is to conduct interviews with two of the company's most important factors. After collecting multiple data connected to our subject as well as a complete research and recording of data related to Royal Mediterranean interviews with Business Development Managers from the Marketing and Sales departments were conducted. The purpose of the interviews was to develop the perspectives of active members of the company in relation to the company's present and future, to investigate future development possibilities, and to assess the importance of developing a product or a series of products that differ from the current corporate range but will have a significant market impact.

Generally, the purpose of the interview with these people is to obtain important information on issues that we do not know about and are not described in previous stages of this research in the corporate analysis. For this reason, attempts are made to avoid questions that are clearly related to certain concepts and issues for which there is a clear picture.

The interview is divided into 3 main parts.

### 1. Respondents' activities and company's current situation

Initially, a documentation of the respondents' activities in regard to the company is tried, as well as the company's aims, goals, and urgent plans, in order to better comprehend the circumstances in which it finds itself.

- 1. In a nutshell, what are your business responsibilities?
- 2. Can you briefly describe the company's current position in the market?
- 3. Can you briefly describe the company's current target group?
- 4. What is the company's philosophy, and what are its goals for the future?

2. Product variety increment

The company's aim to increase its corporate product variety is then investigated, as

well as whether there is a precise plan in place for this activity.

1. Are there any specific plans for the company's future sales / marketing

development?

2. Are you satisfied with the current company's range of products?

3. Would you consider the potential of creating a new product or series that is

distinct from the present corporate line and If yes, are there any specific

characteristics that you would like it or them to be distinguished of?

3. Design lines (packaging / labeling)

In the final stage of questions, attempts are made to understand if there are specific corporate lines in terms of design issues and if so, what they are and as well how

flexible the design of the new product that can potentially be attempted can be.

1. What is the company's philosophy in relation to the design and aesthetics?

2. What do you think about the current packaging and labeling design of your

products? Is it conceivable to adopt a fresh package and labeling design

approach?

The interviews were conducted face to face and recorded.

2.5.1 Interview 1.

Interview with Royal Mediterranean's Business Development in Sales Manager,

Place: Royal Mediterranean Main Factory, Industrial Area, Xanthi 671 00

Time: 11 Minutes

Part1.

Respondents' activities and company's current situation

In a nutshell, what are your business responsibilities?

- I am practically responsible for contacting existing sales networks. On a daily basis I deal with customer contacts and work with the aim of gradual expansion through more collaborations in even more markets. I also handle significant orders of strategic interest or of large quantities.

Can you briefly describe the company's current position in the market from the sales perspective?

- Our company has dominated in recent years in its sector in Greece. Our network of partnerships extends to almost all continents and the demand seems to be constantly increasing. We have managed to establish ourselves in the preferences of consumers and suppliers and through our constant effort for improvement we have managed to attach important collaborations with large companies and supermarkets.

Can you briefly describe the company's current target group?

- This is a complex question. The most important thing to point out is that we have two main categories of audience. The one related to wholesale and the one related to retail. As a company, the largest share of our activity is in the wholesale sector. The main feature of our audience is that of interest in Mediterranean cuisine and nutrition. Beyond that, much is determined by the market to which the product is addressed each time.

What is the company's philosophy from your side, and what are its goals for the future?

- We are a constantly growing company that, despite its already great know-how, ensures that it is always improving both in terms of products and in terms of facilities and production and packaging lines. We make an effort to seek out possibilities for growth and, when we do, to seize them. This has been our plan for a long time and by remaining faithful to it we expect even better results.

### Part2.

### **Product variety increment**

Are there any specific plans for the company's future sales development?

- At the moment there are no concrete plans other than preserving our estates and constantly searching for growth opportunities. If an opportunity arises, however, it is a given that we will study it carefully and it is very likely that we will put it into practice.

Are you satisfied with the current company's range of products?

- Our company collects, processes, packages and sells a very wide range of different

Mediterranean food products. We are quite satisfied with our existing range, which we make sure to be renewed when necessary or if a need or field is identified to be exploited in the

market.

Would you consider the potential of creating a new product or series that is distinct from the

present corporate line and If yes, are there any specific characteristics that you would like it

or them to be distinguished of?

- If the conditions are ideal and the product is worth it we are absolutely positive.

Incorporating products with increased chances of market success is one of the key pillars of

the development we are aiming for. In terms of features, I personally do not have anything

specific in mind, but we certainly have to do with a quality and tasty product that can be

processed and packaged with relative ease in our existing production line.

Part 3.

**Design lines (packaging / labeling)** 

What is the company's philosophy in relation to the design and aesthetics?

- In all our appearances we try to be distinguished for our quality. Σo in design we believe

that we have created over the years a fine corporate image and consequently packaging and

labels. In recent years we have decided to maintain a simple design style that conveys

correctly the information we want the public to receive on the shelves of points of sale.

What do you think about the current packaging and labeling design of your products?

Is it conceivable to adopt a fresh package and labeling design approach?

- In general we are satisfied with the design of our labels. Although it is a long time ago since

the last update of our label, we consider that its general image and style is quite modern.

We can also say that has largely served as an example to be imitated by respective

companies. The possibility of adopting a different approach is always possible, depending of

course as well on the style of the product that the label and packaging are called to include.

2.5.2 Interview 2.

Interview with Royal Mediterranean's Business Development in Marketing Manager,

Place: Royal Mediterranean Main Factory, Industrial Area, Xanthi 671 00

Time: 11 Minutes

### Part1.

### Respondents' activities and company's current situation

In a nutshell, what are your business responsibilities?

- I deal daily with various aspects of the business. The main area, however, is that of marketing. I make daily contacts with networks of partners and coordinate movements such as participation in exhibitions, conferences, etc. At the same time, I get in touch with various external partners for the continuous improvement of the corporate image in order, of course, in order to attract greater purchasing interest.

Can you briefly describe the company's current position in the market from the marketing perspective?

- The company has gained a very strong name over the years but we are constantly aiming for the step above. In terms of marketing, our corporate image is pretty good but our actions always continue, taking a look at the trends of the time and the new data that emerge. Our goal is to be as up to date as possible while maintaining our principles at the highest possible level. The most important of all is that of quality.

Can you briefly describe the company's current target group?

- The demographic characteristics of our audience are not clearly defined because our clientele varies considerably. However, we are definitely dealing with suppliers (wholesale) and consumers (retail) who are interested in the Mediterranean diet and are looking for quality food options. In terms of marketing, recently, the requirement to address the needs of an audience asking for premium choices for their table has been identified.

What is the company's philosophy from your side, and what are its goals for the future?

- Our philosophy is directly linked to the principles of the family business (as we have established ourselves in the market) and the provision to the public of the highest quality possible products. We are always looking for opportunities for the step above and our future plans are to further expand our presence worldwide.

### Part2.

**Product variety increment** 

Are there any specific plans for the company's future marketing development?

- The marketing department never stops moving. We are actively looking for ways to broaden our horizons further and we are looking for the best possible ways to achieve this. Targeted promotions and ads are prepared in conjunction with moves related to the emerging field of digital marketing

Are you satisfied with the current company's range of products?

- In general, yes. However, in the context of the continuous improvement and development, as mentioned above, the search for new products that could be integrated in our production line, it never stops.

Would you consider the potential of creating a new product or series that is distinct from the present corporate line and If yes, are there any specific characteristics that you would like it or them to be distinguished of?

- Absolutely. Is our goal and we would be happy to be able to further expand our range. Of course, what concerns us is the product to be harmoniously integrated in our production process and to have many chances of success. As far as its features are concerned, it is true that, as I mentioned above, there is a tendency for premium products as we identified with discussions with our network of partners. If we find fine Mediterranean products that we do not already distribute in the market, it would be nice to add them.

### Part 3.

### **Design lines (packaging / labeling)**

What is the company's philosophy in relation to the design and aesthetics?

Our design in general in any content (e.g. website, social media) related to our corporate identity we want to be simple and understandable. We take care to maintain minimal aesthetics and to use quality photos where needed.

What do you think about the current packaging and labeling design of your products? Is it conceivable to adopt a fresh package and labeling design approach?

- We are satisfied but I think we will make renewals soon. Given the continuous evolution of technology, design and general trends, but also the possible entry of a new product in our corporate range, we could adopt changes. Always keeping up with our values however!

### 2.5.3 Interviews' Conclusions

It is a fact that interviews with two of the business executives gave us the opportunity to understand a lot. Initially in relation to its current status, but also later in relation to its future plans and goals. Equally important is the fact that important information was obtained regarding the company's intentions to expand the range of products.

In the first part which concerned **general information** in relation to the company we pointed out that:

- The company has grown to an international level and aims with steady steps for further development.
- Demand for company's products continues to grow
- Company's target group is divided to wholesale and retail subcategories
- Its immediate goal is the continuous development both in terms of sales and marketing providing quality over all.

In the second part, which investigated the possibility of **adding a new product** or series of products to the company, the following were obtained:

- The company is very positive about the possibility of adding new products to its range.
- However, these products must have been
  - properly researched in order to have an increased chance of success in the market
  - o offer the quality and the taste level that corresponds to the company's products and values
  - o to be able to be integrated with relative ease in the production line.
- A significant partner network interest is identified, in the premium products category.

In the last part, the respondents answered questions that concerned the **design and the aesthetics** of the company in general but also in particular of its packaging and labels:

- The design and the aesthetic approach are in line with the values of the company (quality and simplicity)
- Positive intention to renew or assimilate new packaging and labels

• Constant monitoring of developments in the design field and assimilation of changes whenever possible.

### 2.6 Questionnaire

### 2.6.1 Questionnaire Analysis

A questionnaire should be relevant, understandable, clear, fair, capable of handling all conceivable responses, well encoded, tested, and ethical. Decide what data you need, pick items for consideration, design specific questions, compose the language, design the layout and presentation, consider coding, produce the first draft, evaluate the form and then conduct the survey are the essential phases in building a questionnaire. [35]

The questionnaire is probably the most common data collection technique. [36] For the most effective and more documented verification of the intentions of the company's network of partners regarding the possibility of introducing a new product in it, a short questionnaire was created with relevant questions which was answered by 26 people in the area. Men and women who work professionally in positions related to Royal, from company owners and sales managers to marketing managers and people involved in the production process.

Its main goals are to determine whether the company and its products cover them, if they would want to see a new product, and if so, what aspects they would like to see stand out, all from their own perspective. The fundamental goal is to determine whether there is a genuine need for a new product and, if so, what form and substance it should take. The various responses offered by people with diverse professional jobs in respect to the same questions is an interesting analysis that reveals a lot. At the same time, when we combine the replies with the demographic data, some basic lines are drawn that will be followed in regard to the target audience.

### Sex

26 απαντήσεις

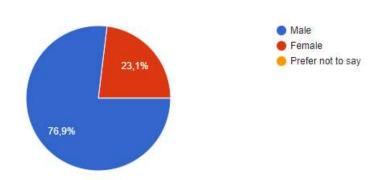


Figure 18. Questionnaire Results, Question 1

### Question 1. Gender

The first question is that of the gender of the respondents.

- Possible Answers:Man, Woman
- Expected answers:
   Based on our empirical knowledge, the male sex is expected to take the lead.
- Result:
   In this case 76.9% are men with women occupying the remaining 23.1%

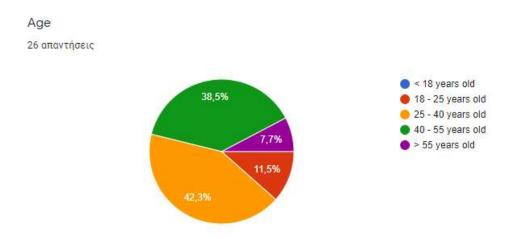


Figure 19. Questionnaire Results, Question 2

### Question 2. Age

The second question is asking the respondents age.

### Possible Answers:

< 18 years old, 18-25 years old, 25-40 years old, 40-55 years old, > 55 years old

### Expected answers:

The largest percentage of respondents is expected to be between 30-50 years old. Answers 25-40 and 40-55 are therefore expected to prevail over the rest.

### • Result:

As expected, approximately 82% belong to the categories 25-40 and 40-55, with the former having the lead with 42.3%. 11.5% belong to the dynamic audience 18-25 while about 7% are over 55 years old. Everyone is an adult as expected as well.

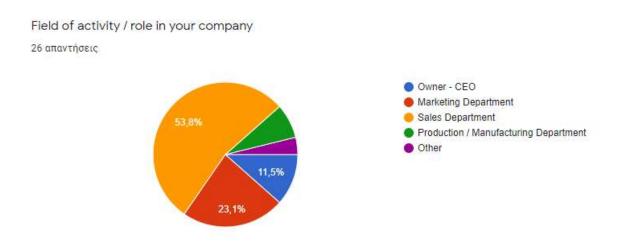


Figure 20. Questionnaire Results, Question 3

### Question 3. Field of activity / role in company

The third question is related to the activity or role of the respondents in their company. This question aims to understand the perspective of the respondents in relation to their answers by helping us to understand how each one works or what they believe based on their position.

### Possible Answers:

Owner-CEO, Marketing Department, Sales Department, Production / Manufacturing Development, Other

### Expected answers:

The largest percentage of respondents is expected to work in the Sales & Marketing Department which are the most crucial positions in relation to the issue we are exploring.

### Result:

The majority of respondents work in the Sales department 53,8% with Marketing department following up with 23,1%. We also have some owners or CEO of companies (11,5%)

How much aware are you of Royal Mediterranean's current product range? 26 απαντήσεις

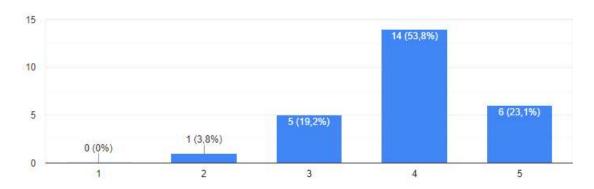


Figure 21. Questionnaire Results, Question 4

### Question 4. Royal Mediterranean's current product range awareness

The following question seeks the knowledge of the respondents in relation to the products of the company. This question attempts to understand the current situation of the company in relation to its associates and the combination of this question with answers given below. It is interesting to see how one deals with the issue of adding a product to the company, considering that one knows its corporate range very well.

### Possible Answers:

Scale from 1(not at all) to 5(completely)

### • Expected answers:

It is expected that the majority of respondents will be at 4 with an immediate next answer at 5 and then at 3. Few will answer below 3 due to the knowledge we have that they generally know the company and its products to a relatively good degree so that they are considered its partners.

### Result:

As widely expected the majority of respondents consider themselves knowing the product range of the company in a 4 out of 5 level (53,8%). Important is that a considerably high percentage believes that they know completely Royal's products (23,1%) and only 1(3,8%) answer was given under 3 out of 5 scale.

How much satisfied are you with Royal Mediterranean's current product range variety? 26 απαντήσεις

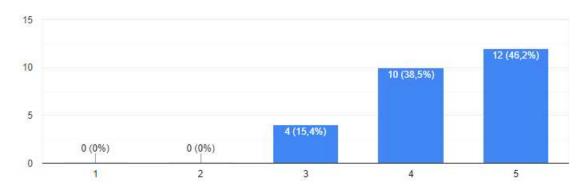


Figure 22. Questionnaire Results, Question 5

### Question 5. Royal Mediterranean's current product range satisfaction

This question tries to understand to what extent the respondents are satisfied with the product variety of the company. The answers in this case will be a guide for the continuation. Iit will be very interesting to record how the respondents face the possible addition of a new product depending on how satisfied they are with the existing Royal's product range.

## Possible Answers:

Scale from 1(not at all) to 5(completely)

### Expected answers:

It is expected that the majority of respondents will be at 4 with an immediate next answer at 5 and then at 3. Few will answer below 3 due to the fact that we are the ones conducting the questionnaire and additionally there are current partners.

### • Result:

As expected, the majority of respondents considered themselves satisfied with the Royal Mediterranean product range, answering 4 or 5 out of 5 in a very big percentage (84,7%). Important is that no one answered below 3 out of 5.

How positive will you face the addition of a new product to the company's range? 26 απαντήσεις

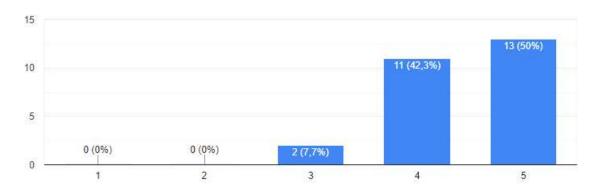


Figure 23. Questionnaire Results, Question 6

### **Question 6. New Product for Royal Mediterranean**

Perhaps the most important of the questions regarding the intention of the partners to see positively or not the addition of a new product for the company. Respondents are asked to answer how they see the possibility of creating a new product by Royal Mediterranean.

# Possible Answers: Scale from 1(not at all) to 5(completely)

### Expected answers:

It is expected that the majority of respondents will be at 4 with an immediate next answer at 3 and then at 5.

### Result:

It is gratifying that 50 per cent of the respondents see the possibility very positively. Although a positive sign was expected in the question, the results exceeded expectations. 42,3 % also saw positively the addition (4 out of 5) while 7.7% maintained a more neutral stance. No one responded with a negative sign, which is considered extremely positive and possibly related to the dynamics of the company which has cultivated a climate of trust with its partners.

For which of the following elements would you like the new product to stand out? 26 απαντήσεις

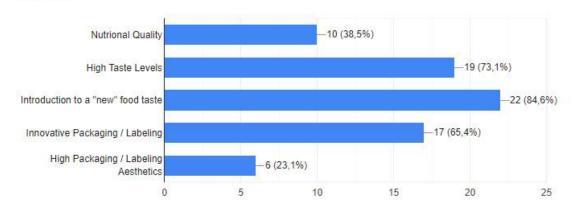


Figure 24. Questionnaire Results, Question 7

### **Question 7. New Product Elements**

After the question about the intentions of the respondents for a new product follows the question related to the elements which he would like to distinguish. This question tries to help us in choosing the product under design adopting elements that have the most impact on the company's current partners.

### Possible Answers:

Nutritional Quality, High Taste Levels, Introduction to a "new" taste, Innovative Packaging / Labeling, High Packaging / Labeling Aesthetics

### • Expected answers:

It is expected that the majority of respondents will choose the high taste levels as well as introduction to a fresh / "new" product taste.

### Result:

In the first place, between the above product characteristics, respondents chose the introduction of a "new" food taste (84,6%). In second place is, the expected as first, high taste levels (73,1%) with the innovative packaging / labeling following with a high percentage of answers as well (65,4%). Nutritional quality did not go as well as expected as only 38,5% of the respondents chose it as an important factor.

Which of the following concepts under consideration, do you find most interesting from your point of view?

26 απαντήσεις

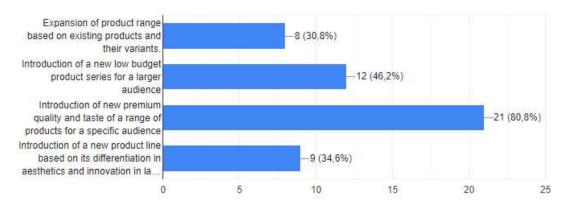


Figure 25. Questionnaire Results, Question 8

### **Question 8. New Product Concepts**

After the question about the characteristics which the respondents would like to see in the product under configuration, the next question is related to the concept of its integration into the market. This question tries to help us in choosing the way to manage the general design and marketing development of the product but also to guide us in the style of the final choice of food.

### Possible Answers:

Expansion of product range based on existing product and their variants, Introduction of a new low budget product series for a larger audience, Introduction of a new premium quality and taste range of product series for a specific audience, Introduction of a new product line based on its differentiation in aesthetics and innovation in labeling

### Expected answers:

There is no specific data and therefore estimated results for this question. The results are eagerly awaited in terms of the continuation of the design

### Result:

The vast majority of respondents (80,8%) prefer the creation of a premium range of products in taste and quality as a preferred solution, which directs us to the type of food we have to choose.

How important do you consider the design of a product label for the success of the product? 26 απαντήσεις

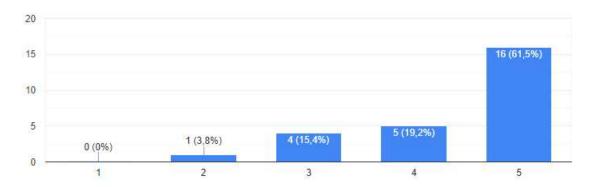


Figure 26. Questionnaire Results, Question 9

### **Question 9. Product Labeling**

This question tries to understand to what extent the fine design of a label for the success of a product is considered important in the consciousness of the respondents. The answers are meant to reveal the seriousness with which the product label is treated now, but also the degree of engagement with which we have to deal in the continuation of the project.

## Possible Answers: Scale from 1(not at all) to 5(completely)

### • Expected answers:

It is estimated that the majority of the world now understands the importance of properly designing a label for the success of a product. 4 and 5 are expected to get the vast majority of answers.

### Result:

The vast majority of respondents (80,7%) understand the importance a fine packaging design has today choosing either 4 out of 5 or 5 out of 5 options of importance. Most of the people also believe that a product must have a perfect label in order to succeed (61,5%).

How important do you consider the assimilation of design trends for the success of a brand's label?

26 απαντήσεις

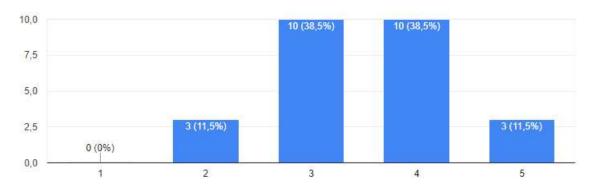


Figure 27. Questionnaire Results, Question 10

### **Question 10. Product Labeling trends**

In the last question of the questionnaire, an attempt is made to understand the importance of assimilating the design trends of the time in the design of a successful label and packaging. The audience that answers the questions, being very active in the field, is invited to express their opinion on an issue that concerns the detailed design that will be followed in the continuation of the project.

## Possible Answers: Scale from 1(not at all) to 5(completely)

### • Expected answers:

It is estimated that the majority of the world believes that it is important to follow the design trends in order to create successful results. 4 and 5 are expected to get the vast majority of answers.

### Result:

The vast majority of respondents (78,0%) understand the importance of assimilating the design trends in the packaging and labeling field today. However the 5 out of 5 answer is considerably lower than expected (11,5%).

### 2.6.2 Questionnaire Conclusions

As mentioned at the beginning, the main purpose of the questionnaire was to obtain information from reliable respondents about the possibility of including a new product in Royal's product range. In general, the questionnaire leaves very positive impressions of the

event. Respondents tend to have a fairly positive disposition with the company and although most of them are satisfied with the existing variety of products offered to them they would look for the addition of a new product. At the same time, the characteristics of the product to be developed begin to differ. Combined, of course, with previous stages of research, the questionnaire largely determines the product that the market needs. It is very important for the overall success of the product to properly use the existing network of partners of the company and it seems that this expresses a very positive opinion regarding the introduction of a new product with specific features. Also, since we have obtained several characteristics of the respondents, we draw some conclusions for the target audience as the respondents are also potential consumers. In particular, it can be seen that respondents would like a food product that is not so widely known while at the same time, of course, it stands out in terms of taste. It is preferred to be introduced in the market in the form of a premium series or version that will be addressed to a specific audience over other options. Regarding the design of the label and the general packaging, the importance of proper study and thorough design is appreciated as a key tool for success in the market (especially from those who come from marketing and sales).

More briefly here are some key points of the questionnaire:

- Majority of respondents know the product range of the company at complete or an almost complete level (76,9%).
- Vast majority of respondents are satisfied with the Royal Mediterranean product range at complete or an almost complete level (84,7%).
- Results exceeded expectations with 92,3% of the respondents seeing positively the possibility of creating a new product by Royal Mediterranean in the related question.
- No one responded with a negative sign regarding the prospect of adding a new Royal product, even though most of the respondents are currently satisfied with the company's product range which is considered extremely positive.
- Respondents want to see a "new" food taste (84,6%) in the market which is at the same time at a high taste level (73,1%). Innovative packaging / labeling will be more than desirable (65,4%).
- The vast majority of respondents (80,8%) prefer the creation of a premium range of products in taste and quality which help us to decide the type of food needed.
- The vast majority of respondents (80,7%) understand the importance of a fine and well studied packaging design.
- The vast majority of respondents (78,0%) understand the importance of assimilating the design trends in the packaging and labeling field today, however more than expected had a neutral stance on the issue.

### 2.7 Conclusions

We were able to derive crucial findings about the evolution of this dissertation by completing extensive literature study, analyzing existing data, and conducting interviews. The study phase has come to an end, giving important details for the project's future development.

Basic principles were first grasped in relation to the development of new products, and then more explicitly in the food industry. The stages and reasons for developing new products were identified, as well as the aspects that contribute to the success of a food product.

The field of packaging design was next examined, as well as labels, where terminology and concerns relating to them were thoroughly examined, before moving on to a presentation of the market's primary trends.

The next step was to learn the fundamentals of the Mediterranean diet, which the company under examination follows. The comprehensive study of this business is the following step. The company's values, goals, and ambitions were all grasped as a result of the research, which greatly aided our ability to continue with well documented objectives.

Perhaps the most important points in the development of the project were drawn from the interview with two of the most important factors in the growth of the company. In this phase a clear picture was formed for the next moves and the goals and possibly some early design guidelines were pointed out.

At the end we conducted a questionnaire to obtain information from reliable respondents about the possibility of including a new product in Royal's product range, gaining some significant conclusions about the food product type, target group and labeling.

The study conclusions are further analyzed and begin to compose the design solution under development in the next phase of capturing the problem area.

## 3. Product Description

### 3.1 Problematic Area

The research conducted aided us in comprehending the problem area and critical issues surrounding it. The findings of the research underlined the market's demand for Royal Mediterranean to develop a **new product** in order to expand its product range in the context of continual development and improvement that it represents.

Ultimate **goals** of this product expansion are to increase sales and market share, maintain industry's competitiveness, gain new clients by catering new cuisine preferences and comply with ever-changing design trends as far as packaging and labeling are concerned.

Using the **current** product line and of course the sales partnerships all over the world the introduction of the new product on the market can be done in a more effective way for Royal than in other cases. However, we must ensure that the product to be produced and distributed meets the expectations of the company's suppliers and purchasing public, as well as the company's high quality criteria, which are well-known in the market.

Driven by the results of the research conducted, the food **product** we are looking for must:

- be produced and consumed in the Mediterranean
- not be widely known in the market
- to be distinguished by great taste and quality.

The way it will be marketed is that of a **premium version** of Royal products and the cost of production and distribution may be higher than the existing range of the company's products.

Therefore the **target audience** of this product is different from the one that widely consumes the company's products. However, due to the style of the product, it is intended to attract an audience that did not belong to the company's pattern until now and potentially will help expand its footprint in the market.

Regarding the part of the **label** and the general design of the product packaging, it is clear that the design lines of the company and the brand should be followed. There is, however, ample room for alterations and additions in order to update the company's image and to confirm specific trends that will aid in its development. Royal's values must be reflected in the product, which must be characterized by its quality and elegance.

### 3.2 Food Product Selection

It has been clear throughout the process that the type of food we are going to choose in order to further develop is going to be a specialty food. A specialty food is a "unique and high-value food item manufactured in limited amounts from high-quality ingredients" that is often considered a "unique and high-value food item.". When compared to non-specialty foods, consumers often pay a greater premium for specialty foods, and they may consider them to have varied benefits. Specialty foods may be more expensive than staple foods due to more expensive materials and labor.

Considering that the product can be categorized as a premium one we have plenty of options to choose from. However, one of the most important guidelines to follow is the restriction according to which the selected product must thrive in a Mediterranean environment. Having in mind that the chosen food product must be distinguished of great quality and taste and should be not be so well known in the market, a long market analysis was conducted.

The product that responds fully to the demands is: Truffle and Truffle oil.

### **Definition**

"A truffle is the fruiting body of a subterranean ascomycete fungus, predominantly one of the many species of the genus Tuber. Truffles are ectomycorrhizal fungus, which means they grow in close proximity to tree roots. Fungivores, or animals that consume fungi, are responsible for spore dissemination. These fungi play an important role in nitrogen cycling and drought tolerance in the environment. Some of the truffle species are highly prized as food. French gastronome *Jean Anthelme Brillat-Savarin* called truffles "the diamond of the kitchen""

### **Main Types**

There are plenty of Truffle types but the most important are the following:

- Black
  - The black truffle or black Périgord truffle (Tuber melanosporum), is named after the Périgord area in France. Black truffles are collected in late fall and winter and are associated with oaks, hazelnut, cherry, and other deciduous trees.
- Summer of Burgundy
  - The black summer truffle (Tuber aestivum) is found across Europe and is prized for its culinary value. Burgundy truffles (designated Tuber uncinatum, but the same species) are harvested in autumn until December and have aromatic flesh of a darker color. These are associated with various trees and shrubs.

### White

Tuber magnatum, the high-value white truffle or trifola d'Alba Madonna is found mainly in the Langhe and Montferrat areas of the Piedmont region in northern Italy, and most famously, in the countryside around the cities of Alba and Asti. A large percentage of Italy's white truffles also come from Molise.

### Whitish

The "whitish truffle" (Tuber borchii) is a similar species native to Tuscany, Abruzzo, Romagna, Umbria, the Marche, and Molise. It is reportedly not as aromatic as those from Piedmont, although those from Città di Castello are said to come quite close.

### Geopora

Geopora spp. are important ectomycorrhizal partners of trees in woodlands and forests throughout the world. Like other truffle fungi, Geopora produces subterranean sporocarps as a means of sexual reproduction. Geopora cooperi, also known as pine truffle or fuzzy truffle, is an edible species of this genus.

Since ancient Greece, the Mediterranean countries have used truffles in their cuisine.

The truffle isn't just a flavoring or a scent; it's also a food. Truffle tasting experience can be described as a delectable delight that awakens the senses and a state of euphoria you wish would never stop. The truffle awakens people's fifth 'taste,' umami, which the tongue has just for the purpose of appreciating gastronomic marvels like the truffle.

The truffle is beginning to take hold in the kitchens of more and more dishes throughout the world, and it is becoming a valuable factor in the sector. Indeed, in recent years, it has grown in popularity in Greece (where Royal Mediterranean is mostly engaged), with an increasing number of enterprises attempting to sell Greek truffles overseas. In general, companies operating in the Mediterranean tend to trade more black and white truffles as they are easier to spot in their areas of control.

The Mediterranean truffle, as an exportable product, gives the company a chance to stand out from the crowd, which can help it in a variety of ways. The special taste and the uniqueness of the product are springboards for success in the market, which is now starting to realize the emerging dynamics of truffle and its derivatives.

## 3.3 Target Audience

The target audience is the result of previous stages of the project's research. The results of the research methodologies used aid in the creation of a documented image of the characteristics of the individuals who will be served by the product. [37]

The process of defining the target group is critical since it directly affects the success or failure of the product on the market.

### **Gender:**

Men and women

### Age:

Mainly adults (as an experience in food is required to assess the value of the product )

### **Economic situation:**

Fine & stable financial situation

### Social situation:

Rise-oriented environment, Food is an important part of their lives

### Place of residence:

Urban centers and cities

### Interested for:

Special tastes, Trends around gastronomy, Mediterranean cuisine and diet, Packaging and labeling design

### 3.4 Personas

Personas are a different way to display and communicate client wants. A persona gives product designers a compelling portrayal of the design goal by employing a narrative, a photo, and a name. [38] Personas have a powerful ability to engage the entire team. They also serve as a channel for expressing a wide variety of assessment data, as well as focus solely on elements of design and use that are overlooked by other methods. [39]

The personas are a representative sample of the target audience and help us in their deeper understanding. The goal of personas is to generate accurate and realistic representations of our target audience for future reference. In order to verify the intentions of the target audience regarding the product under design, 3 personas were created.



Name: Place of residence:

Nick London

Work: Age: 28 Dentist

Income: Satisfying

Personality:

- Friendly
- Social
- Active
- Open to new ideas

- Goals & plans Professional development
- · Finding a partner

- Daily Routine:
   Work: 8-9 hours
- · Gym: 1 hours
- · Other activities: 2-3 hours

al really like to discover new flavors))

«Cooking besides being a necessity for me, is also my favorite hobby»

### Cooking:

- On a daily basis
- · Mediterranean and Italian

Figure 28. Design Persona 1



Name: Place of residence:

Pablo Madrid

Work: Age:

39 Developer

Income: High

### Personality:

- Friendly
- Versatile
- Organizational
- · Open to new ideas

Professional development

### Daily Routine:

- · Work: 7-8 hours
- · Other activities: 2-3 hours

«I love cooking but I don't know so well»

«I love to cook unique dishes for my girlfriend»

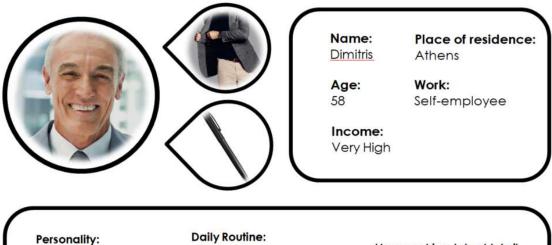
### Goals & plans

Finding new interests

### Cooking:

- · 3-4 times per week
- · Mediterranean and Spanish cuisine

Figure 29. Design Persona 2



### Social

- Headstrong
- Perfectionist
- · Looking for challenges

### Goals & plans

- Professional take-off
- Pursuit of leisure interests

### Daily Routine:

- · Work: 9-10 hours
- · Other activities: 2-3 hours

«I love cooking, I should do it more often»

al like to observe the trends in gastronomy and apply them at home»

· Twice a week

Cooking:

· Mediterranean and French

Figure 30. Design Persona 3

#### 3.5 Moodboards

Based on the target audience that was defined and the export through that of 3 key personas, 3 moodboards were created that outline the personality of potential users. The purpose of the process is to read important characteristics in terms of style and preferences of the target group, in order to design a final product that is part of their aesthetic approach.

The first moodboard is related to the places and spaces in which they move (work environment, home, etc.), the second in terms of their aesthetic and functional choices in their personal items and their clothing and the third is related to their choices in food & beverage products as to label design and packaging.



Figure 31. Moodboard 1

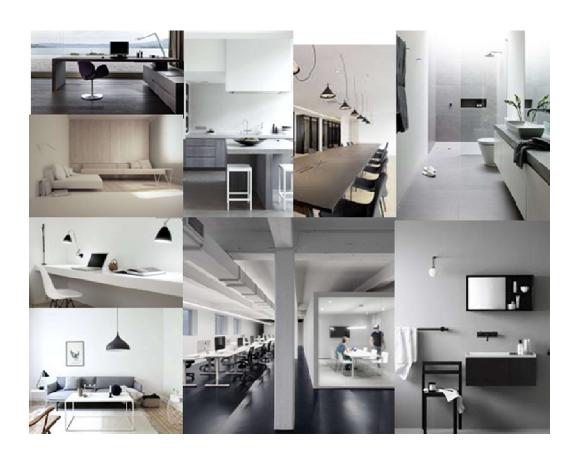


Figure 32. Moodboard 2

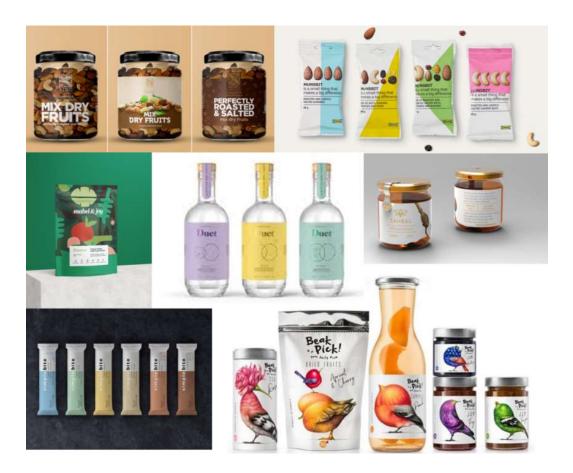


Figure 33. Moodboard 3

#### 3.6 Extended Brief

Design of packaging and label of black truffles slices in extra virgin olive oil for the company Royal Mediterranean.

Following the completion of the research, which was divided into several sections, it was determined that the company needed to produce a new product in the premium food categories (specialty food). According to the requirements set, this product is the truffles cutted in slices which tend to be perceived in extra virgin olive oil. This product is a new emerging trend in the market and is particularly an element of high gastronomic interest. At the same time, it thrives, is cultivated and exported from Mediterranean areas, including Greece, where the company mainly operates. The label's design is focused on the retail market, where the company will first invest before determining whether or not there is a desire to enter the wholesale process.

The product's design must be completely consistent with the brand's corporate identity and

reflect the company's values to the required extent. The goal of designing the label, on the other hand, is to produce a modern picture of a simple design style by incorporating specific

trends that were identified and recorded during the research process.

When documenting the design guidelines, more information on the product's attributes,

size, and basic shape, as well as its final image, will be provided.

Context of Use 3.7

The proper design of a product entails a thorough examination of all factors that influence

its success. The practical and aesthetic link with the context of use for which it is intended is

one of the most basic. The product under design is intended for use in urban centers and

modern cities.

Undoubtedly the final use of the product under design will take place at the user's home

whose main features have been identified to some extent by the corresponding moodboards

in a previous section.

At the same time however a large percentage of usage is intended to take place in

professional kitchens - cooking areas as the product is a special gastronomic proposal that is

beginning to be assimilated on more and more occasions.

Of course, since the product will travel to a number of different countries and from several

stages before it reaches the final consumer, its main parts of use are: in a supermarket or in

**stores** that trade corresponding items.

**Design Mind Map** 3.8

Mind mapping is a method that uses whole-brain thinking to replace one's usual mode of

thinking. [40] We can tell that is the graphical depiction and visualization of relationships between numerous thoughts or bits of information. [41] On this occasion the mind map

provides important information about the design thinking and process of creating design

guidelines from the design needs.

**Transforming Needs into Specifications** 

Step1: Identifying the main goal

# **Design Mind Map**

design guidelines processing transforming needs into specifications



Figure 34. Design Mind Map Step 1

#### Step2: Identifying the two main categories

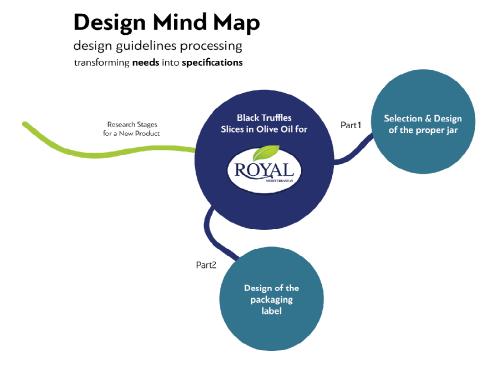


Figure 35. Design Mind Map Step 2

Step3: Identifying the 3 main goals of the jar selection process

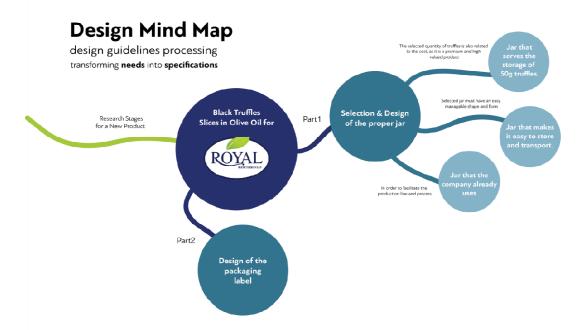


Figure 36. Design Mind Map Step 3

#### Step4: Final jar selection after market research

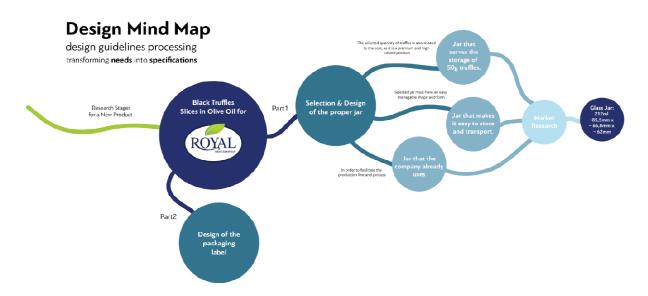


Figure 37. Design Mind Map Step 4

Step5: Identifying the two main categories of interest for label design

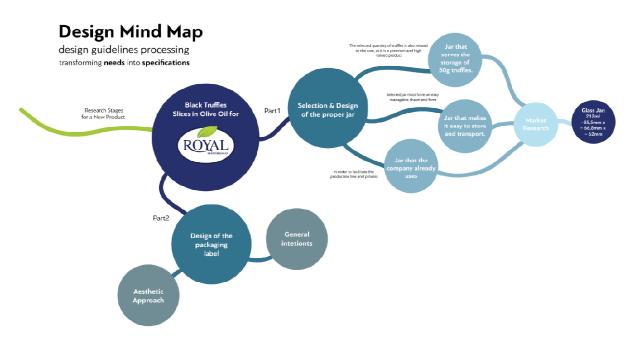


Figure 38. Design Mind Map Step 5

#### Step6: Identifying the main design goals for label design

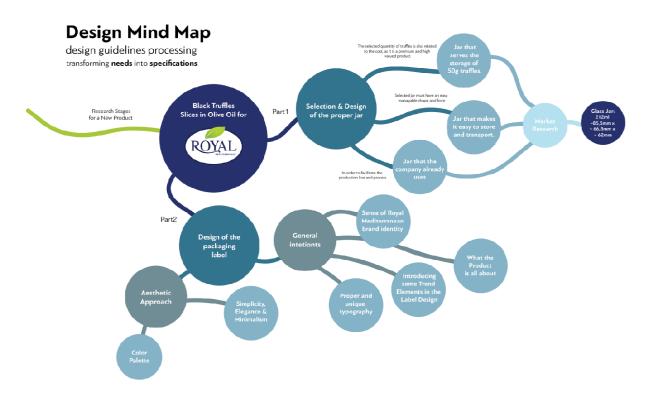


Figure 39. Design Mind Map Step 6

### Step7: Providing specific guidelines for the design goals

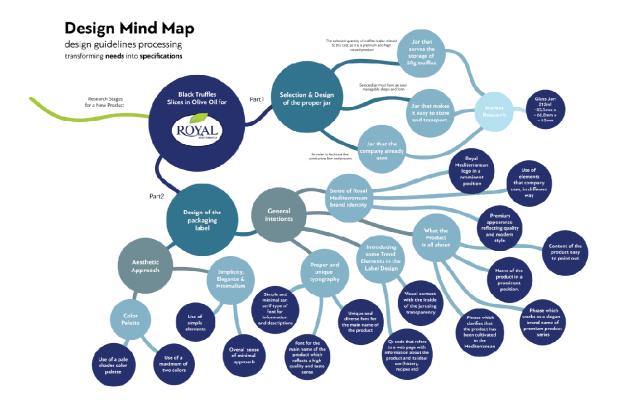


Figure 40. Design Mind Map Step 7

### 3.9 Design Guidelines

#### 3.9.1 General Guidelines

- 1. Selection of container-jar that serves the storage of 50g truffles.
- 2. Selection of container-jar that makes it easy to store and transport.
- 3. Selection of container-jar that company already uses in order to facilitate the production.
- 4. Label design that exudes a sense of the brand identity of Royal Mediterranean company
- 5. Label design containing the Royal Mediterranean logo in a prominent position.
- 6. Design of a label containing the name of the product in a prominent position.
- 7. Placing in prominent position a phrase which works as a slogan brand name of premium product series
- 8. Design of a label that contains all the necessary contents of the legislation (nutritional value table, etc.).
- 9. Label design that makes the content of the product easy to point out.

- 10. Label design that emphasizes the premium appearance of the product reflecting quality and modern style.
- 11. Design of a label that contains a qr code that refers to a web page with information about the product and its ideal use (history, recipes etc).
- 12. Label design that allows the user to make visual contact with the inside of the jar.
- 13. Label design that allows the presence of custom design elements in specific orders.
- 14. Use of a phrase which clarifies that the product has been cultivated in the Mediterranean area.
- 15. Use of unique and diverse font for the main name of the product
- 16. Use of font for the main name of the product which reflects a high quality and taste sense
- 17. Use of simple and minimal san serif type of font for information and descriptions

#### 3.9.2 Aesthetic Guidelines

- 1. Use of simple elements
- 2. Use of a pale shades color palette
- 3. Use of a color palette that creates contrast
- 4. Use of a maximum of two colors
- 5. Embracement of transparency solutions
- 6. Overall label image that gives a sense of minimal approach

After a thorough analysis of the **market** based on the characteristics of the jar we are looking for, the use of the 212ml Jar from a specific company was selected.

#### 3.9.3 Volume-Dimensions Guidelines

1. Label Dimensions: 200mm x 70mm

2. Jar volume : 212ml

3. Jar Dimensions: ~85,5mm x ~ 66,8mm x ~ 62mm



Figure 41. Selected Jar Technical Drawings, Valavanis Glass

## 4. Ideation

## 4.1 Design concepts







Originally Cultivated in Mediterranean Land Product

Figure 42. Label Concept 1



Figure 43. Packaging Concept 1

## Concept 1.

#### Key Points:

The first concept is distinguished by the presence of corporate colors on the label. It uses a special calligraphic font that exudes a handwritten feel to the product's basic name and has a thin strip along the label providing a wide area of transparency.





MEDITERRANEAN TREASURES
A PREMIUM FOOD PRODUCT SERIES



Figure 44. Label Concept 2



Figure 45. Packaging Concept 2

## Concept 2.

#### **Key Points:**

The second concept is distinguished by the presence of a special calligraphic font that exudes a handwritten feel to the product's basic name. It uses a distinct color palette based

on the color of the ground / land from which the product is derived. The additional features properly frame the thin strip running the length of the label.

Originally Cultivated in Mediterranean Land Product







#### MEDITERRANEAN TREASURES

A PREMIUM FOOD PRODUCT SERIES

Figure 46. Label Concept 3



Figure 47. Packaging Concept 3

### Concept 3.

#### **Key Points:**

The inclusion of a special calligraphic typeface distinguishes the third concept, which exudes an elegant aesthetic feel to the product's core name. It has a unique color palette that is inspired by the color of the ground / land from which the product is made. The extra elements help to frame the thin strip that runs the length of the label, leaving a lot of empty space on the jar.



Figure 48. Label Concept 4



Figure 49. Packaging Concept 4

## Concept 4.

#### **Key Points:**

The fourth concept is defined by the inclusion of a calligraphic typeface for the product's fundamental name, which radiates a fluid aesthetic approach. It has a unique color palette that is inspired by the color of the ground / land from which the product is made. This time, however, the stripe is vertical.





PRESENTS

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Figure 50. Label Concept 5



Figure 51. Packaging Concept 5

## Concept 5.

#### Key points:

The use of a calligraphic typeface for the product's core name defines the fifth concept, which emits a bolder aesthetic approach this time. It features a color palette that is inspired by the color of the earth / land from which it is coming from. This time, though, the stripes

are two, seeking to provide the user a distinct experience while yet allowing for the wide space of transparency required in the jar.









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Figure 52. Label Concept 6



Figure 53. Packaging Concept 6

### Concept 6.

#### Key points:

The introduction of a stencil-like typeface for the product's core name defines the last concept, which exudes a tighter and vintage aesthetic approach. Its color palette is influenced by the color of the earth / land from which the product is made, however it is darker than the prior designs version. However, this time the stripe is larger and wider, leaving less room for transparency.

### 4.2 Relation with Design Guidelines

All of the concepts attempt to respond as effectively as possible to the design lines established in the previous stage. The goal in this phase is to find the design solution that covers in the most complete way the design guidelines in relation to the rest.

Royal is known for its quality and minimalist aesthetics, which are reflected in all design concepts. The labels clearly state that it is one of the products of the company that excels in the field of Mediterranean cuisine, with its emblem prominently displayed.

A key element of the new proposals is the effort for transparency on the label. This takes up less space in the jar and allows the potential customer to see the contents up close.

At the same time, the company's classic element, the colorful stripe, is used, but in a different way each time, in an attempt to differentiate.

In terms of typography, various fonts are employed for each concept in the product's fundamental name (*Black Truffles*). The revisions are being performed in order to discover the typeface that best complements the product and the company's new series. A simple sans serif font is used for basic information (Dietary panels) and descriptions (for example, *slices in extra virgin olive oil*) that is both legible and aesthetically pleasing.

A major aspect of the label, in addition to the basic name, is the name of the series, *Mediterranean Treasures*, and the language in a prominent area indicating this product originates from the Mediterranean region (*Cultivated in Mediterranean Land Product*).

The qr code input, with some useful information about the product, adds a substantial value to the entire package, and it is inserted at a different spot each time until the best possible layout solution is found.

The palettes were created to either match the color of the company logo or to create a fictitious relationship to the color of the ground associated with the packaging goods.

The final idea, which will be described below, is the most comprehensive mix of the previous solutions and proposals.

### 4.3 Concepts Evaluation Table

The final image of the product label should mirror the design guidelines that emerged from the research stages and methodology as accurately as possible. [42] As a result, a concept evaluation table based on some of the most critical design parameters was constructed. The concept that received the highest score will be developed as a final idea in the next stage.

Based on the importance of the criteria, 3 <u>scales of importance</u> were given to the criteria so that the evaluation could be determined in the most effective way, prioritizing the design priorities correctly.

The fulfillment of each criterion was assessed on a scale of 1 to 5, and the result was multiplied by the degree of importance to obtain the final score of each concept.

#### **Design Criteria:**

- 1. Sense of the brand identity of Royal Mediterranean company (Importance level: 3)
- 2. Content of the product is easy to point out / user can make visual contact with the inside of the jar. (Importance level: 3)
- 3. Premium feel / reflecting quality and modern style (Importance level: 3)
- 4. Use of unique and diverse font for the main name of the product (Importance level : 2)
- 5. Font for the main name of the product which reflects a high quality and taste sense (Importance level: 2)
- 6. Use of a pale shades color palette (Importance level: 1)
- 7. Overall label image that gives a sense of minimal approach (Importance level: 1)

Design Criteria	Concept 1	Concept 2	Concept 3	Concept 4	Concept 5	Concept 6
x Importance Level						

Sense of the brand identity of Royal Mediterrane an company x 3	5/5	4/5	5/5	3/5	4/5	3/5
	5 x 3 = 15	4 x 3 = 12	4 x 3 = 15	4 x 3 = 9	4 x 3 = 12	4 x 3 = 9
	15 points	12 points	15 points	9 points	12 points	9 points
Content of the product	5/5	5/5	5/5	4/5	4/5	4/5
is easy to point out /	5 x 3 = 15	5 x 3 = 15	5 x 3 = 15	4 x 3 = 12	4 x 3 = 12	4 x 3 = 12
user can make visual contact with the inside of the jar x 3	15 points	15 points	15 points	12 points	12 points	12 points
Premium feel / reflecting quality and modern style x 3	4/5	3/5	4/5	3/5	4/5	3/5
	4 x 3 = 12	4 x 3 = 9	4 x 3 = 12	4 x 3 = 9	4 x 3 = 12	4 x 3 = 9
	12 points	9 points	12 points	9 points	15 points	9 points
Use of unique and	4/5	4/5	3/5	5/5	4/5	4/5
diverse font for the main	4 x 2 = 8	4 x 2 = 8	3 x 2 = 6	5 x 2 = 10	4 x 2 = 8	4 x 2 = 8
name of the product x 2	8 points	8 points	6 points	10 points	8 points	8 points
Font for the main name	4/5	3/5	5/5	3/5	4/5	4/5
of the product which reflects a high quality and taste sense x 2	4 x 2 = 8	3 x 2 = 6	5 x 2 = 10	3 x 2 = 6	4 x 2 = 8	4 x 2 = 8
	8 points	6 points	10 points	6 points	8 points	8 points
Use of a pale shades color palette x 1	3/5	5/5	5/5	5/5	5/5	4/5
	3 x 1 = 3	5 x 1 = 5	5 x 1 = 5	5 x 1 = 5	5 x 1 = 5	4 x 1 = 4
	3 points	5 points	5 points	5 points	5 points	4 points
Overall label image that	5/5	4/5	5/5	4/5	5/5	4/5
gives a sense of minimal approach x	5 x 1 = 5	4 x 1 = 4	5 x 1 = 5	4 x 1 = 4	5 x 1 = 5	4 x 1 = 4
<b>1</b>	5 points	4 points	5 points	4 points	5 points	4 points

Final 66 /75 59 /75 Concept Score	<b>68 /75</b> 55 /	/75   65 /75   54 /75
-----------------------------------	--------------------	-----------------------

Figure 54. Concept Evaluation Table

The label with the highest score is that of **concept 3** which collected 68/75 points.

## 5. Final Product Proposal

### 5.1 Final Label Design Description

The final proposal was based on Concept 3's core design lines and choices. This solution addressed the requirements more completely than the others, according to the evaluation of the proposals in terms of their applicability to the design guidelines.

The information from the final design concept for the new product's label is detailed below:

The color palette chosen for the final label proposal is the one that dominated the majority of concepts and is characterized by the presence of an earth beige as the dominant color in combination with black.

### **Color** Palette:

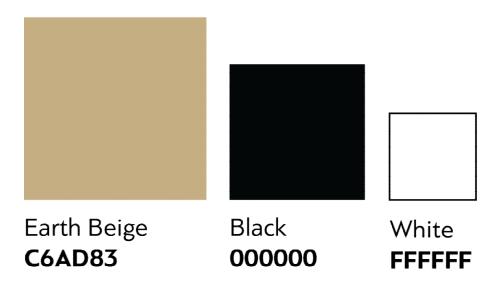


Figure 55. Color Palette

The finished image exudes the quality and reliability of the items that Royal has been giving to the market over time, which was one of the main goals of the final label image. Apart from the presence of an exceptionally delicious and high-quality product inside the package, the label avoids over-information and displays a minimalist aesthetic approach through the use of simple geometric shapes. Following the criteria to exploit the concept of transparency as much as possible, the solution of providing visual contact with the inside of the jar is chosen over that of using a standard label shape and form.

Apart from the very necessary information, the transparent label is only disrupted by the company logo and the presence of stripes that refer to the brand's design line in other products. This time, however, the line / strip does not merge and is much thinner than usual, allowing for more space release and visual contact with the content.

Figure 56. Earth Beige Stripes Element

Black Truffles

Main Name Font: Palace Script MT

Aa, Bb, Cc, Dd, Ee, Ff, Gg 1. 2. 3. 4. 5. 6. 7. 8. 9. 0

Secondary Font: PF Bague Sans Pro Regular & Bold

#### **MEDITERRANEAN TREASURES**

Originally Cultivated in

**Mediterranean Land Product** 

A PREMIUM FOOD PRODUCT SERIES

Aa, Bb, Cc, Dd, Ee, Ff, Gg Aa, Bb, Cc, Dd, Ee, Ff, Gg

**1, 2, 3, 4, 5, 6, 7, 8, 9, 0** 1, 2, 3, 4, 5, 6, 7, 8, 9, 0

Figure 57. Typography-Fonts Used

The font selections have a big impact on the label's overall appearance. A font that is recognized by its originality and elegance (*Palace Script MT*) was utilized for the product's title / primary name. The basic name of the product is likely the most significant feature of the label, with a dynamic presence in size while maintaining true to design standards.

A single typeface (*PF Bague Sans Pro*) was utilized for the rest of the text and relevant information, which stands out for its simplicity while being substantial and stylish.



Figure 58. Royal Mediterranean Logo (minimal version)

As provided by the design guidelines, the company logo is in a prominent position on the packaging and on the label. Specifically, the simplest design version was used, without borders and unnecessary shapes in order to serve the purposes that have been set for a minimal approach.



Figure 59. Scan & Learn QR code Element

One of the features that distinguishes the label, and hence the packaging, is the presence of a QR code that directs the potential user to a web page with information about the product and its uses by scanning it with his mobile phone. The company makes obvious its goal to modernize, even including a solution that considerably improves the whole user experience in relation to the product and this premium line, by placing it in a prominent location on the packaging.

#### Conclusively,

The label aims to give a complete supply of product information while staying simple and upto-date, following the Royal Mediterranean's ideals and values. It incorporates current design trends and refreshes the company's image, putting the company's desire for constant improvement and update into effect.

## 5.2 Detailed Final Label Design



Figure 60. Final Label Design



Originally Cultivated in Mediterranean Land Product



Black Truffles
SLICES IN EXTRA VIRGIN OLIVE OIL

**MEDITERRANEAN TREASURES** 

A PREMIUM FOOD PRODUCT SERIES

KAGAPO BAPOZ/ NET WT

ETPATTIEMENO BAPOZ/ DRAINED WT

100g This section brings together all the important elements of the label that almost completely define its image.

- The name is in a central, prominent position, with the company logo just above.
- The stripes "embrace" the central title with the name of the series (Mediterranean Treasures) being in a prominent place just below.
- Above left the innovation of the qr code with the motivational title Scan & Learn while on the right the phrase Cultivated in Mediterranean Land Product reminds the buyer that this product has its roots in the soils of the Mediterranean.
- Bottom right provides info about the weight of the product in net and drained value

#### **MEDITERRANEAN TREASURES** Mέση τιμή ανα 100gr στραγγ. βάρους / average per 100gr drained weight \*ППА / RI vá/per 100gi A PREMIUM FOOD PRODUCT SERIES Ενέργεια / Energy 1 % Λιπαρά / Fat 0 % Μαύρη τρούφα φέτες σε έξτρα 0gr εκ των οποίων κορεσμένα , of which saturates παρθένο ελαιόλαδο. 0gr 0 % Υδατάνθρακες / Carbohydrate 2 % 3,9gr Συστατικά: μαύρη τρούφα, νερό. εκ των οποίων σάκχαρα / of which sugars αλάτι, έξτρα παρθένο ελαιόλαδο 3 % 2,3gr Διατηρήστε στο ψυγείο μετά το Εδώδιμες ίνες / Fibre 1gr άνοιγμα και κατααλώστε εντός 10-15 ημερών. Ανάλωση κατα Πρωτεϊνες / Protein 3 % 0.8gr προτίμηση βλ. καπάκι. Αλάτι / 0,9gr 15% Παράγεται απο την ΑΦΟΙ ΤΣΑΤΣΟΥΛΗ Α.Β.Β.Ε.Ε.Ε Black truffles slices in extra 67100 BI.ΠΕ Ξάνθη virgin olive oil. T: +3025410-64200 F: +3025410-64204 www.royalmediterranean.com Ingredients: black truffles, water, Produced by salt, extra virgin olive oil. Once Royal Tsatsoulis Bros S.A opened keep refrigerated and Xanthi Greece T: +3025410-64200 consume within 10-15 days. Best before end: see on lid F: +3025410-64204 www.royalmediterranean.com

Figure 62. Left Label Design

Figure 63. Right Label Design

ΔΙΑΤΡΟΦΙΚΗ ΔΗΛΩΣΗ / NUTRITION DECLARATION

These sections present to the buyer the necessary information about the product while covering any legal obligation.

- The left leg presents the information of the ingredients of the package and the product, always in Greek and English.
- On the right dominates the nutritional statement / table but also the information regarding the production and the company.

## 5.3 Detailed Final Product Design

Jar selection - Steps



Figure 64. Selected Jar

**Step 1. Jar Selection** (212ml as described above)



Figure 65. Selected Jar with Black Lid

Step 2. Coloring Jar's Lid (Black, as is one of the two selected colors)



Figure 66. Selected Jar with Black Lid and Label Design

### Step 3. Implement Label Design



Figure 67. Complete Packaging Design

**Step 4. Adding Product** (Black Truffle Slices in extra virgin olive oil)

## 5.4 Photorealistic Images



Figure 68. Photorealistic Image



Figure 69. Photorealistic Image

## 6. Reference - Bibliography

#### **Bibliography - Scientific Papers**

- 1. Ali, J., Kapoor, S. and Moorthy, J. (2010), "Buying behaviour of consumers for food products in an emerging economy", British Food Journal, Vol. 112 No. 2, pp. 109-124. https://doi.org/10.1108/00070701011018806
- 2. Design Methodologies, Kevin MacG Adams, First Online: 24 April 2015
- 3. Online version: Asimow, Morris, 1906 ,Introduction to design. Englewood Cliffs, N.J., Prentice-Hall [1962], (OCoLC)596085089
- 4. Vivien Walsh, Design, innovation and the boundaries of the firm, Research Policy, 1996, Pages 509-529, ISSN 0048-7333, https://doi.org/10.1016/0048-7333(95)00847-0.
- 5. Koberg, D. and J. Bagnall. (1972) The Universal Traveler: A Soft-Systems Guide to Creativity, Problem-Solving, and the Process of Design. Los Altos, CA: Kaufmann. 2nd edition (1981): The All New Universal Traveler: A Soft-Systems Guide to Creativity, Problem-Solving, and the Process of Reaching Goals.
- 6. Increasing Effectiveness and Efficiency of Product Development A Challenge for Design Methodologies and Knowledge Management. H. Binz, A. Keller, M. Kratzer, M. Messerle, D. Roth
- 7. New product design and development: a generic model, A.J. Peters , E.M. Rooney , J.H. Rogerson , R.E. McQuater , M. Spring , B.G. Dale
- 8. *Innovation Management and New Product Development* (5th ed.). Harlow [England]: Pearson Education. 2012. ISBN 9780273736561.
- 9. Cooper R.G., Edgett, S.J. (2008), Maximizing productivity in product innovation, in: Research Technology Management, March 1, 2008
- 10. Product Development Decisions: A Review of the Literature. V. Krishnan, Karl T. Ulrich, Published Online:1 Jan 2001https://doi.org/10.1287/mnsc.47.1.1.10668
- 11. A Review of the IDEO Process, Ron Moen October 25, 2001
- 12. Food product innovation A background paper by Ray Winger Gavin Wall FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS Rome, 2006
- 13. The food product development process, Marvin J. Rudolph, Progress must be monitored against a planned set of goals

- 14. Food Product Development. Copyright © 2001 Woodhead Publishing Limited. Web Edition published by NZIFST (Inc.) 2017 | Design by FoodWorks. www.nzifst.org.nz/resources/foodproductdevelopment/index.htm
- 15. New Food Product Development, From Concept to Marketplace, Second Edition, By Gordon W. Fuller
- 16. Food product development: Maximizing success R Earle, A Anderson 2001 books.google.com
- 17. Concept Research in Food Product Design and Development, Howard R. Moskowitz, Sebastiano Porretta, Matthias Silcher
- 18. Soroka (2002) *Fundamentals of Packaging Technology,* Institute of Packaging Professionals ISBN 1-930268-25-4
- 19. Yam, K.L., "Encyclopedia of Packaging Technology", John Wiley & Sons, 2009, ISBN 978-0-470-08704-6
- 20. Rundh, B. (2009), "Packaging design: creating competitive advantage with product packaging", British Food Journal, Vol. 111 No. 9, pp. 988-1002. https://doi.org/10.1108/00070700910992880
- 21. Packaging Design: General Framework and Research Agenda, A. Azzi, D. Battini, A. Persona, F. Sgarbossa, First published: 31 January 2012
- 22. S.T. Wang, E. (2013), "The influence of visual packaging design on perceived food product quality, value, and brand preference", International Journal of Retail & Distribution Management, Vol. 41 No. 10, pp. 805-816. https://doi.org/10.1108/IJRDM-12-2012-0113
- 23. Silayoi, P. and Speece, M. (2007), "The importance of packaging attributes: a conjoint analysis approach", European Journal of Marketing, Vol. 41 No. 11/12, pp. 1495-1517. https://doi.org/10.1108/03090560710821279
- 24. Packaging design: Successful product branding from concept to shelf, MR Klimchuk, SA Krasovec 2013 books.google.com
- 25. "What is Food Packaging Different Types & Machines for Food Packaging". PWR Pack. Retrieved 17 February 2022.
- 26. Food Packaging Technology and its Emerging Trends: A Review. Anjum Ayoub\*, Fozia Hameed and Julie D. Bandral Division of Food science and Technology SKUAST Chatha Jammu 180009, India
- 27. Robertson, G.L. (2005). Food Packaging: Principles and Practice, Second Edition (2nd ed.). CRC Press. https://doi.org/10.1201/9781420056150
- 28. Wells, L.E., Farley, H. and Armstrong, G.A. (2007), "The importance of packaging design for own-label food brands", International Journal of Retail & Distribution Management, Vol. 35 No. 9, pp. 677-690. https://doi.org/10.1108/09590550710773237

- 29. S. Kalpana, S.R. Priyadarshini, M. Maria Leena, J.A. Moses, C. Anandharamakrishnan, Intelligent packaging: Trends and applications in food systems, Trends in Food Science & Technology, ISSN 0924-2244, https://doi.org/10.1016/j.tifs.2019.09.008. (https://www.sciencedirect.com/science/article/pii/S0924224418307313)
- 30. Nitaigour P. Mahalik, Arun N. Nambiar, Trends in food packaging and manufacturing systems and technology, Trends in Food Science & Technology, ISSN 0924-2244, https://doi.org/10.1016/j.tifs.2009.12.006.

  (https://www.sciencedirect.com/science/article/pii/S0924224410000063)
- 31. M.D. Earle, Innovation in the food industry, Trends in Food Science & Technology, 1997,https://doi.org/10.1016/S0924-2244(97)01026-1.(https://www.sciencedirect.com/science/article/pii/S0924224497010261)
- 32. Davis, Courtney, Janet Bryan, Jonathan Hodgson, and Karen Murphy. 2015. "Definition of the Mediterranean Diet; A Literature Review" Nutrients 7, no. 11: 9139-9153. https://doi.org/10.3390/nu7115459
- 33. Rowley, J. (2012), "Conducting research interviews", *Management Research Review*, Vol. 35 No. 3/4, pp. 260-271. https://doi.org/10.1108/01409171211210154
- 34. Hannabuss, S. (1996), "Research interviews", New Library World, Vol. 97 No. 5, pp. 22-30. https://doi.org/10.1108/03074809610122881
- 35. Design a questionnaire. *British Medical Journal* 1993; 307 doi: https://doi.org/10.1136/bmj.307.6914.1264 (Published 13 November 1993)
- 36. Krosnick J.A. (2018) Questionnaire Design. In: Vannette D., Krosnick J. (eds) The Palgrave Handbook of Survey Research. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-54395-6 53
- 37. McQuail, D. (1997). *Audience Analysis* (1st ed.). SAGE Publications. Retrieved from https://www.perlego.com/book/1004699/audience-analysis-pdf (Original work published 1997).
- 38. Personas and user-centered design: How can personas benefit product design processes? Author: Tomasz Miaskiewicz, Kenneth A. Kozar, Publication: Design Studies, Publisher: Elsevier. Date: September 2011
- 39. Personas: practice and theory, Authors :John Pruitt, Jonathan Grudin, DUX '03: Proceedings of the 2003 conference on Designing for user experiencesJune 2003 Pages 1–15https://doi.org/10.1145/997078.997089.
- 40. Jianxin Chen, "The using of mind map in concept design," 2008 9th International Conference on Computer-Aided Industrial Design and Conceptual Design, 2008, pp. 1034-1037, doi: 10.1109/CAIDCD.2008.4730739.
- 41. MIND MAPPING AS A TOOL, AS A PROCESS, AS A PROBLEM/SOLUTION SPACE Mithra ZAHEDI and Lorna HEATON University of Montreal, Year: 2016, Editor: Erik Bohemia, Ahmed Kovacevic, Lyndon Buck, Christian Tollestrup, Kaare Eriksen, Nis Ovesen. Author: Zahedi, Mithra; Heaton, Lorna.Series: E&PDE, Institution: University of Montreal, Section: Tools, Page(s): 166-171. ISBN: 978-1-904670-62-9

42. Criteria for concept evaluation, Janice M Morse PhD(Nurs) PhD(Anthro) FAAN,Carl Mitcham PhD,Judith E Hupcey RN EdD,Maritza Cerdas Tasón PhD First published: August 1996 https://doi.org/10.1046/j.1365-2648.1996.18022.x

#### **Questionnaire References**

https://docs.google.com/forms/d/1FRM5rOAA9XZxXP7yLNOivFwLEpyax3wYOxZ8i\_HH4YM/prefill

#### **Internet Network References**

https://tsatsoulis.gr/

https://en.wikipedia.org/wiki/New product development

https://www.tcgen.com/product-development-process

https://www.business.qld.gov.au/running-business/growing-business/becoming-innovative/

<u>developing-products/new-products</u>

https://iastate.pressbooks.pub/foodproductdevelopment/chapter/chapter-1/

https://www.omniblend.com.au/food-product-development-steps-whats-involved/

https://discoverfoodtech.com/food-product-development-process/

https://en.wikipedia.org/wiki/Packaging and labeling

https://www.qrcode-tiger.com/food-packaging-trends

https://www.designerpeople.com/blog/food-label-design-trends-2021/

https://en.wikipedia.org/wiki/Mediterranean\_diet

https://www.helpguide.org/articles/diets/the-mediterranean-diet.htm

https://www.market-prospects.com/articles/trend-of-the-food-industry

 $\frac{https://www.unleashedsoftware.com/blog/10-global-food-processing-industry-trends-for-2021}{2021}$ 

https://en.wikipedia.org/wiki/Truffle

https://en.wikipedia.org/wiki/Specialty\_food