

*Chapter*

## **AN ORGANIZATION DESIGN REDEFINITION FOR THE TOURISM SECTOR USING DESIGN THINKING: SUSTAINABLE HOTELS CASE STUDY**

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### **ABSTRACT**

This chapter shows how the Classic Design Theory may be applied to create a new philosophy for organizations. In this study it is applied to a project in tourism sector. An investigation was made first in different companies in several sectors of activity in Portugal and has been recently successfully applied. The purpose of the chapter is to show how the identification and experimentation of concepts and methods used in classical design allow a better understanding of the implications they have in the engineering organization design theory. To renew the engineering organization design, an organizational design framework was conceived in order to use classical design methods and adapt them to organizational design theories. A contribution is made not just to the art of science of a designed-based organization design theory, but also to create and to test any organization design. Several alternative organization designs came out from the involved action research. We will present several examples of organization design interface based on real Eco Hotel. This represents a useful tool for organization design practitioners and non-organization design practitioners. For this purpose, an appliance was made and tested involving real organizations, interviews and focus groups (namely in the wine sector, or in the design sector, or yet on a NGO). The final result of this action research was a design-based organization design framework and its outcomes - which are unique, beautiful, functional, simple and sustainable – a design-based organization design interface that people love, considering always the context and user profile on which it is inserted.

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**Keywords:** organization design, design thinking, classical design, engineering-based organization design, design-based organization design, context, users-oriented, simple, love, functional, sustainable, eco hotel, holistic, co-creation, integrative processes

## INTRODUCTION

New trends in societies involve new ideas. In this chapter a new vision for organizations' design is developed, which are based on new principles and societies' needs. This new philosophy allows organizations to achieve better economic results, as much as the benefits permitted to society. Furthermore, an organization obtains recognition from society as the community observes organization's project virtuosities.

The idea of an organization design is not merely mapping out an organizational structure. It involves an additional perspective about the way the organization is associated with many other aspects, since the users (co-workers and clients), governance, functions, processes, strategies that coexist in the organization and the general context and environment the organization faces.

By the end of the 19th century, organization theory art and the classical design art have known considerable changes in the way they were conceived. Since the accomplishments of Frederick Taylor in the area of organization design, with a strong engineering characteristic, later the fit on human systems was added and significant improvements were obtained.

Going back on the organizations history it can be seen that, in some companies, old theories and beliefs survived in terms of organization theories appliance. In fact, all organizations are guided by a management doctrine which reflects basic values. Considering some illustrations, it can be said, for instance, that for the first administrative doctrine (the military) there was a maxim: "do this or die"; for a contemporary doctrine (eg. Henry Ford) the principle was: all what we ask men is that they do the work, which is set before and which implies "being fired is better than being shot ...."

More sophisticated doctrines are needed when meaningful and fulfilling work for organization's employees is the organization central goal. Doctrine and attitudes affect the morale, the performance and, more importantly, the organizational culture. Each organization's doctrine remains in force until technological and situational changes make the organization's adaptations less useful and render the organization incompetent.

It is central to say that organizational culture affects the overall competence (or incompetence) of an organization.

In general, organization theories alternated between a more "rational" view, more focused on the functions and results (economist), and a more "normative" view, more focused on the importance of human relations (humanistic - psychology and sociology).

Despite this, the different schools in the management theories area are similar to a "jungle" with braiding trees that are rarely seen as a totality (Koontz, 1961, 1966).

In the following figure, which is based on Cunha (2006), we highlight six major theories that currently coexist in the literature in this area:

Theory	Period	Type
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Scientific management	1900 - 1923	Rational
Human relations	1923 - 1955	Affective
Systemic rationalism	1955 - 1980	Rational
Organizational culture	1980 - 1993	Affective
Radical rationalism (Re-engineering and others)	1993 – 2000	Rational
New Trends: Design thinking	2000 - ?	Integrative sharing, technologic revolution and big data management

Since about the year 2000, there is a tendency that allows us to emphasize the existing tendency of organizational design based on processes that integrate people and various different elements, as described in the text.

The so-called “classical theories” of management may be presented as follows:

- the “scientific management,” especially represented by F. Taylor (1856-1915) and H. Ford (1863–1947),
- the “administrative management,” especially represented by H. Fayol (1841-1925) and
- the “bureaucratic management,” especially represented by Max Weber (1864-1920).

All these theories have a mechanistic view of the human person and are concerned with the increase of the work efficiency. In this research we call it as the “Engineering-based Organization Design” - let’s label it as EOD.

In opposition, we will label the new trends on organization design, based on design thinking as “Design-based Organization Design” - let’s label it as DOD.

Taylorism denounces the causes of worker inefficiency and presents the management as a “true science” by applying the principles of mechanics (down to top). By its turn, Fordism added the assembly line and vertical and horizontal integration, in order to reduce the unproductive cycles.

The underlying philosophy of scientific management lies on the following principles:

- the rationalization makes the work less hard and more productive;
- all people are rational;
- people understand the work only as an economic enterprise.

The principles of scientific work organization can be presented as the following ones:

- leaders plan, workers perform;
- division of labor in sub-tasks;
- maximum efficiency (“one best way”);
- selection and training of scientific workers (right person, right place);
- train people to be effective;
- tight supervision of the performance of workers.

With the same goal (efficiency), the Fayolism focuses on the six basic functions of management, as follows:

- technical,
- commercial,
- security,
- financial,
- accounting,
- administrative;

and on the four basic administrative functions:

- planning
- organizing
- directing
- controlling.

Finally, the bureaucratic management of Max Weber has also a rationalist view of man. It prescribes strict and disciplinary precepts for the effective performance of the individual and of the organization.

Elton Mayo marks the beginning regarding the human factor at work, not with many moral and humanistic concerns to improve the worker but with concerns to improve working conditions and also to increase efficiency (a classics heritage). The previous logic remains mainly in the improvement of productivity.

The Hawthorne heritage remains today, namely:

- in the importance of considering people themselves and not just the effectiveness and efficiency;
- in the idea of social man;
- in the participation of workers;
- in the leader as a key element in the moral and job satisfaction group.

It is in this school that the organizational behavior (the organizations psycho-sociology), the human resources management, the holistic co-leadership and even the DOD are rooted.

With systemic rationalism (Herbert Simon and others) a rationalist and mechanistic view of the human person is back. The affective component is replaced by the cognitive science. Engineering predominates again. The organization is a processing machine information. The mind as a “digital computer” becomes the conceptual model of human thought. Employees are considered as rational beings, nearly an automatic machine, whose behavior is foreseen. The schools of management and business are in favour of operational research, statistics, finance and accounting. This proves that “the organization’s vision as a machine is deeply rooted in western management, from Taylor to Simon” (Pina and Cunha, 2006).

With the advent of organizational culture (G. Hofstede, Pascal and Athos, T. Peters, etc.) the concern for the human factor at work is back. “The organization’s human side occupies the stage again” (Pina and Cunha, 2006). The influence of the success of Japanese companies questioned the Systemic Rationalism and brought back the emotional component. The systemic

thought reduces the loyalty and the commitment of people and removes the necessary flexibility to the organizations in a changing world that needs the existence of committed people.

With the coming of this new millennium, we have evolved to models that integrate, as are the co-leadership models, the holistic management, the integrative management, the participative management, the multidisciplinary teams, the multifunctional teams, the change management, the holacracy.

These innovative trends (which we can even consider revolutionary) can be witnessed by researchers and authors such as Heenan and Bennis (1999), Zohar and Marshal (2000), Endenburg (1998), or Robertson (2007). In these models, the design has a fundamental function, because with it there is the knowledge to integrate all the elements.

Today there is a stream of researches that point to the need of considering people as beings with various facets: cognitive / rational, emotional and spiritual. That is to say, there is a unique organization design that fits and serve the good performance of any different organization and each group of co-workers in the organization. Design thinking allows the process in order to find that there is a unique organization design for the needs of any organization. "Professional managers often resort to mimicking the 'best practices' of their industry as a preferred course of action. Around this idea, it is possible to cite the management maxim: 'don't reinvent the wheel,' even though reinventing the wheel might be precisely what a situation calls for" (Boland *et al*, 2008).

Considering the evolution of organizations and new visions for management, today there are valued topics, such as the concepts of democratic organization, corporate social responsibility, friend company family (best places to work), healthy organizations, virtuous organization, enlightened organization, or spirituality in the workplace.

Although the engineering organizational design had evolved with the human resources approach and useful management tools, there are constraints for generating new and different ideas (as is defended by Boland and Collopy, 2004).

The models that resulted from the School of Humanities and Human Resources often may not have a proper basis to be able to have the expected effect. This means that they continue to survive in an organizational basis, being designed and inspired considering the old hierarchical organizational model designed by Taylor and his followers.

At the same time there is the classical design, which is practiced since the 16th century<sup>1</sup>. Depending also on the human sense, on social, cultural, economic, political, technical and aesthetic aspects, the classical design evolved to an extreme functional and engineering design during the Industrial Revolution. The design was supposed to be mainly functional, the object or process mainly had to serve its objective.

Unlike the existence of EOD, the Classical Design continued to mutate pro-actively and massively throughout the market. Over the recent decades, some strong design histories changed with matters of concern like education levels, society models, class, gender, postcolonial, voluntarism, new crisis, aesthetics, economics and ecology, which have contributed to new ways of understanding the world mode of organization and the way it configures around us today, persecuting to give people what they really need and look for, according to their own objectives.

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<sup>1</sup> It was practised in a very small scale, for example in royal furniture and architecture design to ornament the high society class of that time.

In truth, EOD hardly seems to have evolved in practice. Even though several studies have shown considerable development frameworks responding to the new needs of society and ecology (for example through the School of Human Resources in general and Human Resources Management). The fact is that these theories are far from being usually implemented in the market and are distant from being massively applied, contrarily to what happens with design theories.

Just late in time, science got interested in improving organization design, using the classical design approach in all business dimensions (see Boland and Collopy, 2004). As presented before, this may be called “Design-based Organization Design” (DOD).

This chapter focuses on this new approach. By experimenting the development of this idea, formulating methods and interfaces that can be useful not just to create a DOD method, but also to use it in a DOD interface (an outcome of a design thinking process and method applied to the organization design creation and mutation). This is not just and exclusively relevant for the organization design practitioners but also for non-organization designer users. This means that the design is not just to create whatever be - because it is an evidence that “design is everywhere” (Peters, 1994).

Based on the aforementioned, in this chapter not only a method for the conception and creation of an organizational design is presented, but it is also showed how an organizational design can be created by using the design thinking, the design methods and the principles and fundamental bases of a classic design (Lamelas, Lamelas and Filipe, 2015a,b).

There is a good and very interesting definition about design and organizational design paradox: *“By it self, design is an empty vessel waiting to be filled with people, meanings, and actions... it is a dead form that as no life or energy itself... Yet on the other hand, it creates everything since the organizational design will have a fundamental framing effect on people’s expectations and perceptions, setting the context for the organizing activity – the social construction of roles and relationships – through which structure is enacted”* (Bate, Khan and Pye, 2000).

Considering this, design methods take the user into account because they were created to serve users. For example to mediate and guide the achievement of the expected outcome, design methods use internal and external boundaries, meanings, values, sense, actions and the minimum of rules instead of strict processes used on the EOD design; that is, sometimes they are aggravated by the fact that those processes on the EOD are created by technocrats, being far away from the operation and so they don’t know and think on what users need.

This research follows a research action process, “...a participatory, democratic process concerned with developing practical knowing in pursuit of worthwhile human purposes, grounded in a participatory worldview... It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities” (Reason and Bradbury, 2001).

## CREATION METHODOLOGY FOR ORGANIZATIONAL DESIGN

In this research, the creation methodology is used considering Tim Brown<sup>2</sup>'s products development methods in IDEO (Brown, 2008).

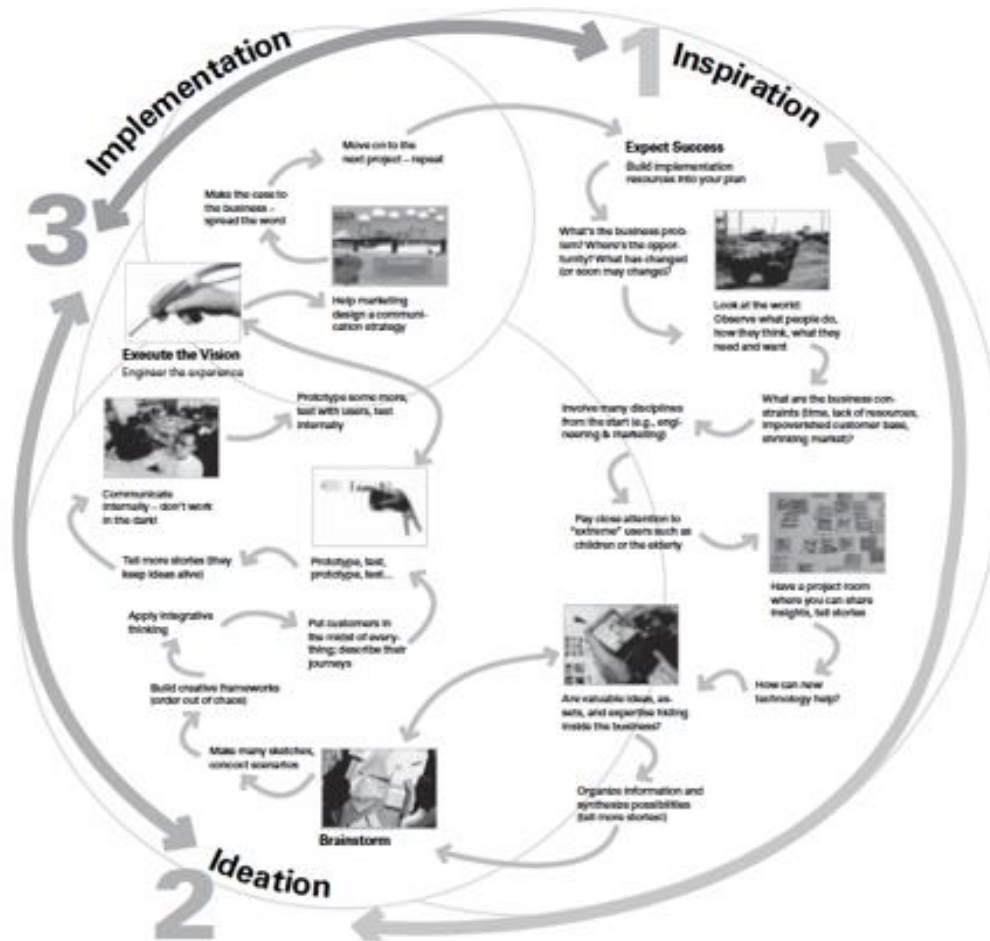


Figure 1. The three spaces: Inspiration, Ideation, Implementation.

It consists of 3 main spaces:

- Inspiration, that motivates the search for solutions and creates opportunity;
- Ideation, which is the process of generating, prototyping, developing and testing that may lead to solutions;
- Implementation, for the Charting of the path to the market.

In this circular method, as can be seen later, projects may loop back frequently, mainly to the inspiration and ideation spaces, since ideas are redefined and projects take other directions

<sup>2</sup> The CEO and president of a large innovation and design firm called IDEO.

different from the initial design project. However, for this research we enriched and developed this method by making a framework and the representation of one design space (Figure 2), a generator and a test of DOD interfaces for different organization designs.

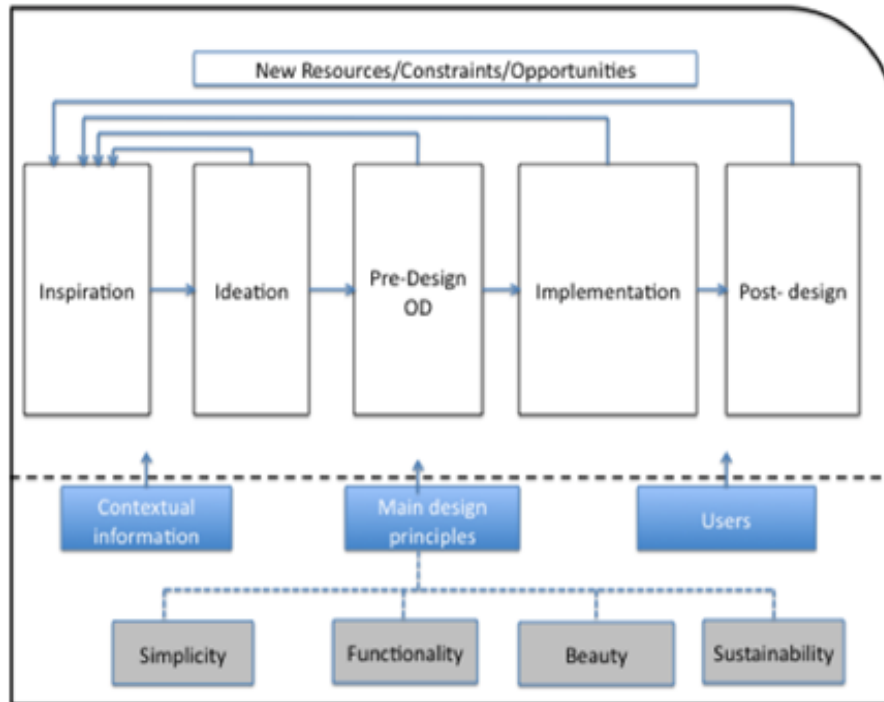


Figure 2. Framework for the Design-Based Organization Design (inspired in Brown, 2008).

This way the methodology followed to create DOD interfaces was a design process that generates design outcomes in the design space (the process on the top of Figure 2), and filled it with the design components (at the bottom of Figure 2). For a better understanding, we can view design methods from a chemical and biological language perspective, i.e., by viewing the outcome solution as a chemical solution, where the design space is a “solvent,” the circular processes and the design components are the “reagents.”

As can be seen, first there is the *inspiration* space, which motivates the search for unique solutions. In this stage it is important to understand the problem and create questions. Sometimes the extreme solutions or jokes help to create an opportunity for creativity. In this space, together with the participants that collaborated in this work project, we studied the words, found what is the business sense, what were the business constraints, where the opportunities were, what has changed or may change in a near future within the organization and on the external environment. We also observed what people did, how they thought, what they needed and wanted. Since two of the projects in the complete research were located on the middle of the nature (on national natural parks), being the nature the main inspiration<sup>3</sup>. In this stage we often use examples to communicate. For instance, after working for two days with a

<sup>3</sup> Actually somehow nature can show us all the patterns that exist. In one of the projects we even inspired and put permaculture ethics and principles in everything we do and in the centre of the organization.



future Eco Hotel administrator, co-workers and designers, we were talking about the way to make an Eco Hotel more sustainable. To get a solution, since there were functional and beautiful synergies, we suggested that we could put some strong ecology values or even a NGO or a foundation in the middle of the organization, using a laboratory example and image of an organization soaked in a chemical solution of a NGO spirit.

However, it is important to notice that this inspiration space was never abandoned. It was a constant state of mind which was also supported by the diversity of activities that were being experienced during the work project. For this purpose, some of the members of the team participated in many real projects, conferences, exhibitions, travels and design museums in several countries to learn more about design but also to take some ideas from what each member learned. This gave the team a lot of inspiration and the opportunity to explore this theme abroad and the possibility to learn about other organizations with some alternative organization designs that are less known because of their small dimensions. However, they have really been made to XXI century people.

Secondly, there is the *ideation* space, which is the process of generating, in a very fast and rough way, the prototyping, the developing and the testing phase, that may lead to solutions. At this space, we used brainstorming, made many sketches, mixed existent scenarios to reach, finally, a few number of ideal solutions. Consequent creative frameworks were built, as order out of chaos was got, using the main principles of design and instruments (bottom of Figure 2) serving as boundaries to the creative space. It was noticed that these boundaries had a huge impact in this method. The team applied integrative thinking, put users and customers in the midst of everything and also described their journeys and experiences. In this part, it was very important to engage in developing and codifying the external elements (bottom of Figure 2) what helped to align the organization theory and DOD methodology. After this process, some more elements were prototyped and refined until the part of testing in which the Van Aken's Alpha/Beta test interface was followed. "*Alpha testing involves the initial development of a design proposition, and is done by the researchers themselves through a series of cases. Subsequently, Beta testing is a kind of replication research done by third parties to get more objective evidence as well as to counteract any blind spots or flows in the design proposition not acknowledged by the researchers*" (Van Aken, 2001, cited in Romme, 2003). The testing space of this work project was made by comparison with other project results with which the team was working, through interviews and focus groups. The team created and tested a DOD interface of several Eco Hotels with design methods. The results were also tested with users, in the voluntary program called "Bairro Criativo"<sup>4</sup> ("Creative Quarter") created and coordinated by one of the authors of this chapter (Lamelas, Lamelas and Filipe, 2015a).

During the brainstorming where decisions should work fast, the team used a minimal testing process by testing mainly four boundaries of the prototype, which - as referred before - are considered the four big buzzwords and principles of the design: *functionality, beauty, simplicity* and *sustainability* (from now on, the FBSS test).

The third space is the *Pre-Design based Organization Design* (Pre-DOD), which means a final prototype conception that will be the guidance to the implementation phase. Without this pre-design, implementation can easily fall into chaos. This way, in this space a fledged DOD

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<sup>4</sup> "Bairro Criativo" is a voluntary program from an NGO for development called AHEAD (Associação Humanitária para a Educação e Apoio ao Desenvolvimento), an entrepreneurial voluntary organization of NOVA University, which came from PUMAP (Programa de Universitários em Maputo).

interface is created to serve that purpose and to put everybody on the track to the final design. Two good effects on prototyping result from materializing and observing the big picture in less time, being possible to change it later for improvements. For example, sometimes it is only possible to see the existence of problems or opportunities when we actually see and materialize the prototype. In fact, there are things that are difficult to see in the ideation stage where everything is still very rough. Most of the projects and organizations that the team helped and in which participated have achieved this space.

The fourth space is *Implementation*, which is the path to the market and DOD action in the field. This step happened thanks to the growing interest of the interviewees that experienced the DOD.

The final space is *Post Design*, which is characterized by conducting field studies and tests of the DOD in use (of the prototype or of the final implemented DOD), to obtain data for new versions or to improve the quality of the DOD based on new features.

Therefore since this design methodology has a circular design, whenever we have new resources, or either new opportunities or yet new constraints, the process may loop to the initial moment, “inspiration,” and it is possible to restart again the design methodology that was created and is reflected on Figure 2.

A very important characteristic of DOD framework is the possibility of filling since the beginning this design vessel or process with some guidance or boundaries like the ones that were used in DOD experimental tests (at the bottom of Figure 1): users (resulting in the question: who and where are the users or potential users?), the contextual information (by posing the questions: are we here for what? Where are we? When?) and the main design principles referred previously, which are: **Functionality** (it serves the purpose); **Beauty** (people love it); **Simplicity** (everyone understands); **Sustainability** (it must integrate time and prosper in time taking into account ecology, sociology and economy), that is to say FBSS test (functionality, beauty, simplicity and sustainability).

Next section is dedicated to a project that was conceived in order to be implemented in the northern region of Portugal. The project is under study and involves a set of particular procedures and formalisms, namely administrative and bureaucratic requirements, which are required to be project implementation. Follows a short description of the Project (Lamelas, Lamelas and Filipe, 2015b).

## **THE CASE STUDY OF AN ECO HOTEL IN PENEDA-GERÊS (PORTUGAL)**

The Eco Hotel under study is a tourism development project with the aim to provide the northern region with an international luxury hotel based on nature, culture and wellness supporting an environmental, socio-cultural sustainable development, communitarian service, the incessant “surprise” and personalized service to customers and users, as Tom Peters stated: “you must design the customers experience or the customer will design it for you” (Peters, 1994) doing this by design.



Situated in an exclusive area of the National Park Peneda-Gerês, the hotel will benefit from the exclusive natural location and the mysticism aroused by the historical submerged<sup>5</sup> and communitarian village “Vilarinho da Furna” (you can feel it by the photography below), by a historical architecture, cultural characteristics, organic agriculture, specialized activities and a gastronomic unique selling proposition, which will be integrated to create the intended communitarian atmosphere, but never forgetting that we will be deeply in the 21st century. The project proposes the customers, in a luxurious context, a complete offer of nature, culture and wellness features which will also enable them to have a learning experience. Finally, based on the 45 hectares of land provided by the municipality under long term concession, the investment is estimated at €33 M.

The main concept is around the village Vilarinho das Furnas (photography dated from 1965).



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<sup>5</sup> An incredible communitarian village isolated from the world in deep “Serra do Gerês,” that was submerged since the construction of a dam in 1971 by the Portuguese dictator Salazar. The Hotel architecture will be based on the reconstruction of the main road of this village that passed through the main square of the village, i.e., the main communitarian spaces of the village.



Today, this is what remains from the last historic Portuguese communitarian village.



**Key success factors:** comfort, tranquillity, security, multiple activities, constant “wow,” personalized service, aesthetics related to the landscape and architecture, environmental sustainability, personalised service, gastronomy, exclusive group human resource training (MICE), nature, sports, wellness and finally but very important a particular communitarian atmosphere.

## 1) Mission

“Our objective is to offer the guests a full package of luxury services related to nature, culture and well-being. The project and the surroundings of the area will offer the customer an ongoing and subconscious learning component in National Park of Peneda-Gerês. All these aspects linked together will create unique value and differentiation for the customers.”

**Segmentation and target market:** These demands are predominantly visible in the luxury travel market, which are supported by the respective market segmentation seeking a cultural, natural and holistic wellness environment. Studies prove that there is a tourism tendency in choosing destinations where the density of tourists is low, demonstrating a demand for tranquillity. Considering these and other factors, the establishment will target not only domestic market but also international market (by some customers platforms that “École Hoteliere de Lausanne” facilitate in Spain, France, Germany, UK and in Netherlands). In terms of demography it will also target young and mid-aged couples together with active senior customers. With its overall unique offer, the Eco hotel will also respond to the increasingly luxury travellers who feel the need for an environmentally friendly escape, heritage and well-being.

## 2) Strategy

The hotel will apply a differentiation and focus marketing strategy. The differentiation strategy is designed to achieve a competitive advantage by creating a product or a service that is perceived to be unique in some meaningful way (Lewis, 2000). The hotel will have a distinctive historical background and will offer a learning experience through its facilities and activities. The focus strategy is aimed at serving the needs of a limited customer group or segment, based on a distinctive competency (Lewis, 2000). The hotel will offer services adapted for wealthy people seeking for nature, rural activities, tranquillity and businesses seeking for an exclusive training week. As we can see in the DOD interface, the two strong pillars of competitive advantage of the first phase of this Eco Hotel will be gastronomy and farm, natural activities and M.I.C.E (meetings, incentives, conferences and exhibitions). This way, the hotel will be specialized in a specific area of training, where enterprises will know if they want to make a training for their co-workers in that specific management area and they will know that this Eco Hotel is the best in that training, having all the human resources, infrastructures, activities and quality level and at the same time, the ambition to create a human resources' training platform in the future.

## 3) Differentiation

The following points will determine the differentiation factors:

- a. Exclusive location in the National Park Peneda-Gerês.
- b. Unique architecture:

- Village recreation with all the adequate scenario
- c. Embedded learning with every offer:
  - MICE speciality (b2b management communication)
  - Indoor and outdoor activities
  - “Living history” & mysticism
- d. The choice of two restaurants: traditional cuisine and wellness.
- e. Personalized service with personalized packages (for example: the pre matrimonial villa, where couples can experiment living together before their marriage).
- f. The delay of the check out hour.
- g. Happy co-workers that are proud of working in the Eco Hotel

### **General Policy**

The strategic plan requires clear and transparent policies to be operated successfully. Here all the co-workers have the opportunity to propose, discuss, learn and understand well, even if it is not fully agreed by the organization. “*Do what you love. You’ll be better at it*” (Francis Ford Coppola), making efficiency by emotional commitment. We followed that policy in “Bairro Criativo” and it worked very effectively (Lamelas, Lamelas and Filipe, 2015a).

The workers’ functions and positions will change about 2 months once a year, where the lower levels have the opportunity to shine in higher levels and also to practice change.

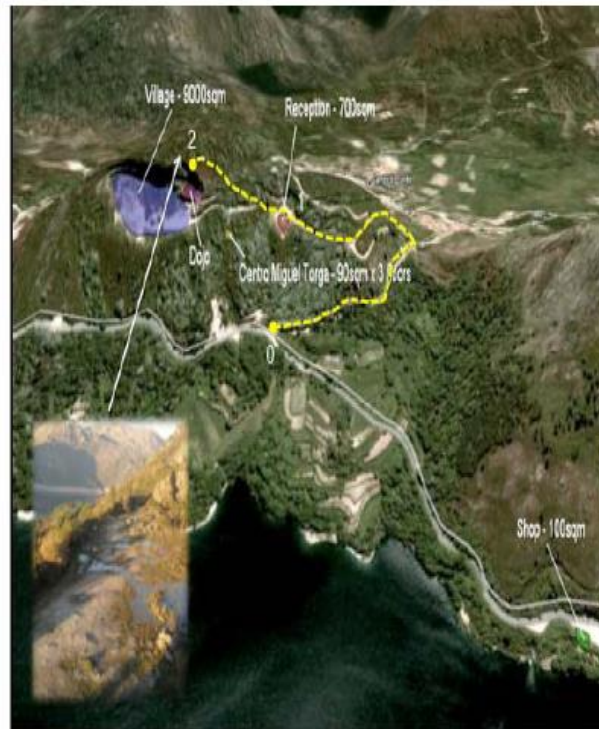
The Eco Hotel wants to define and practice a policy of open and honest management, which will lead to a frank evaluation of performance with different rewards.

This openness and active participation of all employees of the Eco Hotel will oblige them to the total confidentiality of the process.

The Eco Hotel policy will be supplemented with the following documents, which describe the organizational structure and internal processes:

- Welcome Manual;
- Functions description
- Operations manual integrated in the DOD interface.
- Code of conduct;
- System appraisal integrated in the DOD interface.

Another particularity is that the Hotel design, starting from the co-workers uniforms inspired in the traditional clothes of the old times until the experience of the arrival, staying and departure, was designed as a trigger to the sensation of mysticism, secret, refuge, tranquillity and communitarian atmosphere. For example the client’s path leading to the hotel follows the yellow line in the picture above. Arriving at point 0 the client enters the hotel and he admires all the biological park and farm during the trip until point 1 (the reception) where he makes the check-in and receives a briefing about the Eco Hotel. Until now the client hasn’t seen the village yet. He just has the idea he got from the main road where he could notice something in the mountain, since the villages architecture is so melted with the stone and vegetation of the Gerês mountain range. Our aim is to make the sensation that the village is there for many centuries. Then a horse cart transports the client till point 2 where he feels like arriving to a spectacular lost village, going from the top to the bottom of the village by privileged panoramic elevator that also gives the sensation of isolation.



### *The Infrastructures*

- 30 Villas, with 2 suits each, all thematic and unique, arranged by communitarian groups and communitarian spaces.
- Body and mind center.
- 2 Restaurants: a normal one, and a typical one where you have an interactive team teaching the traditional gastronomy.
- One MICE centre (meetings, incentives, conferences and exhibitions), and at the same time a local cultural centre, and a space where co-workers can construct their projects.
- 2 pools: one external and one internal.
- 1 Farm.
- 1 Biological park with natural experiences like mediation zones, zones with music, dojos, body maintenance circuit.
- A lagoon and a river beach that will be explored, cleaned and maintained by the hotel.

## **THE DESIGN-BASED ORGANIZATION DESIGN INTERFACE OF THE ECO HOTEL IN GERÊS (THE DOD INTERFACE)**

In this stage using this action research, by experiencing and learning the DOD interface on the field, or by experiencing it in other businesses, or by testing it with designers and manager meetings; the final Eco Hotel Pre-DOD were ready to be implemented.

First, to introduce this new dimension we will demonstrate a DOD interface from an Eco Hotel in Gerês (North of Portugal). In what we call the DOD interface of the Eco Hotel in

*Gerês*, you can see that we flattened the organization to a 2D (Exhibit 1) or a 3D dimension<sup>6</sup> completed and integrated with co-workers positioning (Exhibit 2.1).

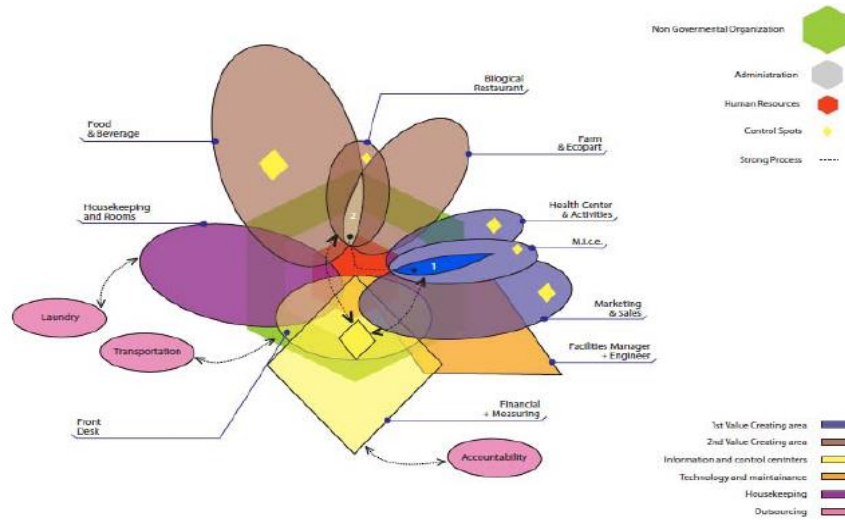
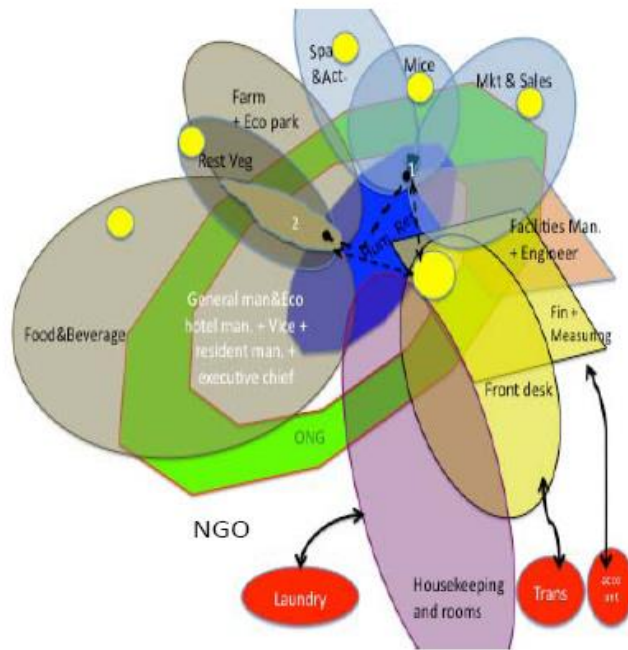


Exhibit 1. “The base of the Eco Hotel design-based organization design interface.”

Here we have the same DOD interface but using the same design software that was used in the entire work project, with poorer graphic quality.



<sup>6</sup>Unfortunately we didn't have the essential support to these 3D graphics.



### ***The Forms***

In the forms we can see the size of the team, the colours as identity, the directions of the forms meaning that they are planned to be changed; by changing the position to an outsource situation (in the case of the financial support), or by a change inside the organizational map, changing the position to another place where synergies will be more important (in the case of the facility and maintenance area that is very important to be in a first stage related with the first competitive advantage creation area). This DOD interface can change, melt, get fat, with separated spaces, in a dynamic world. The proposal is just the first flash (blink of an eye) of the organization, with the representation of a strong culture, direction, dynamics, process, strategy, leadership, boundaries and other business concepts.

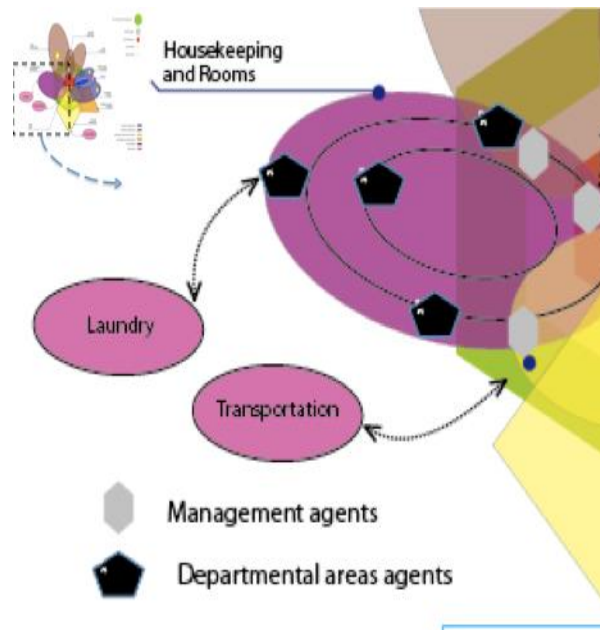


Exhibit 2.1. The DOD interface with subsystems in 3D dimension.

Next you can see an example of co-workers positioning using also a model with the areas A, B and C that can be used to employ hierarchies among sub-departments or within departments for example (the interior circles in the picture). One can use for example the following rule: The closer the co-worker is to the extremities of each shape in the DOD interface (each departmental area), the more responsibilities and interactions he will have with other departmental areas, working in this case as representative or manager of each departmental area.

It is based on melting and change, with an introduction (start up) design that will mutate with the organization users, context, lifecycle and anticipates it for functional, social and emotional causes. Some critics of this DOD interface saw it as a normal structure, but it is more than that, it is an interface between EOD and DOD, between business man/woman and design, and between management team and co-workers, which will serve as an interface inside the organization. For more sceptic people it is a richer representation and perspective of the organization as it is, where we can consolidate, see and use many dimensions and information

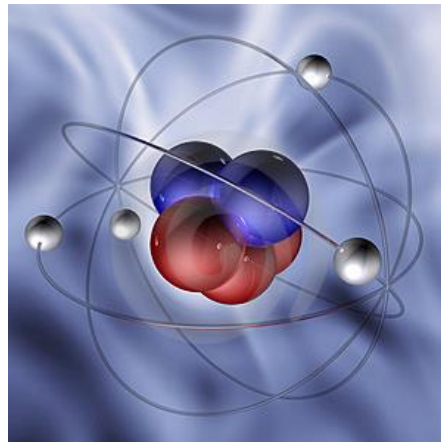
as you want, doing this also with the help of graphical design expertises, helping to integrate every dimensions and to perceive more information in a simple way using design. It represents the structure, the organizational design, the governance, the strategy, the culture, the leadership style, the processes, and at the same time mixing human behaviour dimension and organizational dimension. We used standard organization tools as inspiration rather than direct tools; based on changes rather than stability; spreading instead of guarding; using spaces rather than vectors in the graphic representation and in practice; open and based on trust instead of closed and secret; embedded instead of distributed; respect and trust rather than authority and management manipulation; organized around and among networks using 2D or 3D structures rather than top down and rigid hierarchical ones; based on interdependency principle rather than dependency principles; using a collaborative process rather than a centralization on a heroic maestro. Finally, we tried to make all this simple, functional, beautiful, sustainable, adapted to users and context. That is to say we tried to make it harmonious, and personalized to co-workers, through design.

In this Eco Hotel DOD in Gerês not only because of its situation, but also because of its concept, we knew sustainability would come by the responsibility to create value to the community around (by creating employment, development and people care) to the co-workers and to the clients. Never forgetting where these agents found each other, because we are also responsible for what clients do to the local population or what the population does to the clients.

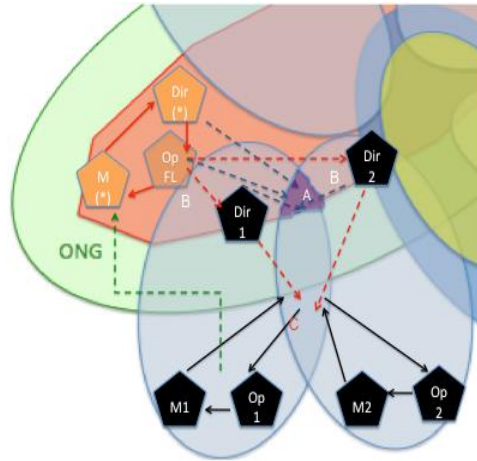
Then, this DOD interface evolved new and more refined features, by both disciplines, organization theory and classical design. Therefore, to show a subsystem that suits in this DOD interface we inspired ourselves on the circular design of Romme (2003) and Endenburg (1998), (searching inspiration in Sociocracy), but intentionally we cut the hierarchical structure principle that this system was serving, (Exhibit 2.2).

**Exhibit 2.2. “The subsystems in the Eco Hotel design-based organization design interface”**

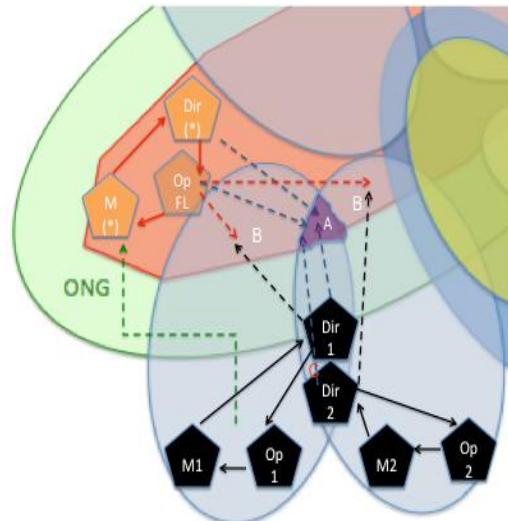
We imagined this organization design as a molecule design:



Stage 1 is the introduction stage, where middle management is learning and working under the coordination of the administrators. It is also the only space where the decision is based on consensus:



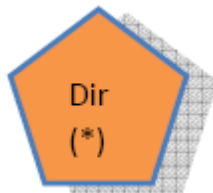
Stage 2 is the Growth stage where the organization empowers the middle management and emphasizes teamwork and co-leadership by putting them together working with their team in point C. Decision is based on majority vote, or in case of draw, decision is made with base on the consensus too.



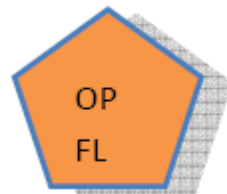
Additionally point A is a space of meeting between administrators and middle management of two or more synergic departmental areas. In another way point B is the space where administrators and middle management meet but separately by individual departmental area. Each space A, B, C, ... that implies meetings and gatherings, has its own periodicity.

These systems are distributed this way through all the base design, making a subsystem network of all the department areas, being positioned differently if it is needed and desirable. In a way that all the connections are proper and work effectively with an adapted governance and strategies that can be stated by the proper circle or by the Administration Circle in the centre, depending on the circle's users and context. Sometimes it is only necessary to create informal spaces to communicate fast (that is to say, sometimes there is no need to have a formal meeting), like a process inspired in a walkie talkie, online chats (ex: Whatsapp, MSN) or a limited characters chat.

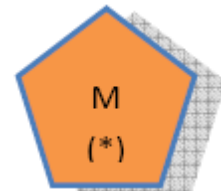
### Role Played in the Subsystem



General Managers, in co-leadership will lead the directing team (figures in orange in the centre of the organization). He/they can be also in contact and will work in the team at the area A, where the most important functional issues are decided. Their main role is to be the leader who is loved and respected by all and they are the keepers of the interest of the organization's sustainability or to the interest of the stakeholders, depending on the type of hotel business.



The Operational manager (functional leader in the operation) will be the resident manager. He is the one who solves the daily operational work directly with each or both op. directors of department areas (Dir 1 and Dir 2) in area B.



The Measuring and sensing of the functional departments (elected by the circular design of the departmental areas) will be the controller and the "eyes" of the top management to feel what happens and what are the needs in the operational activities. This kind of double link is used in sociocracy and holacracy structures using a similar role of the elected delegate (Buck, 2007).



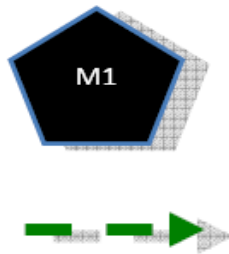
This will be the director of each department, with power to decide, responsibility and the authority aligned with the Eco hotel strategy and policies. He will be connected with the operational leader from the top management at point "B."

He will direct his departmental area with other departmental areas that together create synergies, at point "C." This way the principal areas are managed together in a hybrid co-leadership system (in some projects they share leadership, others they don't).

With this organizational design the number of directors can be decreased if in which point "C" you just have a director for both departmental areas for example.



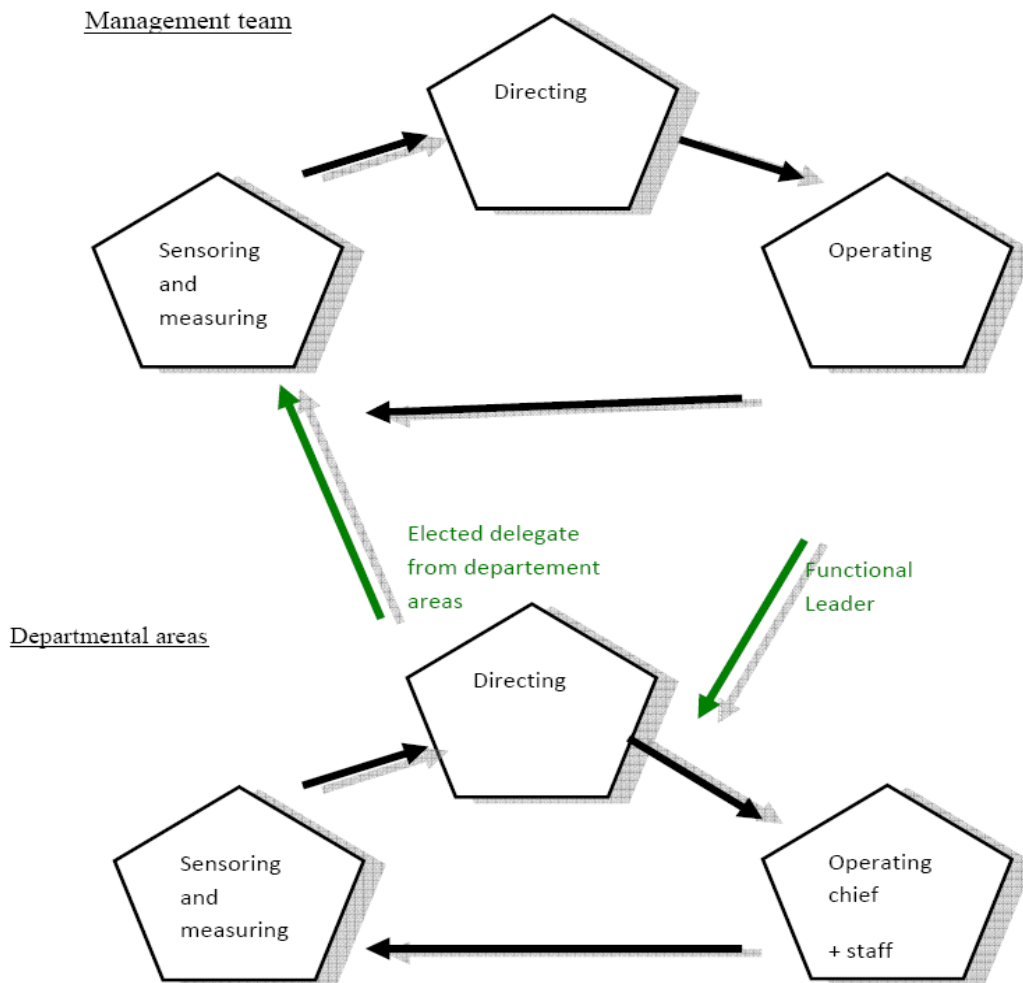
This represents the operating chief and his staff, who execute and also create new processes with their director.



The measuring and Sensoring of each departmental area can be someone elected from another departmental area nearby (like sociocracy and holacracy). But this role can also be executed by the financial department or any other department that can enrich the decision, the election or support the management.

The elected delegate who is the feeling of the staff. This will also be a top management panopticon control.

We used also the circular design inspired on Romme and Endenburg (Romme and Endenburg, 2006) adapted to the hospitality sector.



Note: End of Exhibit 2.2.

It is very easy and interesting to position co-workers in this interface, because the co-workers positioning has also a meaning. Just like in any design which appeals to the senses, each organization has to find the language and the sense it believes to be more adequate for

them so that they know where they stand and what is their position in the organization. In this case we expose here, the closer the co-worker is to the extremities of each form in the DOD interface (each departmental area), the more responsibilities and interactions he will face with other departmental areas, working in this case as representatives or managers of each department.

In a way the inter teamwork and inter team decisions are made by the adequate profile worker or team of workers, among the departmental areas that have interceptions. As you see in exhibit 2.2 it is predicted to change from stage one to stage two through the empowerment of middle management together with their team. “The mid-level managers will assume the position of the engineers of knowledge of the innovation firm” (Nonaka and Takeuchi, 1995). In sociocracy for instance, this person from middle management or as a leader and representative of the department, in communication among departments or with the hierarchy just above, is elected by and from within his own department.

In this Eco Hotel DOD, the participation, the creativity and the improvisation of the co-workers have a space, which explains also the form of our organization design; doing this by constant training and skills development given by the Eco Hotel. The Eco Hotel in Gerês even gave a physical space “The project atelier” with a privileged view that will permit co-workers to create their solutions for the organization’s challenges, because it is easier to create challenges with the proper tools and infrastructures. Additionally the Eco Hotel will create competitive advantage in spiral like the learning organization design creating constant innovation.

With this DOD interface you can introduce also the label of the organization<sup>7</sup> (values, ethics, principles, culture, brand identity, an important personality in the history of the organization, a group of people or any fundamental identity to the organization and business) that levers the organization by taking advantage of the *Gerês* national park biologic rehabilitation and also by an union platform of the hotel industry competitors in *Gerês* region, to create a green and natural strong brand of tourism “Gerês” (as there is in Madeira, in Azores or in Algarve).

This DOD interface also allows us to understand the strategy by the bigger value creation areas, which are also explained by the competitive advantage of the Eco Hotel strategy. This way, those areas will be areas of intensive teamwork and decision-making, decentralizing the “central brain” of the organization. It is suitable and more simple for small and medium organizations because of the distances inside the organization and because it also suits for democratic, transformational leadership and imperatively for co-leadership, characteristics that the administrators have and believe “It all starts from the top” (Porter, Lorsch and Nohria, 2008).

In the hotel industry we see multifunctional policies, but the co-workers are sometimes far away from decision points, on the contrary in this case, by design principles of social beauty and functionality we created the structure which suggests that multifunctional culture. As a result, flexibility was accepted and seen as a good thing, because the concept of a good worker

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<sup>7</sup> The “label of the organization” is something that naturally creates an involvement, influences the worker behaviour to the desired strong pillars of the culture or that creates a connection with the exterior in sync. An organization that can’t find this label can have a problem of culture and human resource, because the same way an organization has to know its product to sell it in a better way in order to have success, an organization must know its culture and identity to work well.

was that he had to be good on a diversified number of functions. *“Flexibility is something that's earned -- it's not something that's handed to you”* (Welch, 2006).

This allowed us to understand how we create naturally commitment proactively as well as to create the self-achievement of the hotel co-workers (chosen using a specific criterion for choosing the co-workers with a specific profile 8), “They must realize that success ultimately depends on their ability to enlist the voluntary commitment rather than the forced obedience of others” (Porter, Lorsch and Nohria, 2008). Additionally to this, we see the latest generations with a very different behaviour, where for example the children have a under estimated power on society today, because more and more they have a decision voice within the families. That is to say as they have an opinion to give since very young, how will they be when they have to work in an organization?

This interface is based on change and dynamics because each departmental area has a particular form that allows us to see which one is in a provisory position. This means that in the growth stage some departmental areas will change their position, i.e., a different position may affect the span of control, the authority, the decision making, the chain of command, delegation, the working team, the accountability and the responsibility. As it is the case of the “Facilities maintenance,” it is be very important to be in the first strategic area of the Eco Hotel at the introduction stage of the company life, but afterwards it will be important to achieve another area.

In terms of control, unfortunately we must be aware, because this kind of liberal design with some creative human resources needs some adequate regulatory policies, control systems and incentives. *“For the reluctance to embrace design is the difference between designers and managers on a number of issues, and a widespread belief that designers – or creative people in general – cannot be managed”* (Stamm, 2004). That is why the adequate leadership in this type of organizations is even more important. The control system and the selling spots can be seen in yellow in the DOD interface (the yellow bullets in exhibit 1). The control information focus can be eliminated, when there is more important information, because in this stage of the design we were concentrated in the construction and implementation of the DOD interface and at the same time in the simplicity and functionality of the practical interface, never forgetting the beauty, the context and the user (the more information there is, the more complicated the interface will be). This way with this organizational design, it is almost imperative to have an incentive system that rewards team and individual performance, in order to position and incentive in a natural way the co-worker by merit and honour, in an open book system thanks to the graphic screen<sup>9</sup> (Exhibit 3). We decided to inspire this system in a precipitation meteorological map and a brain radiography by using the coloured results of the system appraisal of the BSC - Balanced Score Card<sup>10</sup> - in the base team dimension, i.e., just for the base structure characterized by big forms and colours.

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<sup>8</sup> For example the co-workers that the administrators already have recruited participated in several social and environmental voluntary work in the past and have a strong team working skills. Some creative skills will be needed also, but well balanced in terms of proportion, because we didn't want an entire creative team due to its chaotic management constraints. These profiles will not only help to find the working conditions for these people, but also will help to nourish motivation of co-workers through the social and environmental mission of this innovative Eco-hotel.

<sup>9</sup> An integrated and visual screen that gives the information about the performance. To learn more, see the performance appraisal part.

<sup>10</sup>Since it is a system that by design it can be seen as a success of integration (Richard J. Boland Jr. and Fred Collopy, 2004).

If we use these scales colours of the balanced scorecard in our DOD interface, we can easily see where and what are the problems in one “eyes click,” or what is disturbing the teamwork results of the principal areas (see the islands at the interception of the principal activities that create value). This is an example of what co-workers can see in that screen:

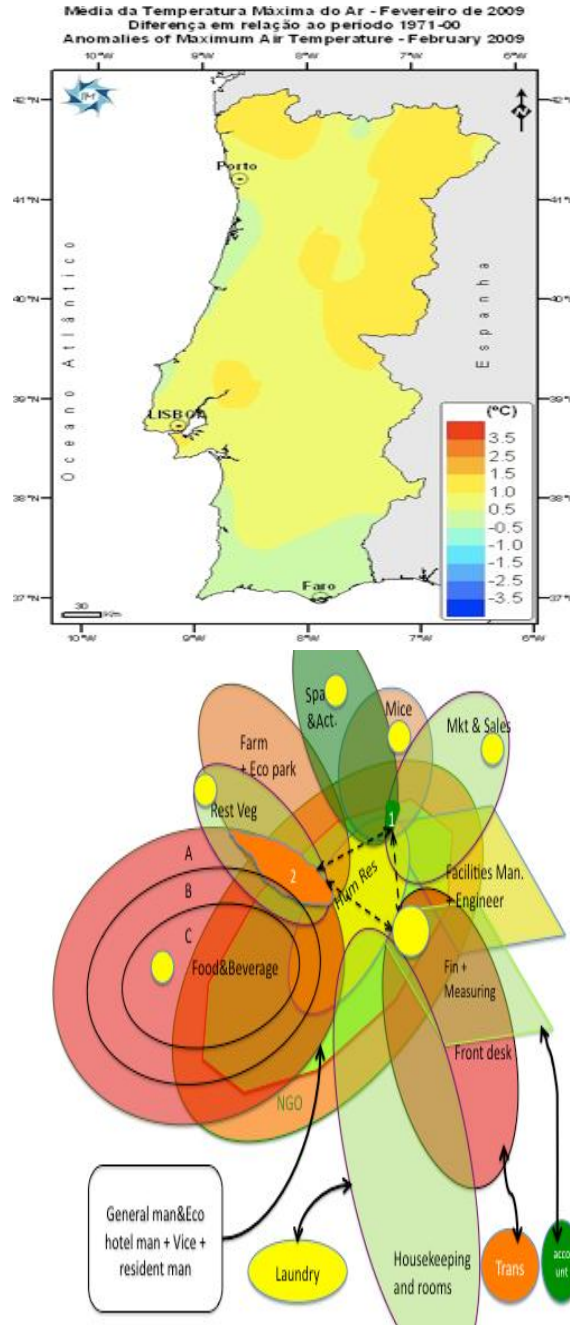


Exhibit 3. People care system appraisal.



To make the individual incentives and positioning we mixed the BSC with the GE's "20-70-10" system implemented by Jack Welch, that is controversial due to its lack of beauty, but as Jack Welch said "An effective performance appraisal system relies not only on honest feedback but also on meaningful differentiation among employees" (Welsh, 2006). But we just used the ending classification part of his appraisal system, classifying the co-workers by areas A, B and C, as you can see in the food&beverage department area example in the DOD presented above. The classification will be dictated by the BCS individual result, the individual interview and the circular design that allows the 360° control and flow of information; all that will result on the classification of a co-worker in level A, B or C; in a way all the co-workers receive incentives but some will receive more than the others.

At the same time, to help this co-workers positioning on level A,B or C we will use a sociometric test, since one of the administrators is an expert in the sociometric test. This test will also be used to position the co-worker in the team they fit and love the most, using this DOD interface as a simulator to see if the teams can be reformulated and equilibrated. This will allow us to have the right person in the right place.

The process will be supported by two separate screen systems: one will give a daily feedback to the teams and departmental areas by colours of their performance, giving the sensation that it is a team game. The other screen system will inform the clients if they are being ecological or not, also by colours, receiving a prize at the end that is to plant a tree. To support that, gaming is nowadays a characteristic and a passion of our society, "*Keep the change*<sup>11</sup> project demonstrates that design thinking can identify as aspects of human behaviour and then convert it into both clients' benefit and business value" (Brown, 2008).

For example, the client screen will have this aspect, showing if the client is being ecologic or not.



As a new business in the region with some suppliers who have the required service level, we designed outsourcing to be directly related with the direct operational level of the organization, (exhibit 1) distributing the power along the organization, since it is a start up<sup>12</sup>

<sup>11</sup> "Keep the change" project was a bank project inspired on the traditional habit of putting the change on a bottle, but doing this at the credit card level, i.e., when the customer makes a transaction and the real account balance has decimals, those decimals go to another account, "saving" money to the customer without realizing he is saving that money.

<sup>12</sup> It is an entrepreneur preference to use fewer fixed costs as much as possible in the beginning where the failure risk is high.

and it is a scholar principle of design of simplicity coming from minimalistic period, “minus is better,” that allows us to concentrate on the core business.

Finally we also decided to create different periods in the Eco Hotel, following the exchanging design technique in which the design changes according to the theme where it is inserted, creating constant “surprise!” In this particular case the design will depend on the year seasons. This way preparing special clients’ package and internal operational changes needed. Consequently this will be a space of constant innovation where learning will be a very fundamental path.

Note: End of Exhibit 3.

## **THE CASE STUDY OF THE DOD INTERFACE OF AN ECO AGRO TOURISM CALLED “BIOVILLA” IN SERRA DA ARRÁBIDA (PORTUGAL)**

Biovilla is a cooperative where two of the authors of this research are coops (also social investors) and one of them is the responsible for the agro tourism part of this multifunctional project.

### **Concept**

Situated in the heart of the Arrábida Natural Park (45km away from Lisbon), Biovilla is a cooperative without the purpose of making profit by profit, but rather it aims at promoting social, economic and environmental development in an integrated and balanced way through practical and innovative business models that put sustainability and nature design at the centre of its activities. Biovilla is not just an agro tourism, it has more activities beyond tourism. Biovilla’s mission is to take sustainability to people, based on three main pillars today, which in design terms represent a trilogy that holds together a sustainable design: the economic, social and environmental pillars. Without any one of these pillars no organization can be 100% sustainable.

In Biovilla, the economic factor is the Eco Agro Tourism: a small tourist complex with four rooms (twelve more rooms will be build in 2016) that aims to be an alternative to the non-sustainable tourism we see almost everywhere. It is also regarded as having the aim of attracting people to pass by Biovilla, in order to allow them a sustainable and nature experience. It is a way of taking sustainability to people while offering total comfort and also generating revenue to give logistical and financial support to the remaining pillars of Biovilla, which are still ameliorating their levels of profitability, thus taking advantage of the inherent synergies among the three pillars. Historically, tourism is an activity which promotes comprehension, tolerance, fraternity, and peace amongst different people and cultures. That is why this pillar in Biovilla also has an important role in generating the conditions that will enable Biovilla to be a place of convergence for people and cultures of all around the world who look for a different kind of tourism, with practices that are really sustainable, such as a real Eco hotel. Last but not least, the success of sustainable tourism also generates profit, since there is ever more and more demand due to the increased concern with environmental and social issues whenever a tourist

decides to book a hotel. In many European countries this market is not just a niche anymore, as it takes a larger part in the global markets. However, tourists are still faced with the need of booking regular hotels since many times there is no choice, i.e., there is still a lack of supply of hotels that really apply sustainability in their organization or business model. In the Biovilla tourism pillar we expose our guests and visitors to the good practices of sustainability, a very humanized service and sustainable products that guests can experiment and than use those same techniques at home, to support we have the co-workers of Biovilla to transmit this awareness and knowledge and give some tips (based on “do it yourself” techniques) to the guests.

The social factor in Biovilla is the learning pillar: It organizes workshops with the goal of becoming one of the first official institutions of education for sustainability in Portugal in the near future. The courses are usually priced fair and accessibly, and Biovilla has it as a rule to offer two scholarships per course, for those who do not have access to this type of knowledge due to economic reasons.

The environmental element in Biovilla is the environment and nutrition pillar: The activities of this pillar have the goal of spreading Biovilla’s impact into raising awareness and producing food products that are 100% natural, creating conditions for the development of the fauna and flora in Arrábida and for the production of hygiene, house cleaning and medicinal products that are also 100% natural, in order to contribute to change non-sustainable consuming habits of today’s society (in a near future Biovilla will also have its own brand of 100% ecologic hygiene, house cleaning, and medicinal products).

Biovilla will have more main pillars of activities, new people and new dreams in the future and like a tree, new branches will grow and a new organization design, structure and processes will be necessary.

## **Brief Description About Biovilla’s Lodging and Tourism**

Biovilla’s lodging has now 4 bedrooms available with double accommodation with extra bed option (with breakfast, linens and towels included), that have a shared bathroom for each two double/twin rooms, with hygiene products 100% natural. We have a kitchen (for guests also), decks, car and bike park, meditations spots, a library, free wifi, some board games and a living room with projection screen for films or documentaries, all this in a shared format. There are a few mountain bikes to rent in place. People have the opportunity to participate in the daily works of permaculture, natural agriculture, gardening and trainings happening in place.

We always work to offer comfort and quality to our guest in the middle of nature and with sustainable practices. As an example, all the products like hygiene or food products at the disposal of the guests in Biovilla are natural and it is out of question to put any chemicals in our land. Depending on the season we have biologic and natural vegetables, fruit and other kinds of natural products at the disposal of our guests or of any person who prefers to buy biologic and natural products. We also prepare vegetarian meals for our guests.

Biovilla is proud of and it is our responsibility to take care of a part of our dear Arrábida Natural Park, as well as to show, protect and multiply native plants (we are responsible for the reforestation of one part of Arrábida), and also encourage the development of local fauna. In the eco agro tourism part, the co-workers are all specialized in nature disciplines and sustainability, rather than being specialized only on hospitality, because Biovilla’s main mission is to take sustainability to people also when they are in leisure (Biovilla staff have the

mission to show and to teach the best sustainable practices and habits to the guests), being the Biovilla project itself and its entire ecosystem the best training test. To have a good quality hospitality service, we have specialists inside the cooperative that give the sustainable hospitality training the co-workers need (that is why our co-workers can be a landscape architect, environmental engineers, permacultors, or manager with strong environmental awareness for example). Guests can experiment sustainable best practices and products, but at a same time they experiment a sustainable business model and organization, and more than that, an identity. Biovilla in the end is also a brand that wants to be strong and innovative, in order to be the number one brand on sustainability in Portugal.

We are not just a tourism, we have also a nature food centre (biologic and natural food production, where the volunteers can use Biovilla's lodging for that purpose) and a learning centre on sustainability (we perform courses and workshops about sustainability with social scholarships). Biovilla spaces and lodging are also used for courses, workshops and events (for example planting trees and all kind of events connected with nature and sustainability). Moreover we have some very special prices for events that promote sustainability awareness. In the tourism part, we are the alternative to the irresponsible tourism, we are a sustainable tourism, nature tourism, eco agro tourism and a comfortable eco rural tourism, all in the same place.

### **Biovilla's People and Structure**

In Biovilla we have a very special structure for the organization of labour. The whole organization is composed of twelve members of the cooperative, a circle of people who help out occasionally ("cooperandums" and volunteers) and the contracted people. In what relates to Biovilla's labour reality, we have four types of relations:

- a) Some of the cooperative members are coworkers of Biovilla and they have a fixed salary and a more active role in Biovilla. They are determinants to the success of Biovilla. In terms of governance, they have the responsibility of assuming more on site functions at Biovilla for several days a week.
- b) Others members of the cooperative have just a few tasks or very specific task that may be done periodically or remotely and they work for Biovilla by heart and at no cost (with some benefits in Biovilla). Most of these members have a fixed job and cannot give much time to Biovilla but they have very important roles in the strategy of Biovilla and technical or very specific tasks.
- c) Yet other members are temporarily away and have no concrete functions other than providing support to Biovilla. This is usually due to an important event in their lives which withhold them from dedicating time to Biovilla, for professional, geographical or other personal reasons which are accepted by the group, in accordance with the culture of people care of Biovilla, where we all wish that the person next to us may be happy and feeling well.
- d) People that are not formally part of Biovilla's cooperative but resonate with Biovilla and want to help and participate in this innovative project that considers itself to be bigger than the people who are a part of it. Some are also part of the local community that cooperate actively. These people can be volunteers who just want to help at

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Biovilla occasionally, as well as people that provide support to perform certain tasks more recurrently and with technical resources which Biovilla does not have. We call this group of people the “cooperandum.”

One of the options that people have to obtain a yield in exchange of labour in Biovilla, is the local coin of Biovilla. That local currency that facilitates the exchange of services and products can be used inside Biovilla’s networking and in all the services and products.

At the moment, one person alone (overnighting at Biovilla), with the help of another one who takes care of the cleaning for two hours a day, can operate the activities in Biovilla in normal situations, i.e., when there are no events or banquets. In the future this structure will change, since we look forward to employing more wage earners in the next year (subject to an expected business growth), to perform important tasks that take much time for the members of Biovilla’s cooperative. Thus Biovilla may expand into other business areas we have in mind, such as the production and marketing of natural hygiene and house cleaning products (so that sustainability also enters people’s homes at the level of this type of products). These new and hired people may be formal members of the cooperative or not. In case they are not members, Biovilla may have to adapt and redraw once again its organization and governance design in order to adapt itself to the new context and users of the organization, if necessary.

Additionally, and without going into too many details in what relates to governance, everyone’s vote has the same weight in important and strategic or operational matters of the cooperative. The organization has practically no hierarchies: the management only has a slightly higher level of responsibilities in the hierarchy, as well as the ones responsible for every pillar of activities. Nevertheless, there are practically no signs of hierarchies and, above all, everyone respects those who dedicate more time to Biovilla. The cooperative members are all “partners” of one another and we all cooperate and collaborate so that Biovilla may fulfil the common dream of contributing for the world to move towards sustainability and becoming a better world for all (for that we use the ethics and principles of permaculture, the base of the culture of Biovilla, which provide us with orientation in our special approach to what concerns people care and our activities).

Again, in what concerns governance and the organization of the people who work in Biovilla, we use and adapt the structures and processes derived from sociocracy and holacracy, tailoring them to our organizational design where each department has multiple links with other departments within the organization and other agents outside the organization (taking advantage of all the richness that the edges and borders may generate in every organizational design). Hence, in what relates for instance to integrative decision processes, processes of integrative election, to decide operations, governance, tactics and strategic issues, we use the processes derived from sociocracy and holacracy, in order to facilitate integrative processes that were agile and known to all.

In Biovilla everything starts on a sustainable design approach. Since the genesis of Biovilla project in 2010, permaculture represented a big influence and inspiration. This way, when the entire cooperative project was established with all the members needed to start the project, it was already in the culture of Biovilla the ethics and principles of permaculture.

## **Principles, Ethics and Design in Biovilla**

Biovilla puts sustainability and nature design at the centre of its activities. As an example, the principles and ethics of Biovilla are based on the principles and ethics taken from permaculture. For example in one of the first DOD interface of Biovilla permaculture was the label of the design and was represented at the center of the organization design. At the beginning it was important to have that label highlighted in the organization design, since it was important to internalize the culture. After more than one year, since the culture were already internalized, we excluded that label from the organization design and included some other information that was more adequate for that time work force structure and more important to accomplish all the tasks and achieve all the goals of the organization. What is Permaculture? Permaculture has multiple definitions, one of them is: ‘Consciously designed landscapes which mimic the patterns and relationships found in nature, while yielding an abundance of food, fibre and energy for provision of local needs (...) More precisely, i see permaculture as the use of systems thinking and design principles that provide the organising framework for implementing the above vision. It draws together the diverse ideas, skills and ways of living which need to be rediscovered and developed in order to empower us to provide for our needs, while increasing the natural capital for future generations’ (Holmgren, 2013). Another definition is: “Permaculture is a design system for creating sustainable human environments” (Mollison and Slay, 1991).

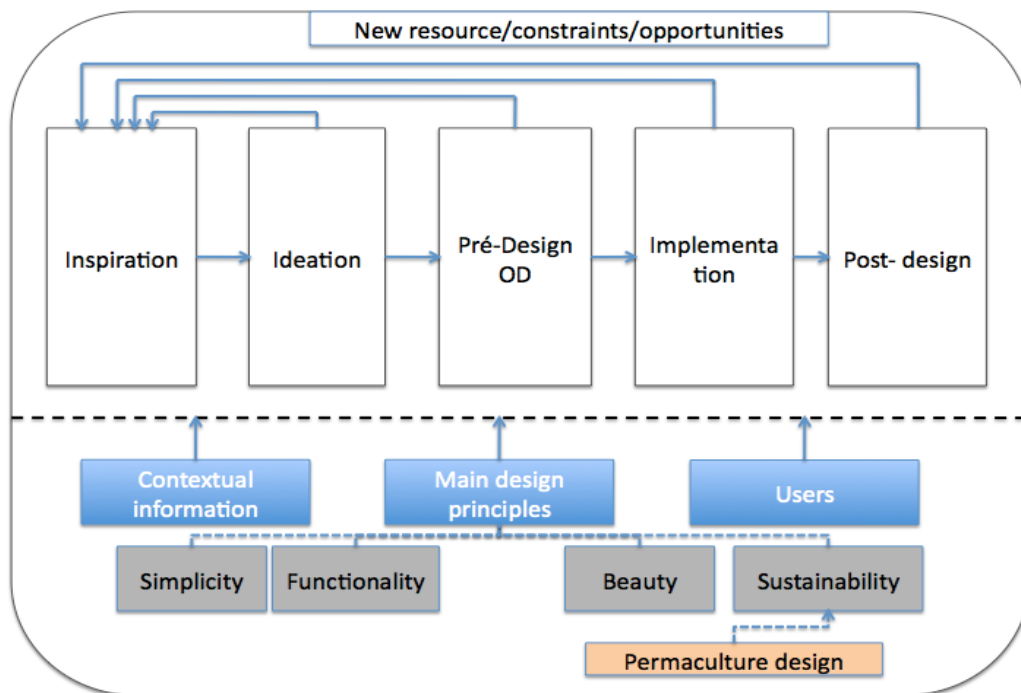


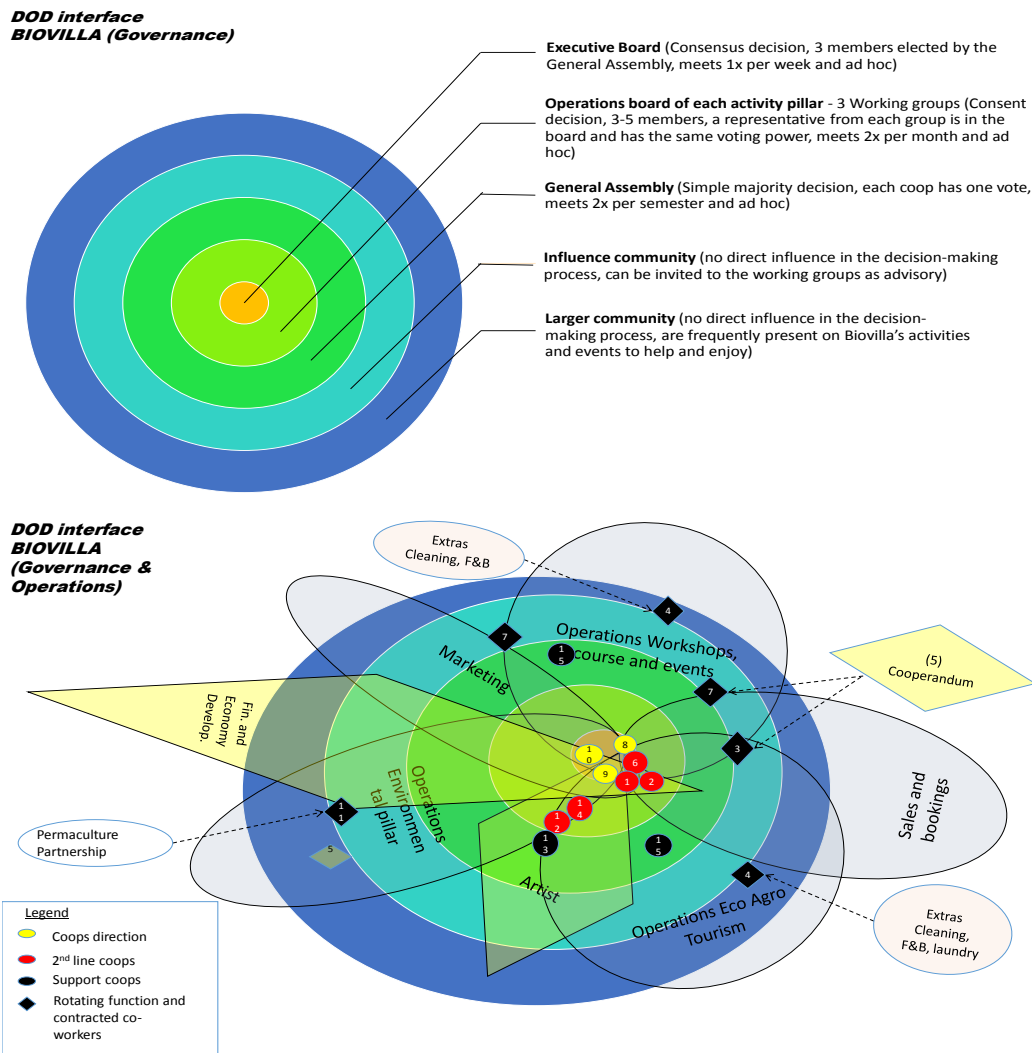
Exhibit 4. Framework for the Design-Based Organization Design (inspired in Tim Brown, 2008) used in Biovilla.




This permaculture principles and ethics were integrated in the 4th main principle taken from classical design, “sustainability,” that we can see on Figure 2 and Exhibit 4.

In this article we will not show all the prototypes and DOD interface that Biovilla designed based on this design thinking circular process. We show below on exhibit 5 the last organization design of Biovilla at the time of this article.


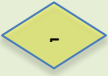

In this final DOD interface at this second phase we overlapped two different dimensions: governance and operations. As a result we decided to take out the “label” (representing the culture of the organization in the DOD interface) out from the centre of the design. After representing the governance at the centre of the design, reorganizing the design again and after some other design improvements, the final result was:




**Exhibit 5. The DOD interface of Biovilla**









Function	Function description	Positioning in the DOD interface above
 <p>Coop Tourism Responsible</p>	<ul style="list-style-type: none"> <li>• Sales management, E-commerce, hiring tourism agents, management and control of reservations, management of distribution channels of the accommodation and tourism pillar (b2b or b2p)</li> <li>• General manager of the Eco Agro Tourism</li> <li>• Monitoring and controlling the implementing of the tourism pillar and preserve its substance</li> <li>• Monitoring the operation of the eco agro tourism pillar</li> <li>• Support marketing of the eco agro tourism pillar</li> <li>• Revenue manager responsible of the eco agro tourism pillar</li> <li>• Ensuring people care in the eco agro tourism pillar</li> <li>• Responsible for the tourism booking flow.</li> <li>• Negotiation and contracting with suppliers for the tourism pillar.</li> <li>• Support the cooperative executive board</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	<p>Operations Eco Agro Tourism + Sales and bookings + Marketing + Artist + Fin. and Economy Develop</p>
 <p>Coop individual Sales and Op.</p>	<ul style="list-style-type: none"> <li>• Answering and managing the flow of individual bookings of the eco agro tourism pillar</li> <li>• Revenue manager and support in giving quotes for groups</li> <li>• Management of work and presence schedules in Biovilla</li> <li>• Organizing moments of celebration and entertainment</li> <li>• Searching for funding opportunities</li> <li>• Writing applications for funding programs</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	<p>Sales and bookings + Operations Eco Agro Tourism + Fin. and Economy Develop + Operations workshops, courses and events</p>
 <p>Op. Services</p>	<ul style="list-style-type: none"> <li>• Rotating duty amongst all the members of the cooperative, depending on whether they are working in loco at Biovilla or giving support</li> <li>• For the time during which he/she is at Biovilla he/she is the operational manager and performs several necessary duties to support the operational works</li> <li>• In case of being by him or herself, the operational manager performs all the</li> </ul>	<p>Operations Eco Agro Tourism + Operations workshops, courses and events + Sales and bookings</p>



Function	Function description	Positioning in the DOD interface above
	<p>operational tasks, since in case he/she has help for cleaning or F&amp;B, he/she also has to coordinate the work to be done during the stay at Biovilla.</p> <ul style="list-style-type: none"> <li>Assuring the normal functioning of the guest experience service at Biovilla, as required by the guests</li> <li>Performing all the in loco duties related to the touristic operations</li> <li>Ensuring shift turnovers and controlling stocks</li> </ul>	
 Extras cleaning and F&B.	<ul style="list-style-type: none"> <li>Hired work from people and services outside of Biovilla's cooperative</li> <li>They mainly provide support in the cleaning, kitchen, room preparation or for the trainings, groups and events happening at Biovilla.</li> <li>In the case of the eco agro tourism pillar we add the laundry since we outsource these services</li> </ul>	Operations Eco Agro Tourism + Operations workshops, courses and events
 Cooperandum	<ul style="list-style-type: none"> <li>People or partners who remain with Biovilla in their hearts, friends, neighbours and volunteers who wish to help and participate in Biovilla's mission</li> <li>Operational services for the 3 activity pillars (rotational function)</li> <li>Working on the land and outdoor spaces</li> <li>Promoters of Biovilla</li> <li>Give support or can substitute some positions in Biovilla</li> </ul>	Operations Eco Agro Tourism + Operations workshops, courses and events + Operations environmental pillar
 Coop Group Sales, Engeneer and Op.	<ul style="list-style-type: none"> <li>Support the executive board of the cooperative</li> <li>Management of applications and participants' logistics in the trainings and events of Biovilla</li> <li>Co-ordination of trainings, trainers and keeping track of applications and proposals for future trainings</li> <li>Responsible for the engineering matter in Biovilla and for providing support in maintenance</li> <li>Responsible for groups and events</li> <li>Support to the communication in the learning pillar</li> <li>Distribution and monitoring of opportunities and demands that reach Biovilla through its main e-mail address</li> <li>Revenue manager and support in giving quotes for groups</li> </ul>	Sales and bookings + Operations Eco Agro Tourism + Operations workshops, courses and events + Operations environmental pillar + Artist + Fin. and Economy Develop

Function	Function description	Positioning in the DOD interface above
 <p>Coop Tourism &amp; Learning Support</p>	<ul style="list-style-type: none"> <li>• Operational services for the 3 activity pillars (rotational function)</li> <li>• Responsible for leading the integrative planning process of the learning pillar's activities in the short and long run</li> <li>• Providing support to the organization and the operation of the learning pillar</li> <li>• Support in the marketing of the learning pillar</li> <li>• Support the tourism operations and learning pillar in loco at Biovilla</li> <li>• Support to people care</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> <li>• Encouraging the generation of revenue during the low seasons with events and attractive activities so as to hinder the waste of rooms to be sold</li> <li>• Support the cooperative executive board</li> </ul>	<p>Operations workshops, courses and events + marketing + Sales and bookings</p>
 <p>Coop Learning Responsible</p>	<ul style="list-style-type: none"> <li>• Member of the executive board team and facilitator</li> <li>• People care co-responsible</li> <li>• Governance co-responsible</li> <li>• Responsible for the learning pillar</li> <li>• Co-coordinator of the trainings, events and groups.</li> <li>• Regular monitoring, keeping the regular information and "charm" loops; Local networking, connections with stakeholders, companies, NGO's, universities, public administration, local cycle of social production/consumption</li> <li>• Responsible for the marketing of the learning pillar.</li> <li>• Formalising new partnerships</li> <li>• Biovilla's representative in institutional channels and forums in which Biovilla participates</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	<p>Operations workshops, courses and events + Operations Eco Agro Tourism + Operations environmental pillar + Marketing + Sales and bookings</p>
 <p>Coop General Coordinator and planting responsible</p>	<ul style="list-style-type: none"> <li>• Member of the executive board team</li> <li>• General coordination of Biovilla</li> <li>• Responsible for the environmental pillar</li> <li>• Hotel operation manager in loco.</li> <li>• Operationalization, maintenance, management and development of the agricultural sector</li> <li>• Contacting suppliers, analysing proposals and placing orders for suppliers</li> </ul>	<p>Operations Environmental pillar + Fin. and Economy Develop. + Operations Eco Agro Tourism + Operations Workshops, course and events + Sales and bookings + Marketing</p>

Function	Function description	Positioning in the DOD interface above
	<ul style="list-style-type: none"> <li>• People care co-responsible</li> <li>• F&amp;B chief and menu engineering (based on the farm production he/she makes the menus for groups and guests).</li> <li>• Coordinates and operates the kitchen and F&amp;B operations.</li> <li>• Governance co-responsible.</li> <li>• Biovilla's representative in institutional channels and forums in which Biovilla participates</li> <li>• Responsible for the control and coordination of shifts in Biovilla</li> <li>• Support in institutional contacts</li> <li>• Marketing and design support to each pillar</li> <li>• Operational services for the 3 activity pillars (fixed function 4 days per week)</li> </ul>	
 Coop Finance	<ul style="list-style-type: none"> <li>• Member of the executive board team</li> <li>• Financial management</li> <li>• Accountancy</li> <li>• Writing applications for funding programs</li> <li>• Control and management of cashier and investments</li> <li>• Accountability coordination</li> <li>• Searching for value adding opportunities for Biovilla</li> <li>• Responsible for institutional contacts</li> <li>• Coordination of processes and contacts with state institutions</li> <li>• Coordination with reservation's department for the control of deposits and guarantees</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	Fin. and Economy Develop.
 Permaculture Partnership	<ul style="list-style-type: none"> <li>• Co-responsible for the food production and selling.</li> <li>• Co-responsible for Biovilla's little market</li> <li>• Co-responsible for the Eco agro tourism food supplies.</li> </ul>	Operations Environmental pillar
 Coop Planting & Tourism	<ul style="list-style-type: none"> <li>• Operationalization, maintenance, management and development of the agriculture sector</li> <li>• Co-responsible for the food production and selling.</li> <li>• Co-responsible for Biovilla's little market</li> <li>• Co-responsible for the Eco agro tourism food supplies.</li> </ul>	Operations Environmental pillar + Operations Eco Agro Tourism + Artist

Function	Function description	Positioning in the DOD interface above
	<ul style="list-style-type: none"> <li>• Embellishment and maintenance of outdoor spaces</li> <li>• Execution of diversified outdoor detail duties.</li> <li>• Co-responsible for Biovilla's little market</li> <li>• Support to the tourism operation in loco at Biovilla.</li> <li>• Operational services for the 3 activity pillars (fixed function 4 days per week)</li> </ul>	
 Coop Architecture	<ul style="list-style-type: none"> <li>• Embellishment and maintenance of indoor spaces and matters related to construction works</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	Artist + Operations Eco Agro Tourism
 Coop Artist and Maintenance	<ul style="list-style-type: none"> <li>• Maintenance and keeping of indoor and outdoor spaces by ensuring and monitoring maintenance activities</li> <li>• Restoration and conversion of used material, as well as creating new pieces of art for Biovilla</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	Artist + Operations Environmental pillar + Operations Eco Agro Tourism
 Coop support	<ul style="list-style-type: none"> <li>• Support and help in any task force in Biovilla</li> <li>• Operational services for the 3 activity pillars (rotational function)</li> </ul>	Operations Eco Agro Tourism + Operations Workshops, course and events

In this DOD interface at this second phase it was not necessary to explain the design thoroughly since naturally everyone had found and understood their place in the organization, since this organizational design was the result of the will of all the cooperative members. The only rules to understand the design are:

- In terms of governance, the people that are positioned in the inside circles can also participate in the outside circles (for example one person from the “Executive Board” can also participate in the general assembly, but respecting the general assembly governance). Sociocracy is partially used and adapted in Biovilla in terms of governance design (for example in terms of decision process).
- To analyse the positioning of each person (each bullet with a number in the DOD interface above) it is necessary sometimes to make a zoom in, so as to understand all the interconnections covered by the position regarding that person.

Additionally, this DOD interface managed to stand up to the operations in an effective and clear manner. What is more, the functions were many times rotating, which meant that all of us knew how to perform the duty of our colleagues, creating a great ease for substituting or supporting some people along some periods of the year. For that, a good baseline of co-created

procedures and user manuals that were simple for the use of all Biovilla's infrastructure was essential. In this way, whenever someone was on location assuring the services of Biovilla, that person would be responsible for the whole operation of the organization (with a great deal of freedom for taking decisions) and to pass on all the necessary information to the next person to take on a shift. This enabled this DOD interface to pass the test of functionality with a better performance than the one before due to its focus on the action and operation of the 3 main pillars of Biovilla. On the other hand, the language was also closer to that commonly used in the business world, which facilitated comprehension of each space and area in the organization, without need for such an exhaustive description of functions and duties.

In what relates to the graphical interpretation of this DOD interface (easier when in colours), we can see the different shapes and colours, as well as notice some lozenge shapes which in this case mean that they are technical areas that more frequently change positioning, according to the needs and due to their special characteristics as areas of support. It is the case of the technical and support areas called "artists" (maintenance and arts) and "Finance and Economy Development" (accounting, finance, local economy development and institutional communications) represented in the above figure and DOD interface. The small black lozenges are equally positioned in the spaces that interact and are usually positions where we know there is a lot of turnover when it comes to the person performing the activity, since he or she shares duties with everyone in the organization and around it (the cooperandum). The remaining circles or department areas are of easy interpretation and many of them aggregate a large quantity of operational functions, since whoever is in charge of that departmental area takes care of the whole operation (within the spirit of the functions' rotational system that we have in Biovilla and which was mentioned before). In this case we speak of the departmental areas "Operations Eco Agro Tourism," "Operations Workshops, course and events" and "Operations Environmental pillar." But this simplicity of the organizational design is easier to be represented in Biovilla's case, due to its small dimension, which asks for and enables it to be so.

Lastly, this second DOD interface has proved to be more adequate to the reality of the people that worked at Biovilla as well as to the small dimension of the organization and business. As of that the design has shown itself to be simple (people understood it and clearly knew their position and function), functional (it fulfilled its purpose, to accomplish all the tasks and achieve all the goals of the organization), beautiful (people loved it and used it to solve organizational problems) and sustainable (in the case of Biovilla, having its culture based upon permaculture saved this fundamental principle).

In 2016 some good changes will happen because Biovilla is growing fast and being a big success in Portugal. One of the big changes will be the hiring of more co-workers and the construction of more rooms for guests. This co-workers will occupy the center of the organization at the level of the "Operations board of each activity pillar," this way giving them a lot of empowerment, since they are the most important internal individual of the organization. Since Biovilla will hire more co-workers, some coops will be push away a little further from the operational center and will stay more at the "General Assembly" level or giving constant or ponctual support and conditions for co-workers to be happy and execute their work. This way giving the possibility for coops to continuing develop each pillar, create new projects to Biovilla or to focus on the core of Biovilla.

Again, this DOD interface of Biovilla is only one example of the constant learning circular process of constant improving and development of Biovilla organization. Since when there is

a change inside the organization in terms of principles, users and contextual information, the organizational design and organizational structure can change to readapt if necessary.

## CONCLUSION

In this chapter, it is shown that, by using the design thinking on an organization design, it is possible to create unique, beautiful, functional, simple and sustainable organization designs, considering always the context and user profile on which it is inserted.

A design-based organization design framework and its outcomes result in an organization which demonstrates to be able and which is in the front line in terms of competition in a always more globalized business world. In the beginning of this 21st century, new abilities are needed, in order that organizations be updated to define new skills and capacities to overcome obstacles and win in the today's competitive markets. These abilities allow organizations to achieve sustainability and correspond with positive answers to nowadays societies' new trends and requirements.

To achieve organization's and society's more sustainable, positive objectives, ecology, integrative sharing, the technologic revolution and big data management are taken into account and need to be fulfilled. Today we have a new trend to which society is not prepared yet, a society on which more and more machines are substituting humans; and humans have to continue living and finding new activities or new jobs because some professional careers will continue to disappear. This phenomenon creates smaller (less workers are needed to the same amount of production) and more horizontal organizations of highly qualified workers. Will the kind of organization design presented in this chapter be one of the answers to the future society created by the technologic revolution we live nowadays?

By using design circular methods, and mixing them with "reagents" or guiding elements like design principles, the users profile and the contextual information conceive in an organized way many kinds of DOD interfaces. Moreover this DOD interface will depend on the process and the guidance instruments used to conceive it, as we did in Exhibit 4: Framework for the Design-Based Organization Design (inspired in Tim Brown, 2008). But the main principles of design (simplicity, functionality, beauty and sustainability), the context and users must always be taken in account in any organization design, in order to have an excellent and complete design. However, what we cannot forget is that these DOD results are not a substitution for the EOD knowledge, but a complementary framework and an example of a DOD approach.

Additionally the DOD interface allowed managers, organization design creators, designers and non-designers, to design an organization design in an easy way and with an easy language. How? Creating a DOD interface between both disciplines (EOD and DOD), or between management team and co-workers, or among everyone if the users are a big mass of undifferentiated profiles; using some adequate language to make it simple to operate (the DOD interface can be easily prototyped using basic software that everyone knows, like microsoft power point).

This DOD interface can have more risks and be difficult to manage in the beginning of the implementation, but mainly with the commitment of top management, as well as the rest of the organization and after some practice and some natural human resource repositioning, the organization design will be loved and efficient. Moreover, it absolutely needs the right person

on the right place, team spirit, incentives and at least a democratic leadership. This research showed that, this could be possible using a DOD interface system appraisal.

The Eco Hotel DOD interface proved to be some remarkable new organization design in the tourism sector, loved by those who have experienced it.

The DOD interface can offer a wider and richer view of the organization, giving answer to these questions: How are people distributed through the organization? How do they interact amongst each other, the synergies they can gather if they work together? What are the organization's most active and relevant points, to the competitive advantages within and without the organization? What are the expectations of the organization for a changing future? What are the characteristics of each department? What is the organizational culture that unites people? Furthermore, this DOD interface opens doors and horizons for the integration of several concepts and tools from design and management. Additionally, we found out that this work can be a great contribution for the development of sociocracy and holacracy, since these disciplines with several decades of study and experimentation have shown to have an adequate design for a richer organizational design which is integrative and collaborative.

The DOD truly opens the spectrum of organization designs, mainly to replace standardization and to create new organization designs, being a very useful tool for the creation of adequate organization design to specific human gender organization, to familiar organizations, or simply to organizations where you see strong concepts, which can be represented by design.

We have also seen several times that any organizational design is by nature mutable, which means that it frequently has to adapt itself to the context, users, principles and ethics in which it is embedded, since otherwise it becomes obsolete and generates numerous problems to the correct functioning of organizations. Many times what happens in organizations is that people fear change. So in these practical cases we have seen that one of the ways of halting this fear is by facilitating the acceptance of change through organizational culture, by integrating all of the organization's users in the change process, or through design and looking at change as something expectable, good and natural.

Just before finishing, as "design is everywhere" (Peters, 1994), so if you want to use a very easy and useful tool for everyday design decision (not only at the organizational level design) just ask these questions or make this rapid test: Is it simple and do people understand it? Is it functional and does it serve the purpose? Is it beautiful and do people love it? Is it sustainable along the time? But if you want to make a more profound analyse, use the DOD framework (Exhibit 4). Never forgetting a very important basis, i.e., in what context and what kind of users the organization serves.

Finally, this research also gave some lights to explore a good path to quantify intangible capital, using those methods, tools and language.

Design your own organizational design, if you use Design Thinking in the organizational design level, how would you design your organization?

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