

INTEGRAL DESIGN TUTORING MODEL AS A KNOWLEDGE TRANSFER STRATEGY FOR SMES IN COLOMBIA

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ABSTRACT

Colombia has been transformed into the third country with the best business environment in L.A.; however, investment in Research, Development and Innovation (RD&I) is only 0,2% of the GDP. Taking into account that 98% of the Colombian enterprises are SMEs, from which 5% invest only 2% of its annual budget in design, the National Industrial Design Program (MinCIT) saw the need to develop the Integral Design Tutoring Model.

The model makes a bet for empathy and emotional intimacy as tools to transfer the necessary knowledge so that the local businessperson develops an innovation culture based on design thinking.

To test the model, the Integral Design Tutoring Project was developed as a pilot. This four-months project allowed an interdisciplinary team, conducted by designers, to accompany twenty SMEs. Through a process developed in three stages it was possible to prove that, through empathy and emotional intimacy, one can achieve knowledge transfer to business people and their organizations in an effective, efficient and successful way. This knowledge transfer allows the organization to develop human centered design processes in a systematic, independent and autonomous way.

KEYWORDS: *Design knowledge transfer, empathy and emotional intimacy, tutoring, Contextual design approach and Colombian SMEs.*

INTRODUCTION

The Ministry of Commerce, Industry, and Tourism of Colombia (MinCIT, for its initials in Spanish: Ministerio de Comercio, Industria y Turismo), through the National Design Program (PNDI, for its initials in Spanish: Programa Nacional de Diseño Industrial) promotes design as an innovation driver for SMEs through the development of activities, projects, workshops, and by providing information in this field. The PNDI-MinCIT works in three strategic lines: knowledge transfer about design, viewing, and promoting successful design cases and public policies about design.

As part of the first strategic line, a novel approach named Integral Design Tutoring Model (MADI, for its initials in Spanish: Modelo de Acompañamiento en Diseño Integral) was developed. From this model a set of Integral Design Tutoring Projects for the world class SMEs in Colombia was proposed. These projects should be replicable and scalable, depending on regional and sectorial needs. The final objective of these projects is the transfer of knowledge and design thinking abilities to the Colombian SMEs that, according to recent studies, do not have enough instruction on the subject.

These projects expect to generate 'solutions spaces' as a response to branding problems and human centered innovation.

They use empathy and emotional intimacy within a tutoring process to transfer knowledge from the team to the enterprise in the most effective way possible.

This paper's central theme is the explanation of the MADI approach model, and works around concepts like empathy and design for social innovation as a conceptual framework. It refers specifically to the pilot project (PADI+2013), developed during 2013, in which twenty SMEs were intervened, fourteen located in Bogotá and six in Cartagena. The conclusions and recommendations are based on this project, its application and projections.

REFERENCE FRAME

Context, project definition and background

Through the National Development Plan 2010-2014 'Prosperity for All', the Colombian government defined a set of sustainable economic growth objectives that must be fulfilled based on three large pillars: innovation, policies on competitiveness and productivity, and stimulation of the growth and job-generation engines.

According to this plan 'Innovation becomes the optimum mechanism to guarantee long term sustainability of growth and competitiveness of the country'. Innovation consists in 'creating new ways of organizing, executing, producing, delivering, merchandising, selling, and relating clients and suppliers, while achieving the generation of added value throughout the production chain' (DNP, 2011, p.10).

Both to those who offer or demand design, it is clear that the process of innovation is closely linked to the design process and that both should be positioned in high levels in organizations. (Romero et al., 2009, p.151).

As part of the country's innovation system, design has been recognized at government level in 1994 and appears in the MinCIT portfolio. The Ministry, through the PNDI-MinCIT, promotes design in Colombian industry. The National Design System, defined by the Colombian Government, is coordinated and lead by the PNDI-MinCIT with the intention to promote design as an innovation driver for SMEs through the development of activities, projects, workshops, and information in this field. With this project, the Ministry contributes to discover scenarios and synergies to cooperate and work in the country's design supply and demand as an ecosystem that provides spaces to improve the companies' competitiveness, and to increase the quality level of products in the country while developing the design sector in the process.

According to the Colombian government, the country currently evidences considerable lagging compared to peers with similar characteristics in the development of science, technology, and innovation. The total investment in research and development in Colombia is 0.2% of GDP, which is a very low level, compared to countries such as Argentina, which invests 0.5%, Chile 0.7%, Brazil 0.8% or South Korea 3.2% (DNP, 2011, p.10).

Design is in a similar situation. 53% of the Colombian SMEs do not have budget for design activities and only 2% invest more than 5% of its budget in this activity. 'Resources destined to design and development activities in the majority of cases are not adequate and do not coincide with what was expressed by managers during the interview' (Bohorquez et al., 2008, p.3).

According to the Design Occupational Characterization in the Colombian Industry study (Bohorquez et al., 2008), the inclusion of design in the organization is still low and requires more stimuli from different vantage points.¹

'The transverse participation of design is an aspect that starts being acknowledged, valued and understood as a discipline that interacts with other components of the value chain' (Romero et al., 2009, p.155). Around 70% of enterprises express concerns for innovation (Bohorquez et al., 2008, p.82), but do not necessarily include design.

The above mentioned studies evidence that a central cause for the low insertion of design in the productive sector in the country is lack of knowledge or misconceptions, and partial knowledge of the role of design in the organization. Figure 1 contrasts the contact level SMEs have with design and the degree of elaboration they have on this knowledge. This contrast allows to describe the four forms in which a business owner can understand design intervention in the firm: 1) Not knowing anything about design, 2) believing design is styling, 3) considering design as a process or 4) Understanding design as innovation (Mejía, 2012). This knowledge scale contrasts with the size of the firm and the investment in design themes, it makes evident that micro enterprises do not have knowledge about design or have partial versions of its tasks (e.g. believing the designer is just the product configurator).

In the country, the role of the design businesses has been basically consulting: 'enterprise consulting can be seen as a professional service or as a method of practical consulting and helping [...] simultaneously, it is also a method to help firms in he betterment of the management and business practices, as well as in the collective and individual performance' (Kubr, 2002, p.4). Referring to this way of professional service 'some business people have perceived a lack of clarity in the portfolio services of the firms that offer design', they mention that, 'a supply based on very interesting terms or contents is

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1. According to this study, the insertion should be divided into three: Graphic industry, in which it is evident that the participation and acknowledgement that graphic design professionals have on most development and design activities. In the plastic sector, professional design insertion is practically zero, since development and design are usually in the hands of engineers, maybe because of the high percentage of technical work required. In the textile and garment sector, where design and development activities are not in hands of fashion designers, according to the managers, these professionals do not meet the requirements in terms of knowledge of the productive processes the firms have. All this added to the well known fact that there is a big group of these organizations that dedicate themselves to the maquila services and not to develop their own products, which could explain why these firms do not invest in designers.

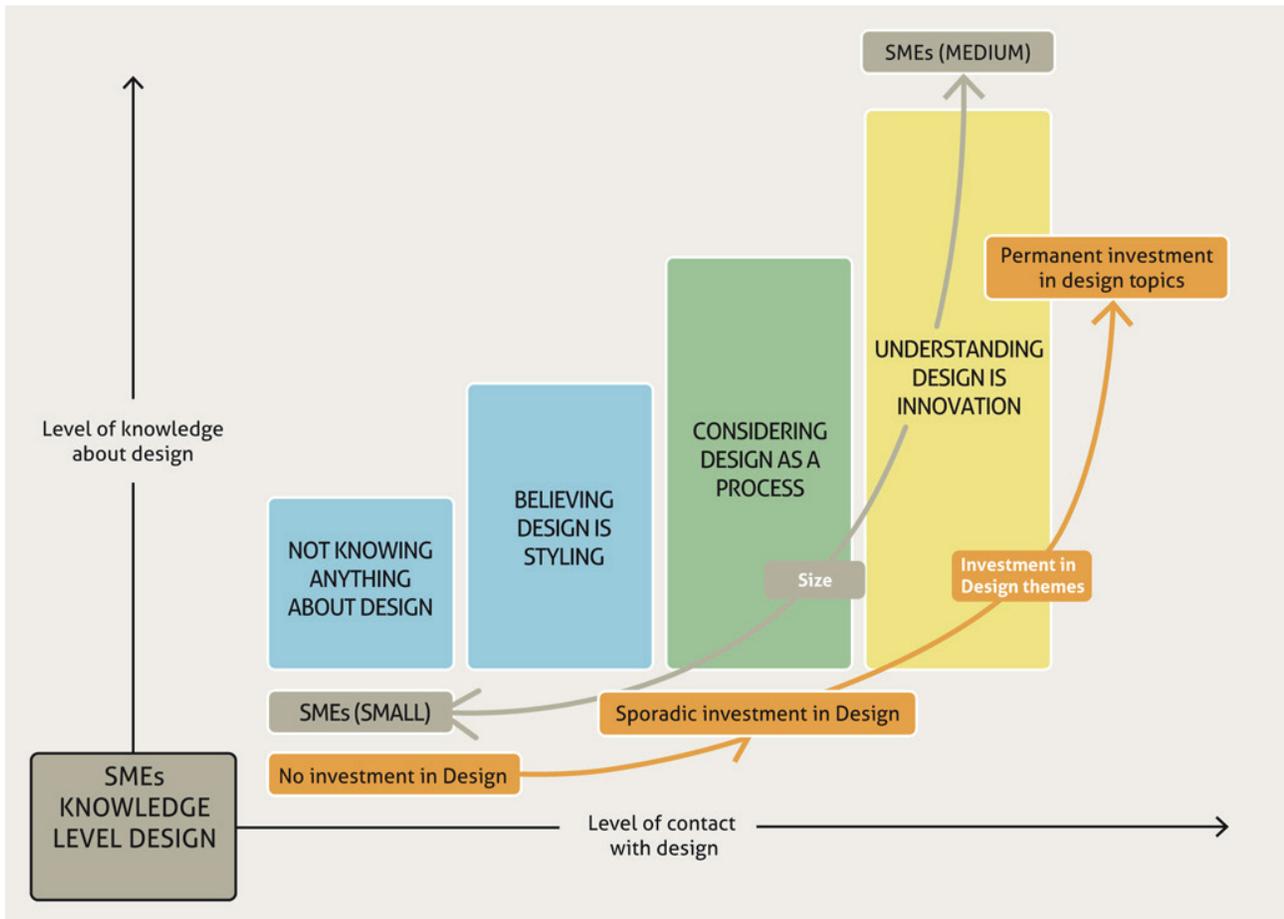


Figure 1. Knowledge scales in design for the Colombian SME
 Source: National Design Program (PNDI-MinCIT), <http://www.mipymes.gov.co/publicaciones.php?id=935>

generated, but it is presented within a confusing publicity that tends to create expectations and curiosity but that sometimes produces disappointing results' (Romero et al., 2009, p.155).

These services do not have continuity and prevent business people from learning to value design 'the message, in this sense, is that the service supply language must be clear and should leave no room for confusions' (ibid., p.155), it must also guarantee that the business person sees design as a mechanism to innovate.

Additionally, 'it is perceived that the resources assigned to design are growing since their importance in the sustainability of organizations has been acknowledged' (ibid., p.155); that is why it is very important to cultivate skills and abilities that guarantee knowledge in this field and allow their use by the firms to augment their capacity in this form of innovation.

REFERENCES AND INSTITUTIONAL FRAMEWORK

The MinCIT is the national executive ministry of the government of Colombia concerned with promoting economic growth through trade, tourism, and industrial growth. The Ministry,

through the PNDI-MinCIT, works in three strategic lines:² Knowledge Transfer about Design, Viewing and Promoting Successful Design Cases, and Public Policies and Strategic Plans.

This paper's central theme is the explanation of the Integral Design Tutoring Model MADi, and the Integral Design Tutoring Project (PADI+2013), developed during 2013 as part of the first strategic line posited previously — knowledge transfer about design.

This type of project has only one reference in the country, the ACUNAR project (Design transference program to productive communities for innovation and competitiveness), developed by the extension center of the Arts Faculty at National University of Colombia. This program's objective was to transfer design to productive communities from the product dimension. To do that, a participative design methodology was used (research, action, and participation), in this way, all organization areas were touched. The objective was to strengthen productive communities to make them more competitive, vis-a-vis the current market dynamics. The ACUNAR portfolio was con-

2. The PNDI-MinCIT works in three strategic lines: 1. KNOWLEDGE TRANSFER ABOUT DESIGN. This strategic line aims to transfer knowledge about design to SMEs.

stituted by the following services: Strengthening of productive networks, product development, and improvement, packing development and improvement, and work area improvement. The knowledge transference model was based on workshops on diverse themes (ACUNAR program, 2011).

The closest international referent to ACUNAR is the ADÑ Project, Spanish good practices; it is a knowledge transfer and direct intervention program in the area of design and innovation as tools to the creation of value, the improvement of competitiveness, and the SMEs' sustained economic growth.

Project approach

MADI is posited as a model to develop multiple types of action; some of them can be Integral Design Tutoring Models. These projects tutor Colombian SMEs of the world class sectors and posit contextualized solution spaces for branding problems and human centered innovation where, through empathy and emotional intimacy, an interdisciplinary team (the authors of the paper were part of this team), lead by designers, transfer knowledge and abilities in 'design thinking', necessary to the autonomous development of integral design projects, form a contextualized perspective for diverse problem levels for each SME; all adapted to the Colombian context.

1.1. DESIGN AND INNOVATION WORKSHOPS FOR BUSINESS COMPETITIVENESS (TD&ixCE). These workshops aim to develop diverse topics about design for the Colombian SMEs with the intention to motivate them to use it as a key approach and tool, inviting them to buy design and, finally, to do design made in Colombia.

1.2. MANUAL OF DESIGN AND INNOVATION IN THE DEVELOPMENT OF SMEs. This manual based its content on the key concept that defines design as a particular way to create innovation, and it enables a bridge to be built between users, thoughts on their needs, and the company creating business opportunities linked to the enterprise potentialities in order to grow in a sustainable way within the knowledge economy.

1.3. INTEGRAL DESIGN TUTORING PROJECT PADI+2013. The project was made to help 20 Colombian SMEs and four governmental projects in the New Product Development — NPD process to create a 'culture of design' in order to decrease the existing gap between professional designers and SMEs.

2. VIEWING AND PROMOTING SUCCESSFUL DESIGN CASES. This strategic line tries to build a set of case-studies about design related to the SMEs in the country.

2.1. DOCUMENTARY SERIES: Design case studies in Colombian SMEs. Success through design. This documentary promotes design as a crucial element in innovation, publicizing, and recognizing the professional role of design in Colombian industry with the presentation of design cases where design is key for the competitiveness of the company.

2.2. SAMPLE'S DESIGN IN COLOMBIA (application). The Sample's design is a digital publication that shows successful design cases, including product, graphic, digital, interior, and fashion design, in order to illustrate New Product Development NPD processes in the Colombian SMEs. The main goal is to visualize the final results of design in the national industry.

3. PUBLIC POLICIES AND STRATEGIC PLAN. The last but not least strategic line is responsible for planning and programming all strategic actions regarding the PNDI-MinCIT until a public policy is developed.

Integral Design Tutoring Model Definition (MADI)

MADI's general approach is made from a philosophic perspective that has three fundamental axes: Epistemological, from which the model is understood as a conceptual system that can be applied to a specific context; praxeological, from the integration of a series of methodologies close to design thinking and close to empathic tutoring; and phenomenological, how processes and results can be reached in the applied development of MADI to specific projects.

This way of tackling the model constitutes a bid to understand knowledge as a cyclic and iterative flow that, through empathic accompaniment, gets transferred during the project and where, thanks to the emotional intimacy³ generated during the process, creates knowledge for enterprises, designers and institutions.

To posit an intervention model, the work team developed a conceptual framework aligned with the chosen perspective to allow the selection of actors, the method, and the process. The first concept in this framework is 'user centered design', defined by the PNDI-MinCIT, as the differentiating element of design facing other innovation disciplines. This value allows the business person to understand users as human beings with needs, expectations, and hopes; this is very useful for Colombian SMEs that historically have not visualized their consumers in any way. For the project, users are conceived as the origin and destination of products, services, and organizations' experiences.

It is understood that the concept 'branding problem integral solution' is not a corporate image problem (logo, logo symbol, etc.), but a development of a narrative axis capable of aligning the strategic, tactic, and operational axes of an organization acting as an integrating nucleus and helping construct a branding experience.

Within the model, there are three actors (National Design System, 2009), an interdisciplinary team, lead by designers, responsible for the planning and rendering of the project, the tutoring, both to enterprises and institutions, and to develop the conceptual framework, and determine the perspective for the construction and execution of the knowledge transfer. The team works from the premise that the implementation of design thinking can produce in enterprises a better understanding of the users and, thus, a development of their abilities for competitiveness and innovation.

It is understood that it is necessary for the presence of government and non-government institutions to support and manage the logistics of the project, facilitating the management of resources, selecting the SMEs and working as a platform for project development. Besides, there is a tutoring process in logistics and financing themes.

3. The PADI work team understands the concept of emotional intimacy as how they established empathic relationships with the SMEs. By using specific tools they promote business person's awareness of the problem situation and understanding their enterprises within a context that was centered in its users.

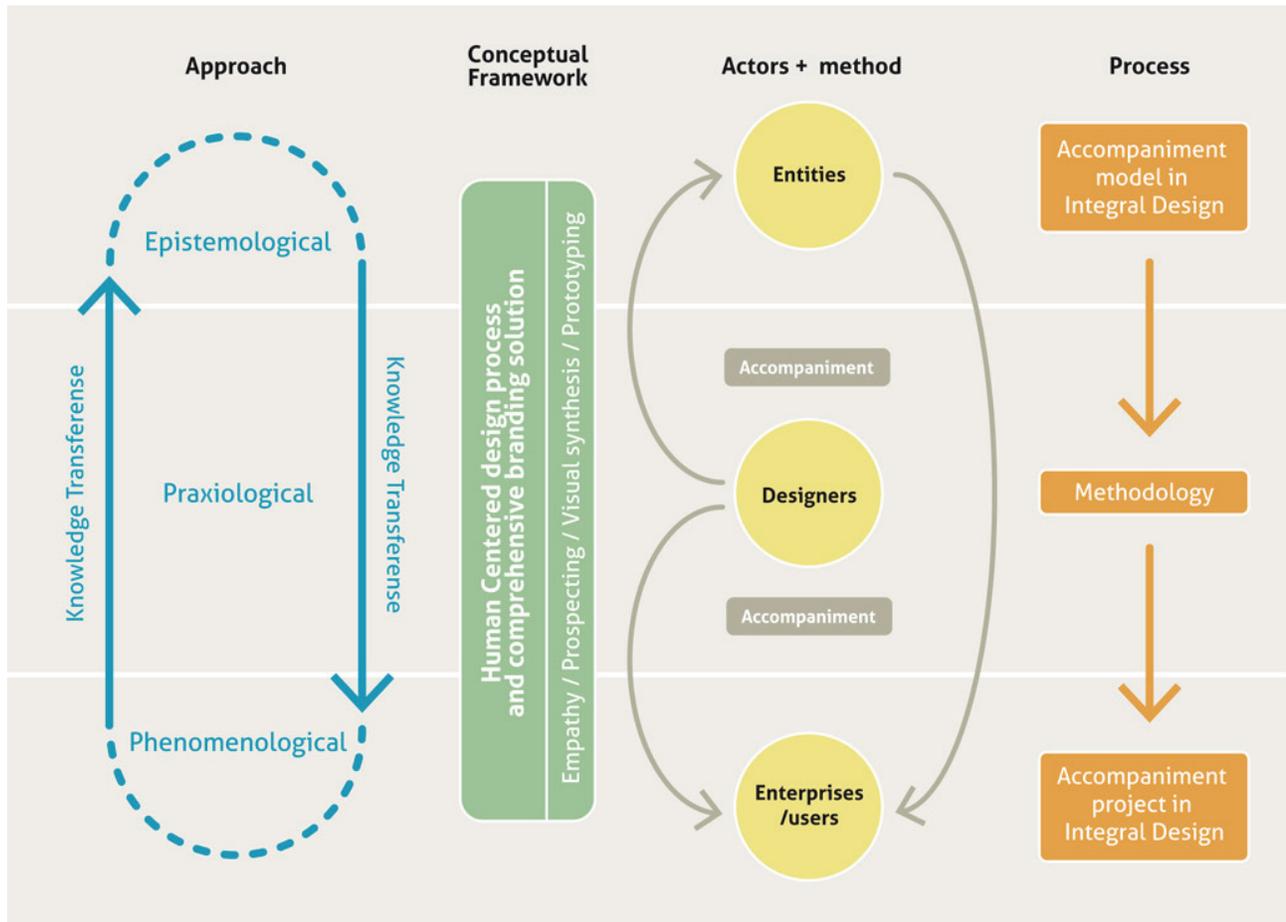


Figure 2. MADI's General scheme.

The central actors of MADI are enterprises and users that, according to the model, can be of any kind, size, and productive sector, including social or community based organizations. These organizations will be tutored within a conceptual framework (user centered design process and branding integral solution) from where they will receive knowledge transfer on design thinking.

MADI establishes a set of phases, inside a methodology, equivalent to any other enterprise design process like IDEO or Smart Design, which focuses on the importance of design thinking for the formulation of contextualized solutions.

The design process allows obtaining, analyzing, decanting, and prototyping the required information for the development of a design project.

These stages depend on the approach perspective with the actors; they should be tutored with specific tools that facilitate actions while advancing the project.

As final products to be delivered by any project based on MADI, and under the premise that it is a tutoring model and not a traditional consulting process, there is the need to help the business person construct a Contextualized Solutions Space — CSS — instead of finding a specific solution for the product,

the image, or the business. The CSS offers a set of conceptual answers intertwined within a scenario that allows the organization to make the decisions from within instead of the typical process with external consulting.

This CSS is posited from two different perspectives: a tool use and methodological perspective, and a knowledge transfer and its pedagogical components perspective.

Based on design thinking, from the methodological perspective, it is sought that the businessperson understands design as a systematized process supported by a set of tools that could help in the solutions of diverse problems, beyond being just a product configurator. This paradigm change is achieved when the CSSs are constructed based on human-centered context analysis, to develop efficient solutions aligned with the three axes: strategic, at the level of the business model; tactic, at the level of portfolio; and processes and operative, at the level of product, service, and brand identity or consumer experience.

Knowledge transfer, through the use of different tools, allows the construction of abilities based on design thinking that facilitates the understanding of problems and their solutions. This process, as a pedagogical bet, intends for the businessperson to be able to grow autonomously when the project is completed.

PRESENTATION OF THE INTEGRAL DESIGN TUTORING PROJECT PADI+2013

General presentation of the pilot PADI+2013 and used methodologies

Taking into account the definition of the model and the intention to prove and corroborate that, through the use on empathy and emotional intimacy, one can obtain better results in the design intervention; the PNDI-MinCIT saw the need to formulate a pilot tutoring project for some Colombian SMEs. To develop this project, and to align it will two national programs (Productive Transformation Program and Innpulsa Colombia), the PNDI-MinCIT was supported by a national operating institution (Confecámaras), and two regional institutions (Bogotá Chamber of Commerce and Cartagena Chamber of Commerce). This pilot was named Integral Design Tutoring Project PADI+2013.

PADI+2013 had an intensive duration of sixteen weeks when an interdisciplinary team, lead by designers, worked with twenty SMEs (eight micro, eight small and four middle sized), and four institutional projects (three national and one district-level). From these, fourteen SMEs were located in Bogotá and six in Cartagena.

In general terms, PADI+2013 was developed in three stages: **understanding**, **conceptualizing** and **delivering**. In each of these stages, specific methodologies were used to know fast and in depth the organizations functioning, their interaction with their users, and the context and business scenario in which they operate.

In this sense, the first thing to be analyzed was the SME; the diagnostic tools (as part of the understanding stage) allowed

to empathize with the organization and its members. The ethnographic tools helped understanding users and their interaction with the organization.

It is important to note that the general objective was to construct solution spaces and not direct solutions; so, it was necessary to analyze the present scenario (current context), and also to project a future scenario to open the vision of the organizations to innovative and lasting solutions.

Finally, in the last phase, each organization was given a set of improvements in the form of a business model, new or improved portfolios, and service or concept design for new products and spaces. It is understood that in each one of these phases, the team developed, on the side, a double way to exercise knowledge transfer.

Development of the PADI+2013 pilot

In the first phase, understanding, thanks to a set of diverse design tools, it was possible to foster an integral characterization of the enterprise, its current situation and its competitive conditions. An integral part of this phase was the analysis of the products and services, the processes and portfolio, and the branding strategies; its users and their interaction with the products and/or services through ethnographic exercises of observation so that, as a whole, the enterprise and its users were understood in the same context.

The tools are designed and distributed along the project so that they complement one another; thus traceability can be guaranteed and a deeper analysis is achieved. The tools are explained according to the emotional intimacy goal and are classified based on the type of tool and the phase where tools were used.

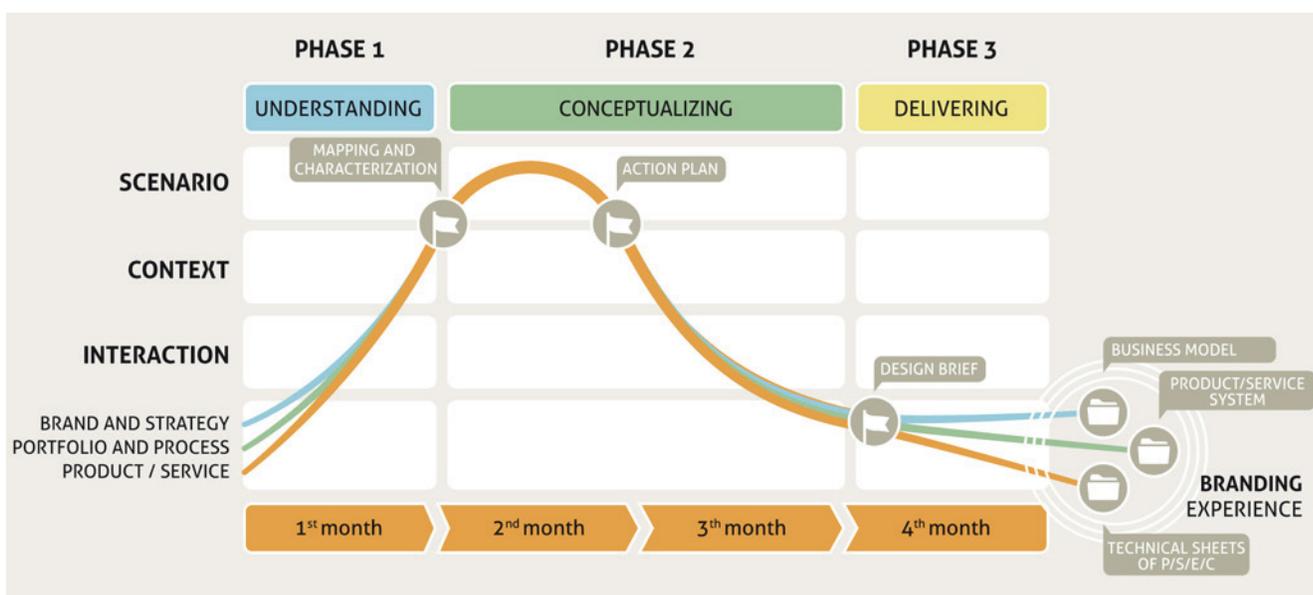


Figure 3. PADI+2013 work sheet.

Source: <http://www.mipymes.gov.co/publicaciones.php?id=935>

UNDERSTANDING	CONCEPTUALIZING	DELIVERING	PHASE / KEY WORDS REGARDING EMOTIONAL INTIMACY TO THE BUSINESS PERSON
Strategic PES			To feel the organization as a living being surrounded by other beings living together in a particular context.
Customer Journey Map			To sensitize in relation with his users and to empathize with them, visualizing their aspirations, hopes and wishes.
Diagnostic Diagram			To confront the reality of his organization as a model.
	Branding Workshop		To define, clarify or reconstruct the identity of his organization. To embody the notion of their users.
	Future Scenario		To envision their future as stimuli for disruptive thinking.
	Action Plan		To motivate to work with concrete actions.
		Strategy and Brand	To gain long-term perspective.
		Portfolio and Process	To translate the strategic perspective.
		Operative	To concretize an action.

Strategic PES

Type of tool: Diagnostic tool

Phase: (1) Understanding

Authors: Totally developed by the work team

Goal: The strategic PES (product, experience and service) (Figure 4) is a tool that allows fast diagnoses of the current situation of the company, understood as a fish that inhabits a specific context.

Description: The fish head defines the strategic direction of the SME, the tail functions as a steering wheel that directs the enterprise to a market of segmented users; in the belly one can find the product and service portfolio, and in the back the installed capacity. The tool allows the businessperson to feel his organization as a living being that has the same cycle any other business has. Additionally, a holistic experience that evidences the synergic condition of the systems that make organizations is created. Finally, this perception allows to evidence that the enterprise is surrounded by peers, that is to say, by other beings living together in a particular context.

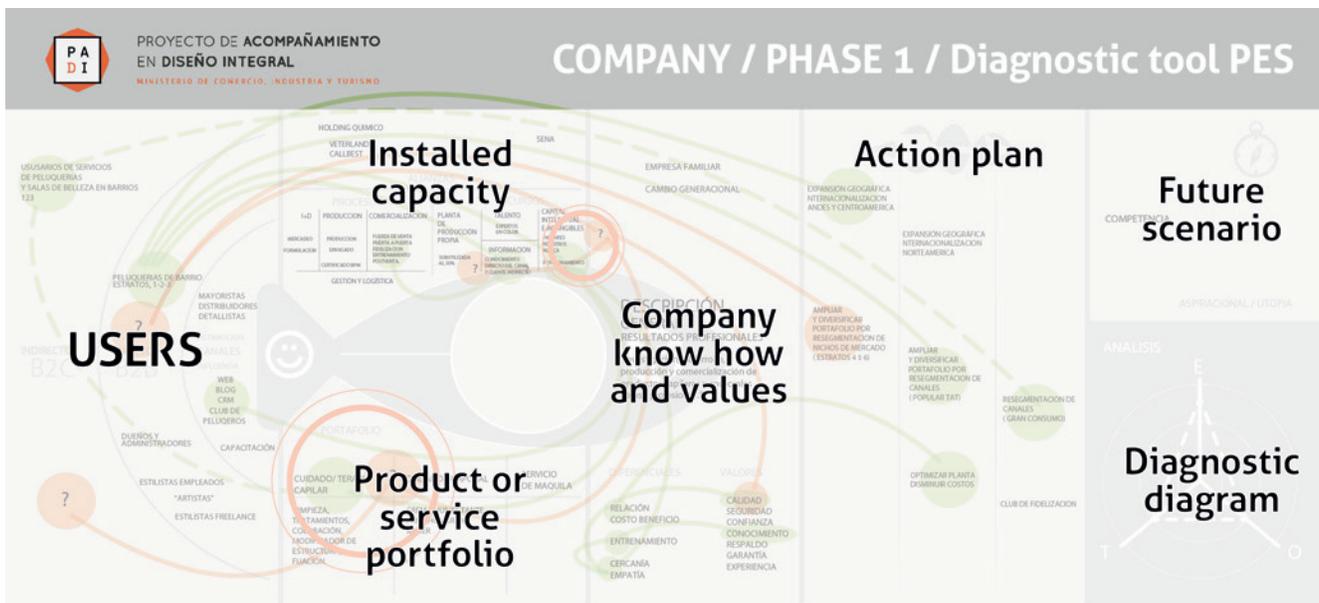


Figure 4. Strategic PES (product, experience, and services) tools. The text on the background is intentionally blurred due to a non-disclosure agreement with the SMEs.

Source: Arenas, J.P. and Mejia, J.R. (2011) and work team PADI+2013 (2013).

Customer journey map

Type of tool: Ethnography and observation

Phase: (1) Understanding

Authors: Different authors

Goal: Through the Customer Journey⁴ — CJ —, the PADI+2013 team analyzed, in some cases, the users' interaction with the product and its use and, in others, the users' interaction with the service, so as to understand the consumption experience in each case. This allowed the businessperson to sensitize her or himself in relation with his users and to empathize with them, visualizing their aspirations, hopes, and wishes.

Description: An important part of the work was the approach and understanding of the user; it allowed the team to identify the gap between the image and the identity of the brand.⁵ The CJ was defined as a graphic description of a user's normal day. They were used to understand the way in which the interaction between the user and the product or service of the brand under study is established.

Diagnostic diagram

Type of tool: Diagnostic tool

Phase: (1) Understanding

Authors: Developed by the work team based on different authors

Goal: This diagnosis works like an image that helps the businessperson to confront the reality of his organization as a model that, from the aspirational perspective, stimulates him to carry out the necessary improvements.

Description: When this phase is over, the team has a clear image of the problems and strategic opportunities of the firm, represented in a diagnostic diagram (Figure 6), that balances in the three analysis axes (strategic, tactic, and operative) the current situation of the productive organization. The bigger the triangle, the greater development of the productive organization in that specific axis. After understanding and uncovering the strategic opportunities of the company through the mapping and characterization, the work team starts the second phase, conceptualization, through the development of branding workshops and Future Scenarios — FS — construction.

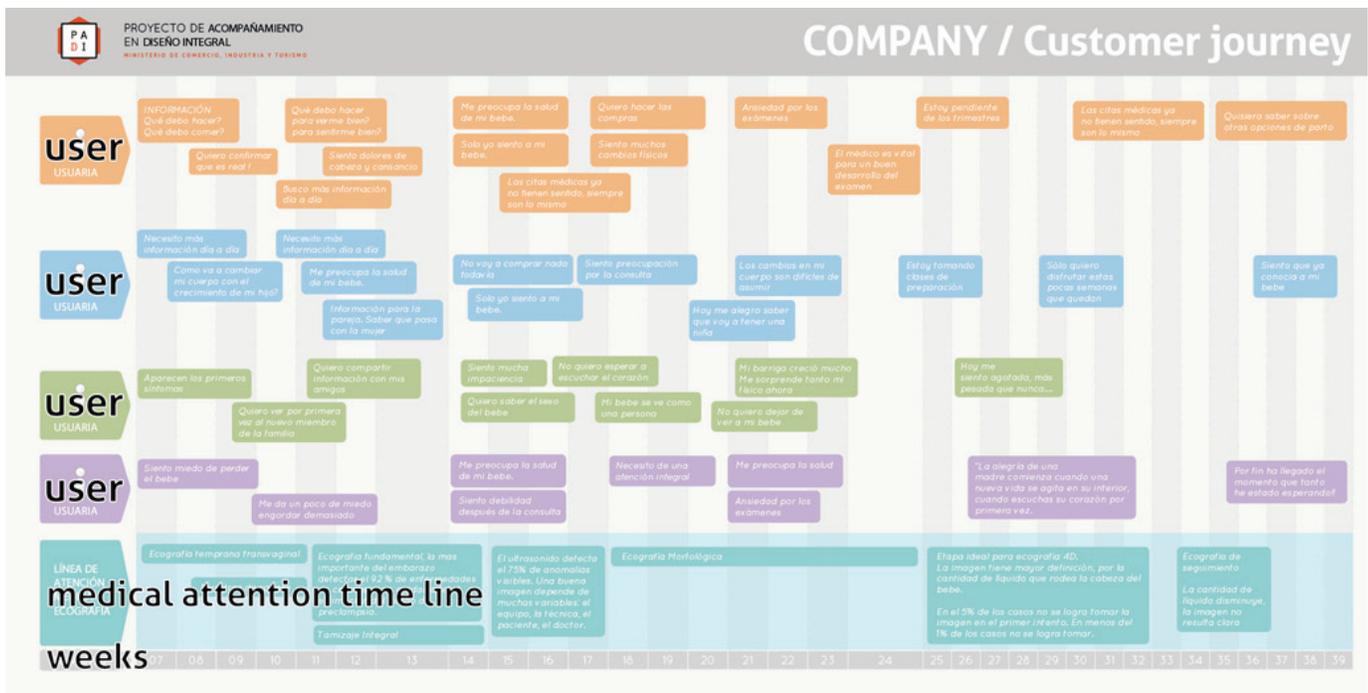


Figure 5. Customer Journey applied to one of the SME from PADI+2013. The text on the background is intentionally blurred due to a non-disclosure agreement with the SMEs.

Source: PADI+2013 work team.

- The customer journey map is an oriented graph that describes the journey of a user by representing the different touch-points that characterize his interaction with the service (<http://www.servicedesigntools.org/tools/8>).
- For PADI+2013 the brand image is understood as the perception users have of the products or the enterprise, contrasted with the brand identity that is the basic enterprise promise and its future objectives as an organization. (De Chernatony, Dall’Olmo, 1998).

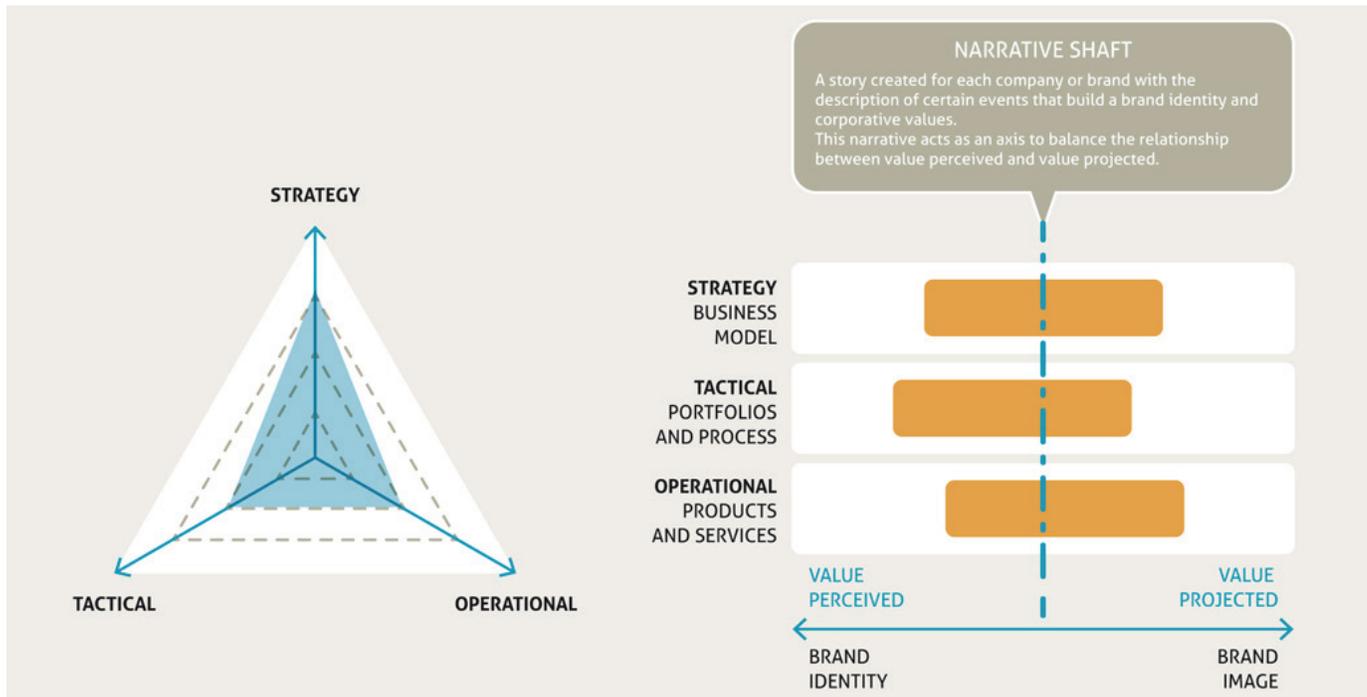


Figure 6: Diagnostic diagram for one SME from PADI+2013.

Source: PADI+2013 work team.

Branding workshops

Type of tool: Envisioning tool

Phase: (2) Conceptualizing

Authors: Developed by the work team based on different authors

Goal: In these workshops the businessperson can define, clarify, or reconstruct the identity of her organization, including its products or services.

Description: Co-creative work sessions, known as ‘branding workshops’ were developed. The methodology is based on the rhetoric figure of the personification and consists in the creation of a set of ‘personas’,⁶ starting by the organization, its brand, going to some internal personnel, (salespeople, managers, etc.) and other external personnel (providers, clients, etc.), and even consumption services and experiences. The participation of some enterprise members is crucial, since the most varied the profiles are, the richer the values that can be defined, detected, or analyzed from each one of the created characters. These values are obtained with the help of questions the team posits. The questions help discover the voids (within the organization) and the inconsistencies (the alignment to create brand fidelity); they also help to discover the

6. The personas are archetypes built after an exhaustive observation of the potential users. Each persona is based on a fictional character whose profile gathers up the features of an existing social group. In this way the personas assume the attributes of the groups they represent: from their social and demographic characteristics, to their own needs, desires, habits, and cultural backgrounds (<http://www.servicedesigntools.org/tools/40>).

findings (intervention opportunities). From these ideas, captured in creative sessions, it was possible to generate a strategic concept, so that, as a guiding thread, the strategy, the brand, and the services of the company can be developed.

Future scenarios workshops

Type of tool: Envisioning tool

Phase: (2) Conceptualizing

Authors: Developed by the work team based on different authors

Goal: The FS are a tool that allows, in principle, to identify a set of trends (Figure 8, number 1), that, used as reference, can locate the enterprise in its current strategic position (Figure 8, number 2), to define the future desired position for the organization by the year 2035.

Description: This analysis is framed in a Future Macro Scenario designed as ‘Colombia 2035’, where one articulates the DPEST factors (demographic, political, economic, environmental, and technological). From the blueprint of the national programs mentioned previously, the work was developed with world-class sector organizations,⁷ developing future scenarios specific for the fashion and beauty, innova-

7. These are sectors that have a high demand in the global economy and where Colombia has the chance to grow ten times in each sector in the short run. Eight sectors were defined to lead the strengthening in two areas. The first is called more and better of the good (bad English, what are you trying to say?), under world-class standards. The second is called new and emergent (World class).

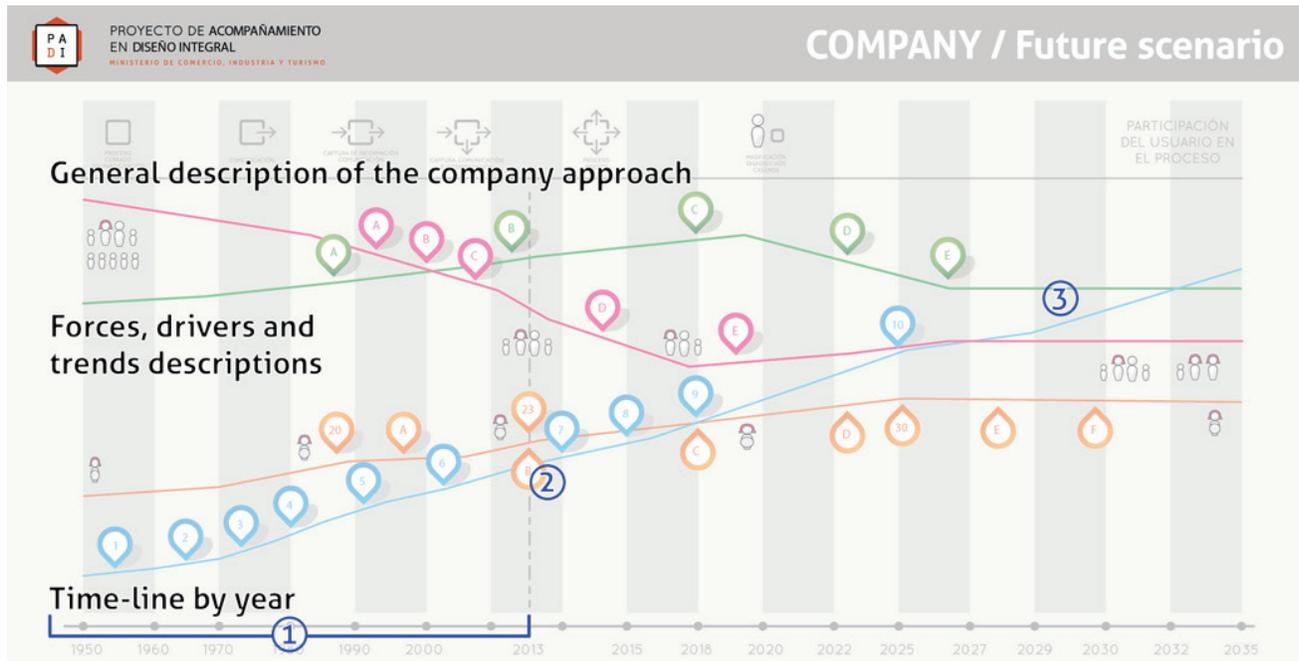


Figure 8: Future Scenario for one of the SME from PADI+2013. The text on the background is intentionally blurred due to a non-disclosure agreement with the SMEs.
Source: PADI+2013 work team.

tion and health, and wellbeing sectors. These scenarios act as stimuli for disruptive thinking and help widen the action domains the enterprise has.

Action plan

Type of tool: Planning tool

Phase: (2) Conceptualizing

Authors: Developed by the work team based on different authors

Goal: This plan allows actualizing the work the team wants to perform in favor of the organization, motivating the businessperson to work with concrete actions.

Description: From the diagnostic diagram, the way the enterprise can be supported is analyzed by PADI+2013 in each of the axes through products that, from the design perspective, can support the strategic development of the enterprise.

The team finally concentrates on the development of phase three, delivering, where products, services, and corporate identities are developed, structured in portfolios and supported by strategies. To define the project approach, MADi proposes to focus on the work in three axes that enable the final performance to be determined.

Strategic axis, strategy and brand.

Type of tool: Strategic management and entrepreneurial tool

Phase: (3) Delivering

Authors: Osterwalder, A., and Pigneur, Y. (2010)

Goal: Enables the description, design, challenge, invention, and pivoting of the business model (Osterwalder and Pigneur, 2010)

Description: It is understood that organizations have a future vision in the strategy, as the set of directions given by the board of directors and included in its mission, vision, and corporate values. For PADI+2013 this axis includes a new or renewed promise of value defined through a business model canvas or a business road map (strategic PES and strategic time line).

Tactic axis, portfolio and processes.

Type of tool: Strategic management and entrepreneurial tool

Phase: (3) Delivering

Authors: Developed by the work team based on different authors

Goal: It is known that strategy must translate in the operative, through a transition space called tactic axis.

Description: For PADI+2013, will include a portfolio of products or services (new or improved) or a system mapping that, for the organization, describes schematically how business opportunities discovered in previous phases are to be handled.

Operative axis.

Type of tool: Strategic management and entrepreneurial tool

Phase: (3) Delivering

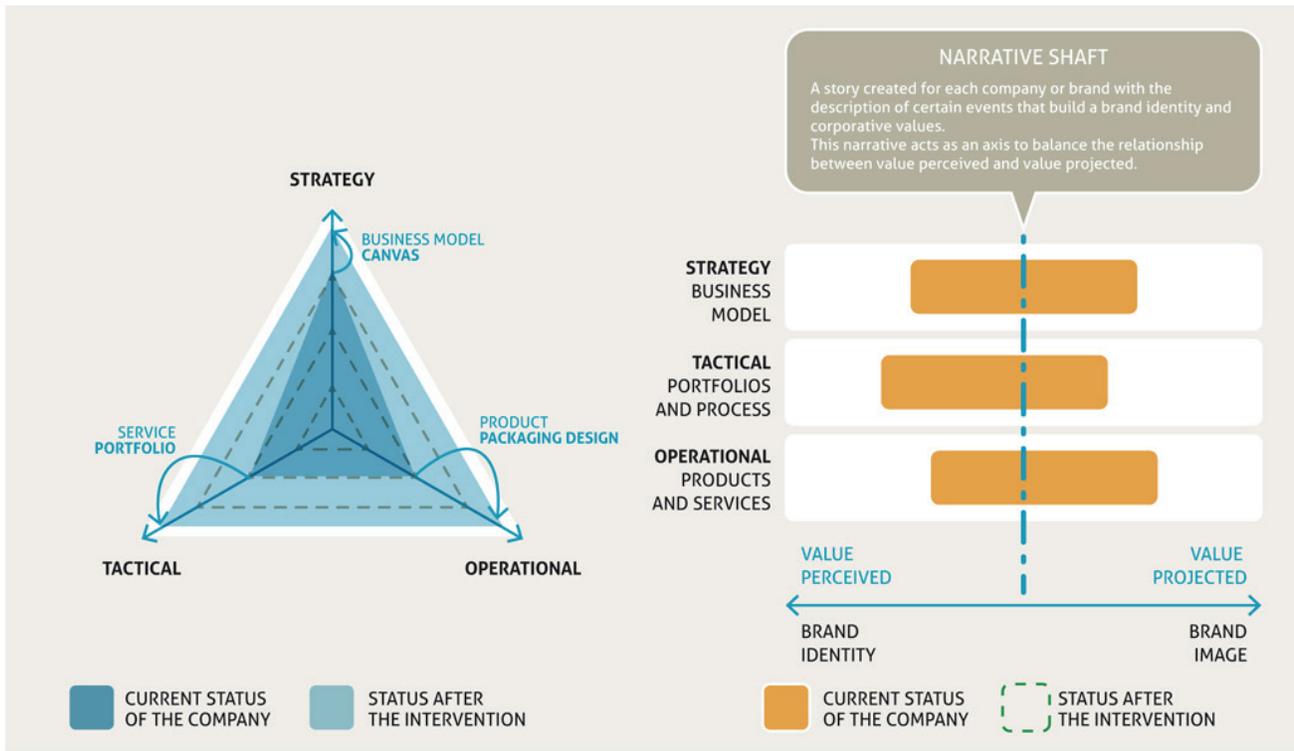


Figure 9. Diagnosis and action plan for a SME from PADI+2013.
Source: PADI+2013 work team.

Authors: Developed by the work team based on different authors

Goal: To deliver a comprehensive set of tangible results of the project

Description: To finish the integral branding solution, the operative axis is considered. It includes product, space, communication, or service, where operations are understood as the way in which previously developed strategies and tactics are implemented. The PADI+2013 is capable of delivering technical cards (product, space, or communication), or a service blueprint identifying the most important touch points so that the design team can define which should be developed in detail.

Results PADI+2013

The development of the PADI+2013 results were essential to validate the MADI proposal in which, through the use of empathy and emotional intimacy, better results in design knowledge transfer processes for Colombian SME can be obtained. In function of the objective as the application of MADI and in two levels, as a knowledge transfer exercise and as a project with a social impact, this project achieved:

Through empathy and emotional intimacy, the work team achieved, in an effective, efficient and successful way, a knowledge transfer process to business people and their organizations to strengthen the acquisition of design thinking knowledge in the business environment and to better understand their own enterprises and their dynamics, making evident their strengths

and weaknesses. Since the team was formed by different design specialties, it was capable of developing projects with diverse levels of complexity for enterprises in different sectors, sizes, and with different design knowledge levels. This allowed constructing knowledge transfer participatory strategies that suit each organization's needs and propose a rhythm and scope for each of them.

All this is corroborated through processes started by enterprises in the short term. Three of the participant enterprises have already invested in projects derived from PADI+2013; one of them, in the medical sector that offers gynecology and obstetrics services, implemented an improvement in the customer service area in order to offer a more empathic service experience, thanks to the creative team recommendations, drawing near not only the mother but the entire family nearer to a unique experience with the baby.

A relevant aspect in the project is the adequate proportion between the number of participants, three for each organization and six for the PADI+2013; this arrangement made possible for part of the transferred knowledge to arise from participatory, discovery, 'learning by doing' methods, working on each enterprise's solutions space.

One of the achievements was for design to be understood as a prospective exercise capable of creating future scenarios that will guide the enterprises' strategic development. Besides, design was understood as a discipline based on the visual synthesis capability that allows solving complex problems and gives tangible results and as a human centered innovation

process that, through systematic and constant testing, using models and prototypes, diminishes the risk and uncertainty levels in enterprises' investment projects.

In terms of geographical and sectorial coverage, PADI+2013 worked with four institutional projects, fourteen SMEs located in Bogotá, and six in Cartagena (eight micro, eight small and four medium sized enterprises). They are from six PTP-MinCIT⁸ world class sectors, and seven prioritized sectors by the CCB⁹ and the CCCT¹⁰ that represent more than 920 employees supported by the project that, in sum, mean more than 144.000 legal minimum monthly wages in Colombia.

Six of the participant SMEs have escalated PADI+2013 results to their boards of directors and are looking for financing for the development of the projects. Four of these have already started brand, product, or packaging development projects that have involved the hiring of diverse specialized designers.

The social impact of this model can be understood from two different perspectives. One is related with the micro business people and the way in which the new transferred knowledge changes the enterprise's perception, its products and services; a new holistic look, integrated and visual, allows businesses to construct relations that were not clear up to this moment. Another social impact is related to the final impact on users and involves communities that turn the enterprise into a generator of sustainable development.

CONCLUSIONS, RECOMMENDATIONS AND PROJECTIONS ON MADI

Emotions in knowledge transfer

From the results obtained in PADI+2013, we can see that in MADI, empathy and emotional intimacy in the 'tutoring model' are the ideal knowledge transfer strategies compared with traditional consulting.

The work process included emotional components that resulted in products, services, and experiences with a human centered perspective that shows their emotional understanding; that is why it is considered important that in future initiatives based on MADI experts use intensively the emotional design methodologies to enhance the impacts on enterprises.

The formulation of bigger solution spaces is recommended; in these places should intervene not only the direct actors involved (organizations and work team) but also external actors like the State and other institutions to achieve a more dynamic process development that helps improve citizens' lives and

8. The sectors were: software, information technologies, health and well being tourism, cosmetics and cleaning goods, metallurgical, steel and shipyard, fashion system and dairy. Footwear, leather and leather goods clusters, creative and content industries and clothing.

9. Chamber of Commerce of Bogotá.

10. Chamber of Commerce of Cartagena de Indias.

the innovation and entrepreneurial ecosystem in the country. Along this line of thought, MADI could be the conceptual base for the development of projects of the kind of Living Lab, where citizens play an essential role in the project and become an active element of the solutions space.

The Living Lab project, as the logical MADI's next step projection, must be an appealing possibility for different kinds of public, parapublic, and private sectors, basically because the use of the Human Centered Design (or Citizen Centered Design) approach will increase the chance for SMEs to explore new markets and increase their capabilities as competitive, effective, and efficient organizations.

Adding to the Living Lab, and regarding MADI's projections, the project and its approach is ready to be scalable thanks to its modularity and its capability of being adjusted and fixed to the needs and requirements (cultural differences, social development, etc.) of the new context of work. It is willing to be developed in other cities and geographical spots different than Bogota or Cartagena. Chambers of Commerce, the local government and municipalities are key actors in order to guarantee the appropriate development of the project in each new location.

On the other hand MADI, as a knowledge transfer model, is able to contribute to the industrial development of other Latin American countries due to its similarities in terms of the inner-culture of its productive sector. Pacific Alliance is one potential opportunity due to organization goals that include economic integration between countries.

Social innovation and contextualized design for SMEs in Colombia

MADI conceives design as an integral intervention that provides brand solution spaces through four big values: empathy, prospecting, visual synthesis, and prototyping; all of them of great value for Colombian SMEs, especially for micro enterprises.¹¹

SMEs, as the base for the entrepreneurial fabric, represent a bet on the future because of their strategic relevance expressed in the huge impact they have on economic indicators, since they generate 81% of the country's workforce. The tutoring projects for enterprises derived from MADI, because of their nature, should not be massive; instead, it is recommended that projects develop strategies to replicate, in a viral way, knowledge transfer based on the diffusion to other organizations, enterprises, employees, and users.

For future versions, it is recommended to extend the duration of the tutoring process, to rely on a digital tool (wiki), and to widen the scope of the Productive Transformation Program — PTP — sectors to work with: ecotourism, hortifruitculture, auto parts, vehicles, and chocolaterie and its raw materials; so that design thinking is established

11. Defined by MinCIT as the enterprise that has up to ten employees and total actives, excluding real estate, inferior to 500 minimum monthly wages (\$160.000 USD, aprox.)

transversely in the country's business development. It is also important to strengthen the work team by hiring new, more specialized, profiles with a more technical formation.

To sum up, the initiatives formulated from MADI, including PADI+2013, posit a positive scenario for the use of design to benefit the country's industrial reconversion; they intervene positively in communities that live in a symbiotic way with organizations, making them more competitive and innovative.

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