Aspects of User Experience Maturity Evolution of Small and Medium Organizations in Brazil

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Abstract: This paper investigates aspects of evolution of user experience design practices in small and medium Brazilian organizations and the relation to dimensions of User Experience Maturity Models. A qualitative approach was carried out. Eight user experience managers or analysts were asked about the evolution process of incorporate User Experience practices and strategies adopted to deal with the limitations of small and medium software organizations. A semi-structured interview script was developed specifically for this study. Data collection was carried out through interviews with the Skype® tool, and qualitative analysis was performed with the aid of MAXQDA® software. Through content analysis, the study presents and discusses the strategies adopted by eight User Experience designers and the relation to dimensions of User Experience Maturity Models. The difficulties faced by small and medium organizations are discussed, and some alternatives that are adapted to small budgets and human resources are presented.

1 INTRODUCTION

Maturity Models provide an evolutionary path which continuously defines, maintains, and optimizes design processes and products (SEI, 2010). They consist of the best practices adopted and validated by the market and the academy (SEI, 2010).

Maturity models have been proposed for user experience design (UX) (Earthy, 1998; Earthy, Jones, Bevan, 2001; Jokela, 2010; Nielsen, 2006; Nielsen, 2006b; Gonçalves, Oliveira, Kolski, 2017; Lacerda, Wangenheim, 2017).

Important global example was created by the organization known as the Human Factors Institute (Schaffer, 2004; Schaffer, Lahiri, 2014).

However, small and medium companies (SME) have difficulties in implementing maturity models, related to budget, human resources availability, and training, to mention some aspects (Dyba, 2003; Mishra and Mishra, 2009; Pino, Garcia, Piattini, 2008).

Thus, the following questions have become relevant: how has been made the evolution of user experience maturity of small and medium companies? How the current practice relates to the dimensions proposed in the UX Maturity models?

Few studies have addressed these issues, and as such, the present paper could be useful to small and medium organizations (SME) that wish to improve their user experience processes.

This article studies the strategies to evolve maturity of practices related to user experience design in small and medium organizations at Brazil and associates with the dimensions proposed in the maturity models for user experience design.

The article is structured as follows: section two details the methods used in the research; third section details the strategies adopted by organizations and the relation with the UX Maturity Models; final section presents the conclusions.

2 METHODS

Qualitative methods have been used increasingly in the area of software engineering since human aspects are very significant, especially in the study, implementation, and evaluation of process studies in the development of software. Authors report that the adoption of this paradigm can offer richer information and results when it comes to variables such as motivation, perception, justifications, and

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analysis of the choices made (Kitchenham et al., 2007).

They have been adopted in research in which the deepening of the understanding of phenomena in their natural context is an important factor in the analysis of the results (Merriam, 2009).

2.1 Profile of Respondents

Table 1 contains a consolidated view of the profile of the eight respondents. Aspects regarding the training, interviewees' experience, roles and quality certification in the software development process are reported in the table.

Table 1: Profile of respondents.

ID	Education	Project Manager Experience	UX Experience	Role	Certification
P1	Graduation	Np	6-10 years	Visual Designer	ISO 9001
P2	Doctorate	2-5 years	6-10 years	Project Manager	ISO 9001
P3	Specialization	Np	6-10 years	UX Designer	-
P4	Master	>15 years	< 2 years	TI Manager	MPS.Br (MR-MPS-SW)
P5	Master	Np	6-10 years	PO, UX Designer, Researcher	-
P6	Master	11-15 years	2-5 years	TI Manager, UX Manager	ISO9001
P7	Specialization	6-10 years	6-10 years	UX Designer	ISO9001
P8	Specialization	6-10 years	6-10 years	UX Designer and Project Leader	ISO14001

2.2 Data Collection

The main collection instrument chosen consisted of an interview whose script is in appendix. The choice of sample was intentional, composed by eight professionals with consistent experience at UX in small and medium-sized organizations.

Interviews are relevant instruments of collection and analysis in qualitative research since they allow to deepen the aspects that are the object of investigation (Kitchenham et al., 2007; Merriam, 2009).

During the previous stage of selection of the respondents' sample, seventy-two managers and analysts participated and answered a questionnaire where it was possible to understand the profile of the area.

The invitations were sent to email lists of human-computer interaction groups, designers and professors, researchers, speakers and managers in the area of information technology. The questionnaire was opened in the period from November 24, 2015 to January 10, 2016. Twenty-four answered the survey completely.

The questionnaires were elaborated and made available on the web, through the Surveymonkey® tool that allows to prepare, publish and collect the answers obtained. The tool also allows the monitoring of the answers and assists in the consolidation and statistical analysis, when necessary.

The choice of sample was intentional. After the analysis of the profile of the respondents of the 1st stage, eight respondents were chosen by the researcher and through the indication of their peers. Only active representatives from the agile and design communities were selected.

The non-random sample is indicated in qualitative research since respondents or interviewees are selected to deepen the phenomenon being investigated (Merriam, 2009). Li, Smidts (2003) and Garcia (2010) reinforce the importance of selecting specialists in the field to study strategies for improvement in software development processes where there is a great diversity of scenarios and variables to be analysed.

The interviews were performed using the Skype® tool with the help of the complementary recording tool, Callnote® (CALLNOTE), to facilitate transcription and analysis. A pilot to evaluate the collection instrument was conducted with a professional with more than six years of experience in UX in which the understanding of the purpose of the research, of each question and the time required for the answers were analysed and adjusted.

The interviews were recorded with the prior consent of the interviewee.

The semi-structured interview script was used so that the researcher could create opportunities for discoveries during the interview process and as a checklist of possible gaps to be explored.

Further information on the analysis step will be described in the following sections.

2.3 Data Analysis

The recordings were transcribed using the MAXQDA® tool. They were, however, transcribed without the aid of other complementary software, to enhance the researcher's understanding of the material collected.

MAXQDA® software was used for analysis. This allows the information collected through the

questionnaires, annotations and recorded audios to be stored, coded, allowing the analysis to be deepened (MAXQDA).

The results and analysis contemplate research questions about the adoption of the dimensions suggested in the literature, in the organizations and projects in which they operate. The justifications for adopting or not adopting the importance of these dimensions were also investigated, given the respondents, benefits, and limitations when referring to small and medium-sized organizations.

For the qualitative analysis, we used the analysis of themes identifying patterns in the answers that allowed to deepen the diagnosis of the scenarios of adoption of the practices. For this, the following phases adapted from Boyatzis (1998) were developed:

- Transcript of comments and open replies to create familiarity with the data and deepen the understanding of the content;
- Generation of codes that could segment the main findings of the research;
- Refinement of these initial codes by grouping them into new key categories when necessary;
- Organization of each category for relevant information, analysing possible correlations;
- Analysis of the findings, try to discover associations with the literature and generating hypotheses to be investigated;
- Additional investigations with the respondents in the hypotheses raised.

The data grouped into the categories were organized in MaxQDA® software, observing the several correlations being studied. The names of the categories were identified based on the researcher's questions about the findings that had been identified in the literature and on questions that arose when analysing interviewees' responses from the previous collection stage through the questionnaires and the interviews stage (Merriam, 2009).

The results and discussions will be presented in the following section.

3 RESULTS

The dimensions proposed by the maturity model for user experience design recommended by the Human Factors Institute includes: the formalization of the development process with the integration of user experience design practices in the development cycle; the training of the professionals involved; the establishment of patterns of corporate design; the establishment, collection and monitoring of metrics to assess the usability of the software; the creation of a database of successful cases for training purposes, thereby showing the value of user experience design in the organization; effective joint actions at the highest decision-making levels in order to obtain resources dedicated to the practices of user experience (Schaffer, 2004; Schaffer, Lahiri, 2014).

These dimensions are also presented in other maturity models such as Nielsen (2006) and Nielsen (2006a).

This study investigates the alignment of these dimensions with the process of evolution of UX integration on development cycle of small and medium organizations of respondents.

This study analyses the adoption of practices and observes similarities, differences, limitations and potential opportunities for improvement about the literature study.

The main categories were identified based on the dimensions that had been identified in the UX Maturity Models studied in literature. The other categories and subcategories arose when analysing interviewees' responses through the interviews stage (Merriam, 2009).

The analyses carried out according to the main categories generated with the aid of MAXQDA® software will be presented below.

3.1 Support to UX Practices

Schaffer and Lahiri (2014) indicate that institutions should adopt the practice of defining sponsoring executives (called UX champions) that support institutionalization initiatives in user experience design practices.

These managers can provide more investment in people, evangelizations, training, acquisition of tools, an organization of physical space, equipment and in the incentive to UX practices.

However, participants in this research report that in their organizations, the importance of UX is still not recognized by top management.

This fact impacts on restrictions to the full exercise of UX practices in many projects in which they are involved. Or they often do not allow them to get involved in some other projects being undertaken by information technology teams.

P1, P3, P7, and P8 mention that even when working in medium to large sized companies, where top management recognizes UX as an essential practice, this awareness does not translate into investments. This impact that the team can be involved in the various projects of the company at

the same time.

All interviewees report that in their organizations, the number of UX professionals is minimal compared to what they see as ideal.

Often, only one professional is dedicated to more than just one project at a time, and they have to choose between the various initiatives, even though others would need research, ideation, prototyping and testing, and that it will not be possible to do it due to lack of resources.

In a more prominent case, it was reported that the company even had only one UX pro for 300 developers.

P1, P3, P7, P8 report that the number of highly reduced UX professionals makes essential tasks difficult, for example: to include the UX team from the initial proposal phases, to perform UX searches and user tests on several of the projects implemented.

Reduced time allows only interaction design tasks to be performed, or even just small adjustments to the interface of perceived aspects that are most critical to usability, but without research, without tests that prove that the modifications will be successful.

P24 mentions that he experienced different phases in his organization, where the board's profile regarding the importance of UX was decisive for increasing or reducing investments in teams, spaces, and physical resources.

P1, P2, P3, P7 mention that it is rare for top management to know the activities or techniques of UX, but even if they do not know how to implement, the value of practices is imperative for investments to be made.

When asked how then is it done to motivate UX practice, when top management is not aware of the value of these methods, respondents reported that there are some ways to gain the maturity gain in UX practice gradually.

These include:

Involvement of middle management, who by acting closer to the team, can bridge the gap with top management and can influence other team components such as developers, testers, and even customers and end users to collaborate with practices;

This middle management may sometimes be the role of project manager or product owner of the application, and in this case, the above can happen even more efficiently, since these roles are decisive in the planning of the practices to be carried out and prioritized in the projects;

When the team empowers and begins to show valid results, developing a solution that can be a feature or a product, where greater satisfaction, efficiency, and effectiveness in the user interaction experience with the product is observed, this can influence other members of the team. This fact also may even reach top management, which tends, when perceiving the impact on user satisfaction, to multiply these practices in other projects or initiatives that involve UX;

When there is a leader in the UX team, a respected professional in the job market, known for his performance in other projects and who has a good interface with top management, can influence the team to carry out these practices;

However, P3 mentions that there is no guarantee that the institutionalization of practices will be done. Even if the aspects mentioned in the previous items are proven, processes are difficult to establish in a top-down and immediate way, it is I need a time for maturation, an understanding by every team of the practices and contexts in which they apply.

Especially if we think of the diversity that is the ecosystem of applications, tools, and techniques available in information technology.

P1, P2, and P3 point out that UX practices are more frequent when executing projects for companies where the user experience, in the view of the client contracting the project, is recognized as a product differential.

They complement, however, that in most of the projects carried out, the organizations attest to having no budget or time for inclusion of UX teams and practices.

3.2 Infrastructure

The dedication of resources to the design of experience has also been pointed out in the literature as one of the critical success factors for institutionalization, that is, the practice of practices consistently (Schaffer, 2004; Schaffer, Lahiri, 2014).

Recent research on the UX professional profile reinforces that in Brazil there is an increase in the number of UX professionals dedicated to development projects (Vieira, 2011).

However, as evidenced in the interviews and discussed in the previous topic, this hardware, software and peopleware' resources are not yet planned with medium- and long-term goals in the organizations studied.

3.3 Training

Schaffer and Lahiri (2014) describe that the practice of training can take several perspectives.

Not only technical aspects but also awareness of the importance of usability, essential in the initial stages of institutionalization. It is vital in initiatives to gain maturity, regardless of the state in which the organization is.

Salah (2012) also includes training in the development process, such as training in agile methodologies and specific frameworks.

The learning of coaching, leadership and collaboration techniques recommended by Appelo (2011) can also influence team performance in facilitating communication between the different profiles that need to interact with the project.

Technical aspects are also very relevant and can range from mobile device design standards, technical standards of accessibility, prototyping tools, tools and even testing and research techniques, such as ethnography (Schaffer, 2004; Schaffer, Lahiri, 2014).

As with improvement initiatives in other areas of expertise, the empowerment aspect cannot be overlooked.

Some of the respondents' comments report problems that could be minimized by continued training practices.

About the lack of knowledge in UX practices by developers:

P5 confirms the above understanding that it is also necessary to carry out training that allows not only to know the methods and techniques of UX but also to enable profiles that have very different academic backgrounds, converse and reconcile different challenges:

“The dialogue with the various involved in a project often proves a challenge, given the diverse backgrounds” [P5].

P4 reinforces that strategies for institutionalizing UX practices cannot succeed without continuous training.

P7 discusses that when he started at the company where he works, one of his first concerns was to establish a team of UX composed of people who were interested in the subject, even if they had no formal roles related to this issue.

Once the group was established and, through regular discussions, a better organization of their practices, they began to prioritize workshops and lectures that could disseminate this knowledge and give visibility to the team so that UX practices could be multiplied.

P1 reports that in its organization, it is responsible for a weekly training program that aims to discuss and disseminate success stories of projects carried out internally, as well as discuss innovations such as Design Thinking.

However, in this aspect too, it has difficulty because of the lack of time that is allocated to the professionals who prepare these lectures or workshops. You do not always get the dates together.

3.4 Consulting

Nielsen (2006, 2006b), Schaffer, Lahiri (2014) understand that consulting practice is essential for the company that intends to institutionalize UX with more effective results and more controlled costs.

The consultant can help, for example, evangelization initiatives, establish an organization's process, diagnose the current situation, select and train professionals qualified to practices that will be important for a specific organization. They also help with procurement of tools, to help conflict resolutions between departments by understanding the priorities of deploying practices or solutions of a product in different ways.

However, this cost cannot always be paid by companies of a minimal size that also do not have the human resources that can be dedicated to such strategies (Dyba, 2003; Mishra and Mishra, 2009; Pino, Garcia, Piattini, 2008).

P6, in his speech, affirms the importance of a consultant to manage conflicts of priorities between sectors. Also, it understands that the consultant should be responsible for the dissemination of UX, should focus primarily on maintaining the synergy between the teams and the importance of each one's role in the project.

As in the topic where high management involvement is discussed, respondents say that it is rare to bring UX consultancies to help institutionalize practices.

They report that when interested in understanding how to make improvements of the UX process in their organizations, they have resorted to the establishment of communities of practices where a relevant example are the chapters of the IXDA in the several Brazilian States.

3.5 Product and Process Metrics

Product and process metrics, related to UX, are not defined and managed in respondent organizations, with some exceptions that will be discussed below.

Three key business scenarios were identified during the survey:

- One refers to those user experience designers working in organizations whose primary business is the marketing of a product or product suite developed by the organization and that their work consists in providing corrective maintenance or improvements to the product (s);
- In another category are organizations that develop products for third parties and that the portfolio of products that can be designed, as well as the users who will use these products, can be very diversified domains, to mention some: education, health, games;
- Finally, one last category researches innovative products for different customers and often the delivery consists of the results of the research that will give input to the product development carried out by the customer who bought this consultancy or by a third party.

These three scenarios have different needs and constraints when it comes to measuring the user experience.

For the first scenario, where the software product belongs to the company, measuring the experience can be very beneficial to discover features that should be deactivated or prioritized in a new release, even in these scenarios the adoption of metrics is limited to the respondents.

The reasons that justify non-measurement are correlated with the factors we have already mentioned in previous topics, lack of investments in human resources and UX tools that allow this practice to be carried out to the satisfaction.

P3 justifies that only with the more consistent practice of UX practices can we efficiently measure UX, which still does not occur in its organization.

P1 reports that they have sometimes even come up with the definition of indicators that compare the benefits of adopting UX versus non-adoption in their organization's projects, but this initiative has not been implemented.

P4, another respondent from the same organization, defined an indicator of user participation in the various stages of design from design to testing, to measure the degree to which the team practiced user-centred design. However, this indicator began to measure the degree of involvement of the client and not the end user.

One of the respondents who is a businesswoman of a small organization, but who emerged as a start-up, reports that she has this practice, and that has evolved in the way measurements are performed in her corporation:

> "Today we measure the engagement of each feature. We are going through a process of restructuring the teams; each team will be responsible for different features of the software; each team will have its KPIs. Today we review engagement [of users] weekly and monthly. But we are changing our process, and we will start to monitor the KPIs of each feature as well."

However, the reality for many respondents is similar to what P11 states:

> "We do not have customer satisfaction indicators specific to UX; the customer satisfaction indicator refers to the projects as a whole".

In the other two business scenarios where the product does not belong to the organization that develops it, the difficulties are more significant since it is not market practice, at least at present, that the project can be extended so that the post-project fulfilment of interaction requirements.

P2 also mentions the difficulties of pricing this type of activity.

3.6 Design Knowledge Base

Style guides, templates, patterns, and a design knowledge base can promote reuse, consistency, facilitate development, and improve usability.

The knowledge base on the company's design solutions has as main objective to promote organizational knowledge through the recording of success stories, lessons learned and rational design decision making.

In the literature of frameworks and strategies that bring proposals for the design of the integrated experience to agile methodologies, this aspect is not frequently cited (DaSilva et al., 2011).

However, maturity models, both related to software development and experience design, highlight the importance of this practice in advancing organizational maturity (SEI, 2010; Schaffer and Lahiri, 2014).

The reuse has impacts on the improvement of the software development process, reducing costs and execution time of new projects (Garcia, 2010).

In addition, the structuring of a knowledge base allows new members to be inserted in the team with greater productivity and good design practices can be shared (Schaffer and Lahiri, 2014).

It is a practice, according to the interviewees, carried out in an incipient way in the organizations where they work.

P1, P4, P5, P7, P8 attest that the creation of interview templates, personas, test scripts is performed by them, but that is not an institutionalized practice in the organization that acts. While realizing the importance, the overload of the designer's tasks prevents him from engaging in this practice.

The construction of style guides is also done only when it is possible. Some attest that their use, however, may be required when customers who hire them have their own style guides.

P8 believes that, in cases where the developer owns the product, the brand identity is built. Also, they also have difficulty, due to lack of investment of the organization, to devote themselves to the construction of, for example, standard components of design to be reused. But, it has interview templates or user tests that can be used by other members of your team and would like more time to devote to this practice.

Success stories are shared through dedicated training, as P1 had already reported.

P7 cites the use of frameworks such as JIRA® that help documents containing the entire design rationale be shared among the team that is involved in the project and can be consulted after that as needed.

All emphasize that this practice is not institutionalized, they perform when it is possible, and this often means they do not realize on most projects.

3.7 Roles and Responsibilities

This section analyses the multiple roles and responsibilities assumed by each member of the team in small and medium-sized organizations.

In one of the research organizations, the developers themselves were also designers on many projects. For, as attested by one of the interviewees, only one designer was responsible for all the demand, and there was no way to get involved in the various projects in progress.

Thus, the specialist profile is very rare in the companies interviewed, with each member of the team needing to learn the roles of others to contribute more to the project.

One aspect that emerged during the interview phase was the definition of the roles of requirements analyst, business analyst, and UX researcher. These are often confused, merged, or defined in different ways, depending on the organization, the type of project, and the way UX is perceived by top management, customers, and others involved in the project.

P1, for example, reports that in his company a few months ago the role of UX researcher has emerged and that, in this way, the inclusion of UX activities has begun in the initial phases of the proposal, facilitating that the practices are planned, and UX teams are better sized. According to him, this position was formally defined, replacing the requirements analyst who had a training and skills more focused on functional and technical aspects. This process began when we began to realize the strategic importance of UX in the projects they carry out in their organization.

But many point out that the user-centred view is not yet an institutionalized practice, often depending on the client requesting the project and that therefore, this role of the experience designer as a strategic one to define the product to be constructed, is not very clear in several organizations.

4 CONCLUSIONS

This study investigates the alignment of the UX Maturity Models dimensions with the process of evolution of UX practices of Brazilian small and medium organizations. We analyse the adoption of practices and observes similarities, differences, limitations and potential opportunities for improvement in the literature study. The analysis was carried out according to the main categories generated with the aid of MAXQDA® software.

We could verify, through the field study with eight professionals working in the design of the user experience, the adoption and importance of practices that can promote the maturity gain in UX in small and medium Brazilian companies of information technology.

The similarities and divergences between the practices adopted and the proposals presented in the literature were observed.

The results indicate that small and medium-sized organizations still face many difficulties related to the institutionalization of UX practices.

Reduced UX teams prevent designers from being present in various development initiatives in their organization. Limited resources also prevent the full exercise of UX practices.

Essential tasks such as including the UX team from the early stages of the proposal, performing UX searches, and testing with users are complicated, except in isolated initiatives.

Top management is often unaware of the value of UX practices, which makes it harder to invest in human resources, physical space as a test lab, and acquisition of tools.

Interviewees report that the improvements in the inclusion of practices usually happen when the project leader or a practitioner experienced in the methods can, from opportunities that arise in some projects, show the team the results obtained regarding satisfaction of the user.

Respondents also say that processes are difficult to establish in a top-down and immediate way, it takes time for maturation, understanding by every team of the practices and contexts in which they apply. Especially if we think of the diversity that is the ecosystem of applications, tools, and techniques in information technology.

As for training, in many ways, they have also been carried out ad-hoc.

UX-related metrics are not defined and managed in respondent organizations, with few exceptions.

Some have testified that the creation of interview templates, personas, test scripts is carried out by them, but that is still a not frequent practice. While realizing the importance, the overload of the designer's tasks prevents him from engaging in this practice.

However, they do not consider it simple to adopt strategies for gaining maturity in user experience design practices. Among the reasons for complexity, they highlight essential factors recommended in the literature, such as the importance of the support of the high executive levels, awareness of the importance of UX practices, and their strategic value in making business-related decisions.

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APPENDIX

INTERVIEW - EVALUATION OF PRACTICES

Redeem previous experiences with UX / Experience design/interaction design projects in small or medium-sized companies and analyse the following practices:

HIGH MANAGEMENT INVOLVEMENT

It is understood, in this proposal, that the involvement of the top management propitiates the valuation of the methods of UX including planning of hardware resources, software and human resources, aid in the resolution of conflicts between departments in the prioritization of requirements, capacity planning, among other structural practices.

1. How do you evaluate the design of high management involvement practices in the proposed strategy? How is this accomplished in the projects you participated? Were there any obstacles or difficulties in the projects related to this issue? How were they solved? In your experience, does this practice facilitate an improvement in the quality of the process of including UX practices or would you adopt other practices to solve the problems mentioned above? If he would adopt other practices, what would they be?

RESOURCE PLANNING

It is understood in this proposal that for improvement in the quality of UX practices, the planning of resources of hardware, software and human resources becomes necessary in the phases before the projects for acquisitions, during the projects to understand new unforeseen demands, in the finalization of the projects to evaluate the improvement points.
2. How do you assess the design of planning practices regarding equipment infrastructure, physical spaces, human resources, tools needed by the project team in the proposed strategy? How is this accomplished in the projects you participated in? Were there any obstacles or difficulties in the projects related to this issue? How were they solved? In your experience, does this practice facilitate an improvement in the quality of the process of including UX practices or would you adopt other practices to solve the problems mentioned above? If he would adopt other practices, what would they be?

TRAINING

It is understood in this proposal that for improvement in the quality of UX practices, the planning of the team's qualifications is necessary for the phases before the projects for the execution of preparatory training, during the projects to manage the necessary training, at the end of the projects for evaluation of improvement points.
As for the training practices, these, according to the literature study, can include several aspects such as: awareness of the importance of usability, technical aspects such as mastery of techniques, tools, use of appropriate artefacts for each context, patterns related to mobile devices, accessibility, methodologies, behavioural aspects including leadership, conflict management and change.
They can be carried out "on-the-job" or through techniques such as the paired design that allow the learner to follow the work of a more experienced professional or "learning shots" - to cultivate within the project a constant and collaborative learning culture among members.

3. How do you evaluate the design of practical skills in the proposed strategy? How is this accomplished in the projects you participated in? Were there any obstacles or difficulties in the project related to this issue? How were they solved? In your experience, does this practice facilitate an improvement in the quality of the process of including UX practices or would you adopt other practices to solve the problems mentioned above? If he would adopt other practices, what would they be?

KNOWLEDGE BASE

In this proposal, it is understood that to improve the quality of UX practices, the construction of a knowledge base with standards, style guides, success stories, personas or other artefacts becomes necessary for reuse, to facilitate the insertion of new members, to build the organization's knowledge base. In the phases before the projects, the objectives can be understood about these aspects, during the projects to carry out the maintenance of this base or use it, in the finalization of the projects to evaluate the improvement points.

4. How do you evaluate the concept of the practices of reflection, planning, and construction of bases of artefacts and knowledge (style guides, templates, patterns, personas, cases of success) in the proposed strategy? These are aimed at reuse in future projects, facilitate the insertion of new members, gains of knowledge in the organization. How is this accomplished in the projects you participated in? Were there any obstacles or difficulties in the projects related to this issue? How were they solved? In your experience, does this practice facilitate an improvement in the quality of the process of including UX practices or would you adopt other practices to solve the problems mentioned above? If he would adopt other practices, what would they be?

UX INDICATORS

It is understood in this proposal that for improvement in the quality of UX practices, it is necessary to define and monitor UX indicators.
In the initial phases, the goals can be understood about these aspects, during the projects for compliance management, in the finalization of projects for dissemination and evaluation of learning and improvement points.

Indicators may be associated with: increased productivity when using the product; reduction in costs associated with training and / or support; increase in sales or revenues; reduction of time and costs when developing the product; reduction of maintenance costs; increasing the attractiveness and retention of customers, and improving user satisfaction when interacting with the product.

In addition to metrics associated with the completion of each improvement cycle or project undertaken, it is recommended to adopt strategies to accompany the customer periodically in order to obtain continuous information about their experience with the product.

This monitoring can be done through survey questionnaires, call centre, analytics, search logs, A / B tests and usability testing.

5. How do you evaluate the design of planning, measurement and presentation practices related to UX in the proposed strategy? How is this accomplished in the projects you participated in? Were there any obstacles or difficulties in the projects related to this issue? How were they solved? In your experience, does this practice facilitate an improvement in the quality of the process of including UX practices or would you adopt other practices to solve the problems mentioned above? If he would adopt other practices, what would they be?

CONSULTING

6. How do you evaluate the design of consulting engagement practices in the proposed strategy? Was it necessary in the projects you participated in? In your experience, does this practice facilitate an improvement in the quality of the process of including UX practices or adopt other practices? If he would adopt other practices, what would they be?

THANK YOU VERY MUCH FOR PARTICIPATION.