A Policy or a Silent Revolution: Experience Sharing on Aligning UX Process with Product Development Process

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Abstract. User experience has become more emphasized in the consumer electronics industry. In many companies, user-centered design process is being implemented to facilitate the development of user-friendly products. Unfortunately, not all practices ended up with success. In this paper, we pointed out the status quo of dilemma, shared the experience of our process rollout practice, and concluded the steps and strategies we adopted to align the user-centered design policy with traditional product development process. Our goals are to acquire more impacts on the product development in an early phase and to become indispensable to the company. At this current stage, we are delighted with the outcome which gone beyond our expectation and have confidence in the future success.

Keywords: user experience, UX process, UX management, UX policy.

1 Introduction

Taiwan is a home for most world-class computer, mobile device and consumer electronics industries, which produce and manufacture large proportion of 3C products on the market. Although previous years most of production lines has shifted to China for more competitive labor cost, but head quarters in Taiwan still holds the heart of design and research development. Regardless of the brand companies or original equipment/design manufacturing (OEM/ODM), User-Centered Design (UCD) Process is often discussed as a determination that could guarantee product teams to deliver exceptional user-friendly products when it is successfully executed. In spite of UCD related concepts and topics have been discussed for almost a decade, many User Experience (UX) teams have still struggled to integrate UX culture into corporate because it lacks of process alignment between UX and other teams. Furthermore, there is no clear measurement for UX practice to turn their credibility from deliverables to financial proof in which business stakeholders will trust.

Primax Electronics Ltd. UX team has faced the same issues when running UCD framework inside the company. Last year, we reevaluated the situation and took a different approach to introduce a new UX policy that increases strategic influence for

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the UX team. The purpose of this paper is to share the experience in how we deploy the new policy by explaining background, methods, actions, and the outcome.

2 Background

Undoubtedly, with many years of promotion from Human Computer Interaction communities, UX or usability organizations were broadly established in computer and consumer electronics industry in recent years. Unfortunately, most of stakeholders in the industry only superficially acknowledge that a well-designed and user-friendly product could increase sale and profits and design team should be responsible for all UCD matters.

Besides, UX practice continues facing the challenge that stakeholders still have doubts about that UCD could really benefit them in terms of immediate financial returns. They often hesitate to make investment in early user studies or large group of usability tests because of no metric showing clear relationship between UCD practice and returned benefit from it. The other challenge is that a company lacks for a policy or regulation to well integrate UX practice and product development process, thus it is not conventional for UX team to participate in key activities such as customer/sales product requirement discussion, product design, engineering design, quality assurance and even regular project meetings. Unlike quality assurance or engineer teams, UX team is not considered a standard task force when running a project. It is often treated as an external labor-intensive resource which only provides design material against product requirements from customers or product managers. Not to mention, UX team usually has no opportunity to drive product specification to meet user requirements at early product conceptual stage. Without solving these two challenges, UX team would be considered to be non-vital importance not only for deciding company product strategy but also for efficiently delivering promising products to users hands in spite of the eligibility of UX team.

Primax Electronics Ltd. as one of the leading OEM/ODM companies for computer peripheral is the minority that has a solid UX team and a well-equipped usability lab in this industry. As an early usability practice adopter with practice on various product types, we have done many usability tests and accumulated lots of knowledge, methods and tools since the establishment. However, without full UCD process, most of usability tests were conducted at the late stage of product development. Reports have been often too late for design changes and only stored in database for future reference when similar usability issues were found in other project. Like most of UX groups, to gain influence on other domains and business insight in company, we urged ourselves to implant UCD process by adopting formalized human centered process standard (ISO 13407) (Fig. 1) [1] and hopefully we could reach UX maturity model higher level [2] and have ability to involve users in earlier product development phase. Regrettably, over the past few years, we have tried to deploy more complete UCD workflow but failed many times because of a few reasons. First, standard UCD process doesn't really align with our manufacturing process and can't keep tapping along with development life cycle. Under heavy pressure on delivery

schedule, product development stakeholders often complain UCD is the bottleneck for project control. As a result, they will simply skip this type of activities to avoid trouble. Another reason is that there is no good method exists to measure what value that UX services can bring to corporate particularly for fiscal return. Contrary to UX, a successful sale contains many possibilities such as timing to market, channels, promotions, pricing, and more. In addition, without any regulation or process, the usability service has been only like ad-hoc task force supporting business and R&D units as a debugging and concept verification tool let alone involving user in early product design phase. The value of UX service cannot be sustained. After many years of trying, what we learned was we could never expect to change engineers and project managers' mindset or to break up their existing workflow and regulation overnight. Therefore, we realized that an adaptive alignment of UX process and product development and a corporate wide UX policy rollout are more reasonable to deploy UCD process smoothly.

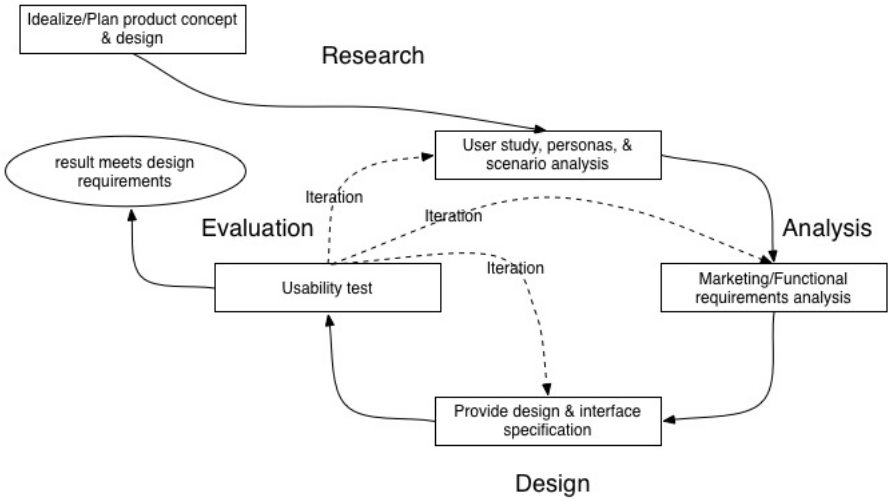

Fig. 1. Primax UCD process based on ISO 13407 framework

3 The Goal and Actions

From past experience, we knew that by requesting business stakeholders and product development team to follow standard UCD framework designed by us is easier said than done so our main goal was to adaptively set up a corporate level UX regulation that can strongly bind UCD lifecycle to product development process together and this integration must be seamless to reduce the impact on organization and shorten the emerging process. There were three steps we took to complete the new policy roll-out.

3.1 Analyze the Situation for Rollout Plan

To come up with a suitable UX policy strategy plan, from political and business management perspective, we started to analyze UX team's position and influence to corporate with SWOT analysis (Fig. 2). We recognized that we had strong usability service credits from some key business units, which could be our pilot run candidates to get valuable feedback from when rolling out the new process. In addition, the team held mature usability service framework toolkit that could be quickly used as new regulation templates with minor transformation. For the weakness of the team, without routine activity with business entities, we often had no initiative of UCD service for products. In order to have access to project information from product teams and plan UCD service for them, we needed to wait for their service requests. After being more aware of our position to corporate, we set out two objectives in the plan to deploy new UX policy smoother. First was to identify existing corporate regulation with formalized process that we can implant UX framework into. Second was to re-structure UX organization to a new form which can be more appropriate to serve stakeholders spontaneously.

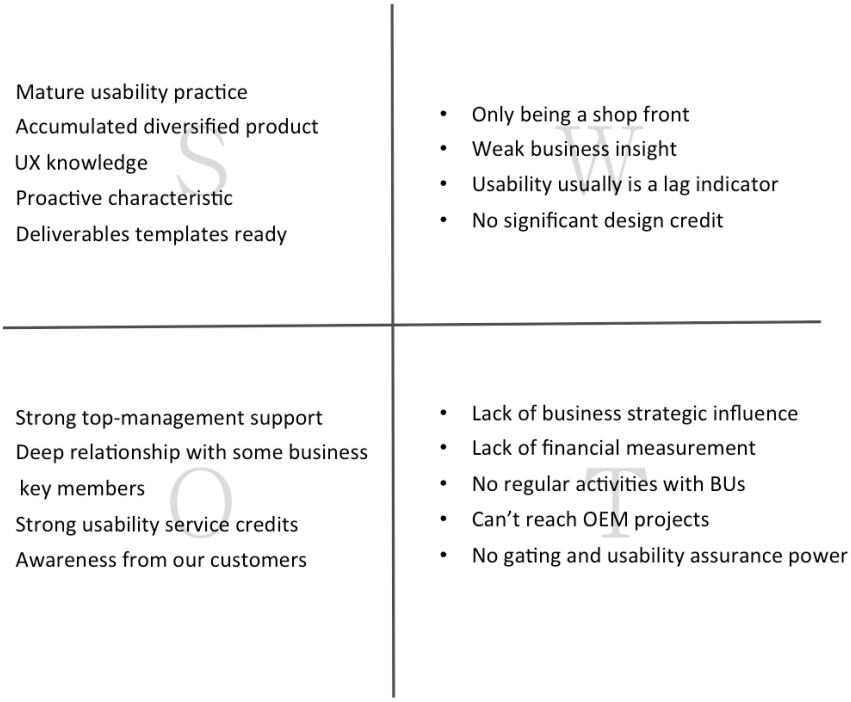

Fig. 2. SWOT analysis of Primax UX team

3.2 Process Alignment

To align with product development process seamlessly without hostility, we didn't create a brand new framework to force stakeholders to adopt. Instead, we decided to modify an existing one. We spoke with Corporate Policy and Engineering Design Center (PEDC), who is in charge of defining, controlling and maintaining corporate level SOP and Quality Assurance Regulation. We evaluated current generic project control system called Manufacturing Process Management System (MPMS) (Fig. 3), which is commonly used for product development project control and material supplies management through all business units. Because it is corporate wide standard operation procedure with strong gating control and it's a regulation driven process, we realized it is our ideal target and took following steps to modify workflow in MPMS to merge UX process in.

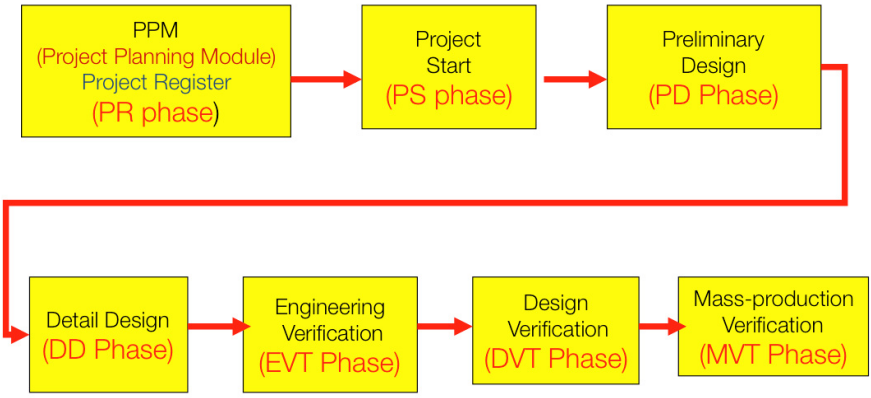

Fig. 3. Primax MPMS flow

1. Identify gating point, timing and gating documents format.

In MPMS, gating documents which are major materials need to be reviewed and each phase is signed off by technical leader, product leader and development quality assurance controller to release the project to the next phase. We asked PEDC to add user interface design specifications, UX service plans and usability reports onto the list of gating documents and add UX leader to assess the project detail before project registered and decide whether UX service is needed. When UX services are needed, UX team will perform tasks on MPMS process along with development process and deliver plans, reports or other UX related documents in every phase for development quality assurance controller to review at the gating point.

2. Reform current UCD framework and creating necessary documents, which are suitable and can be managed on MPMS.

We also slightly changed our original UCD framework to cope with every MPMS phase (Fig. 4) and assign standard tasks and deliverables for each phase. Because the deliverables will become gating documents, we reformatted them to meet MPMS standard.

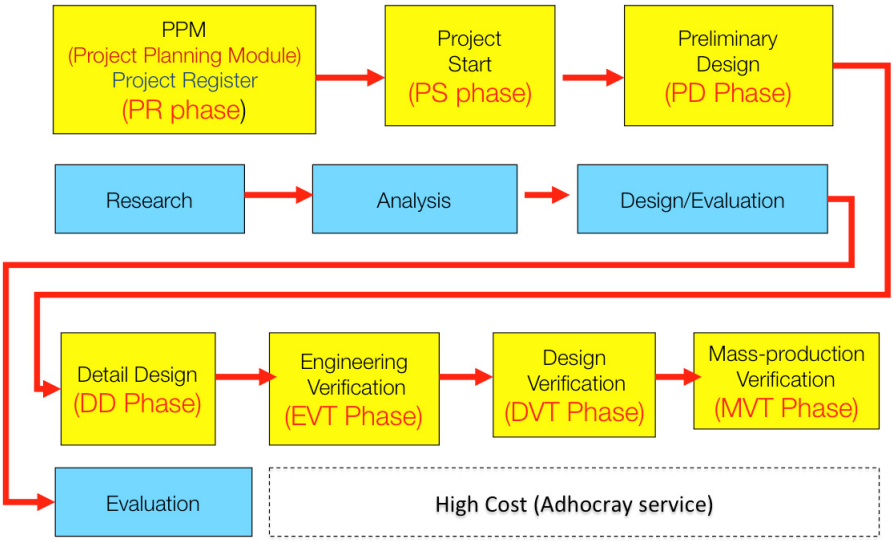

Fig. 4. MPMS flow facilitated with UX Process

3. Create criteria for product whether entering UX process.

To increase new policy acceptance and avoid our resource shortage, we couldn't review all projects on MPMS.

We needed to create criteria for UX review (Fig. 5) and it would help project team to understand why some projects need UX services and some do not. The criteria were made based on product types and other index such as maturity of market, new concept of design, customer requirement, and new interface application. There are four product types defined in Primax:

- Type A product: Brand new design of ID, EE, ME, software and etc.
- Type B product: Major components changes
- Type C product: partially changes of EE, ME design with existing housing
- Type D product: changes of color, prints, accessories, and documents.

At the beginning of policy deployment, we decided to exclude type D product.

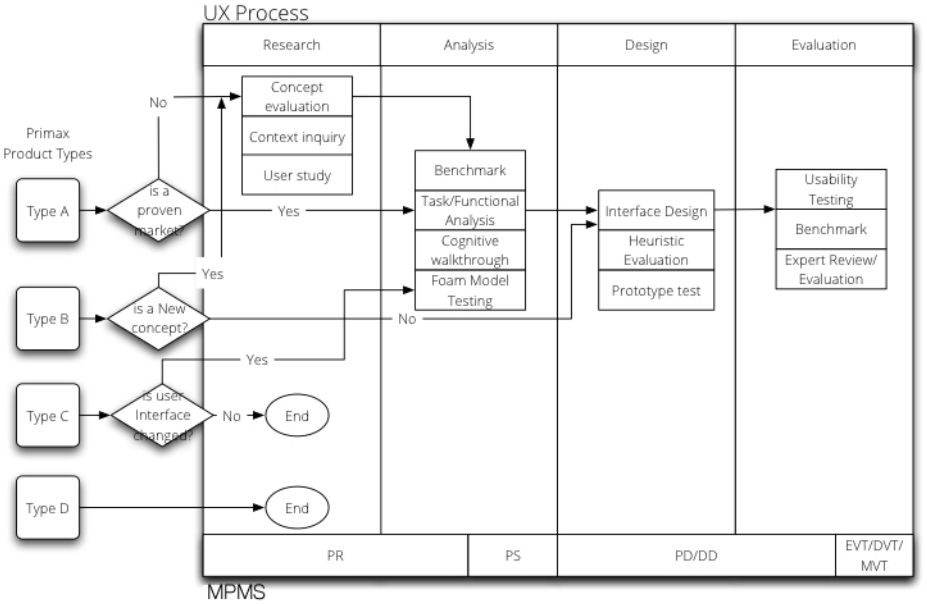

Fig. 5. UX service criteria on MPMS

4. Re-implement MPMS and prepare UX management templates.

After redesigning MPMS, PEDC system engineer started to reprogram entire system for the new process flow when we announced the UX regulation effective date for every business entities. Since most of project managers did not know what to provide to us for evaluation of whether UX service is needed, we designed templates that project managers can fill up product information for us to quickly collect their product insight without back-and-forth questions.

5. Set up both regularly and occasionally communication platforms and educational training sessions.

Before new MPMS began being deployed to different business entities, we held several communication meetings for related parties to explain what the new UX regulation and management are and how their current project control styles are not going to be changed dramatically by the new MPMS process. Moreover, we arranged numbers of training sessions to guide them through the new UX standard operation procedure (Fig. 6) on MPMS and clarify project members and UX members' jobs and responsibilities on new system.

Besides, due to the fact that UX activity is becoming mandatory, we took the advantage to convince project coordinators to let UX team member to sit in their regular project meetings thus we can assist them to cooperate with UX activities efficiently and prevent extra cost and time.

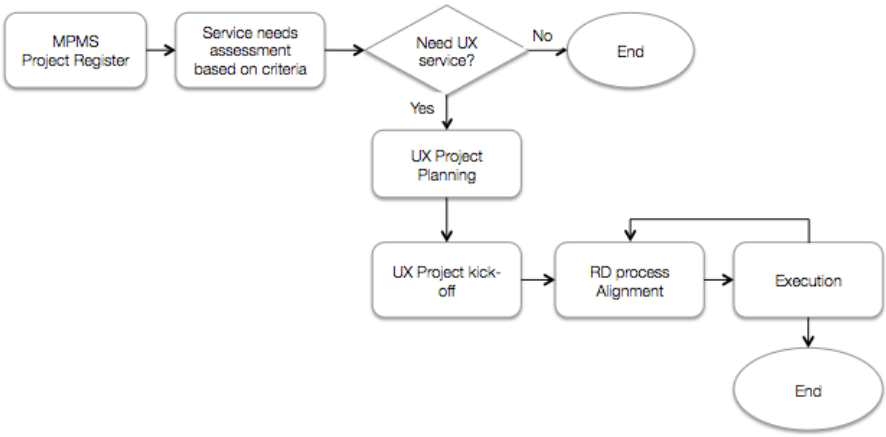

Fig. 6. UX Standard Operation Procedure on MPMS

3.3 UX Organization Re-structure

Setting up a company policy for UCD is not an easy path. It requires lots of support either from top-down, or bottom-up. Once organization from top-down forced the regulation adaptation, we immediately faced the hostility toward to us from many working fields because the time and cost will be raised as we start to implement UX tasks into development life cycle.

In addition, the old way of running UX practice would not help us buy a ticket to the strategy decision chair since we only participated in project level activities. We needed an organization that could gain us influence on product strategy decision at early UCD stage. We determined that UX team has to be more spontaneous and aggressive than ever so we re-structured team by adopting strategies below:

1. Re-define UX member role and responsibility.

Traditional UX team usually only consists of professionals from usability, human computer interaction, psychology, and design background. When we recruit UX professionals, we usually simply ask if the candidates are qualified in these fields practice and expect their contribution only from such disciplines mostly. As a matter of fact, that's the reason other staffs in organization supposed UX team functions as design entity or verification unit rather than strategy advisory institution and misused us as design material generation or quality assurance resource. But since the communication is relatively important to win us a seat in regular product strategy meeting and being influential, we found that we need to reassign our team member new roles and responsibilities to coordinate all UX activities with project teams closely. The UX project coordinator responsibility includes:

- To proactively communicate with key business stakeholders to gain access to product development status and maintain steady relationship with them

- To coordinate the UX projects on MPMS
- UX standard operation procedure control
- To hold educational training sessions regarding UX regulation and support to grow user experience design knowledge in organization
- To identify and join necessary business units' product strategy meetings and concept brainstorming activities.

2. Identify senior members to act as UX project coordinator.

In order to carry such important role, we needed to identify qualified team members who can be trusted by stakeholders with credibility and high recognition from their previous works.

These senior members have learned to speak a common language as product development team does and understood the engineer's culture and working style. They can demonstrate the leadership and assist project members in partnering with UX people better.

3. Set up regular communication channels with key decision maker in business organization.

After assigning UX project coordinator roles to a few senior members, they were sent out to communicate with key persons and sell our new regulation as well as organizing communication channels to regularly involve in product development activities in different departments.

4. Conduct user research on strategy-related products proactively and deliver the quality reports to business personnel.

For the first of a few months, with the intention of rolling out new UX regulation successfully, we particularly aimed for big time projects to conduct UX tasks on MPMS process and made sure deliverables were extraordinary to earn recognition and appreciation. We expected this approach would bring confidence to strategy table in new UX regulation and hopefully continuously get strong support from top-management until full acceptance of the new UX policy.

4 Result

As a result of new the UX process deployment on MPMS, the awareness of user experience team and UX practice was tremendously raised. Although the process roll-out has produced conflict between mid-level employees due to the functional departmentalism, we are able to convince them and smooth out the situation through our project coordinator role. Now, most of projects are plugging-in usability evaluation and test report documents in the system, and on some projects, they are reviewed at manufacturing gating meeting. UX contribution and opinion become significant for projects before going to production. More and more project managers include UX person in the project team at kick-off charter and allow us to affirm

products whether they meet user needs before entering implementation phase. Moreover, because UX team members have been increasingly invited to join the regular project review meetings or product requirement discussion with our customers, we are able to conduct user studies and give design suggestions at early stage rather than testing products after working samples ready. This finally empowers UX team to take back the true product UX ownership and the organization looks forward to gradually escalating the maturity level of UX.

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