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Going Global with the Product Design Process

Does It Make Business Sense?

In the global economy, many companies are scrambling to find ways to make their products accessible—and saleable—in markets outside their traditional ones. Often this means that they need to learn new ways to design, translate, localize, and globalize their products. With this in mind, we asked Jose Coronado and Carrie Livermore of Hyperion to describe the solution conceived by their company. As you will see, the process they use has evolved and allows for both flexibility and structure. It has helped them as a company to manage costs and to create a high-quality, international product.

— Susan Dray

Diverse cultures, regional regulatory restrictions, and languages influence how products are perceived and used by target audiences. Organizations that develop global products need to have design and development processes that consider these key requirements and differences.

Through effective and flexible internationalization¹ and localization² processes, companies such as Hyperion have been able to continually expand their presence and maintain continuous growth opportunities in these global markets. The bottom line is that companies cannot sell



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English products throughout the non-English-speaking world. In order to maximize profits overseas, companies must be willing to face the challenges inherited with globalization of their products.

With the rapid evolution of technology and the emergence of the Internet, the frontiers of local markets have been disappearing and blending with global markets. These “markets with no borders” have influenced how companies need to develop products. In order to maximize growth internationally, companies must modify their product development processes to truly think and act globally. Hardware and software companies have realized that it is not enough to localize their products. Product globalization³ needs to be considered from the beginning of the development process. Companies without a global design and development process have spent hundreds of thousands of dollars re-engineering their products to meet the needs of users around the globe. In this article, the authors will discuss the global product design process followed by Hyperion Solutions. Effective and flexible internationalization and localization processes have allowed Hyperion to continually expand its presence and growth in the global marketplace.

Who Is Hyperion Solutions?

Hyperion Solutions is a U.S.-based software company that produces business intelligence and analysis software for large corporations. Most products are large-scale, used for multi-dimensional analysis, including financial analysis, performance management, business modeling, and customer relationship management. Hyperion’s yearly revenue is more than half a billion dollars. About one-third of the revenue comes from Europe, Asia, and the Pacific. In addition, Hyperion has a direct market presence in 20 countries.

In the early 90s, before Hyperion put in place a global product design process, it took too long to localize its first product and

incurred a very high cost. Product internationalization and localization were not considered part of development. In addition, user interface design engineering did not exist as a professional career path. In other words, basic software internationalization problems existed. Hyperion realized that unless some changes in the product development process were made, its possibilities to effectively expand into international markets could have been jeopardized.

How Did the Product Design and Development Process Become Global? Creating Development Services

Recognizing the need for a change, in the mid 1990s Hyperion created a Localization Group and User-Centered Design Group. These two groups resided under the Development umbrella but did not belong to any one Development team. After a few years of fine-tuning the organization, Hyperion created a group called Development Services, which truly services the needs of the Development teams. The Localization and Usability Engineering are now part of this career path along with Beta Services, Visual Design, Documentation Standards, and Performance Engineering.

Localization Group

By building up a professional localization team, Hyperion started learning how to produce and effectively release products for international markets. The Localization Group researched different companies’ methods of localizing software products and compiled a set of best practices that Hyperion still uses today. Localization hosted several internal conferences on internationalization and localization to teach their importance to the company’s growth to the Development teams. Development teams came to realize what they needed to do to have their products accepted in markets in Europe, Asia, and the Pacific. External vendors provided technical training

¹ Internationalization: designing, enabling, and coding the product accounting for cultural, environmental, and individual differences.

² Localization: translation of the product (in the software industry, this includes the software product, its help, and documentation).

³ Globalization: internalization + localization.

in globalization processes. This training was effective because it comprehensively examined internationalization—the work completed before the translation as well as technical issues in localization. The training also addressed how to overcome common problems faced by writers in creating documentation for global markets.

Hyperion's success in making its product development process global would not have been possible without executive support. Management understood the importance of maximizing customer satisfaction levels globally and the benefits of opening new revenue avenues by internationalizing and localizing products. Before the Localization and Usability groups were created, internationalization fixes were not high on the priority list. The Localization Group campaigned for end users in Europe, Asia, and the Pacific and, with the support of the Customer Care and overseas Sales teams, pushed for addressing internationalization requirements in the products. Development teams were held accountable for their product internationalization requirements, and integrating them became a priority. Some product groups integrated globalization with their bonus compensation structure.

User-Centered Design

The Localization Group was not alone in product development globalization—Hyperion created a User-Centered Design (UCD) professional career path. The UCD profession included:

- * User interface (UI) engineers, who defined most of the interaction design aspects of the product, including task

flow and screen layout;

- * Visual designers, who created and produced the visual elements needed (such as icons, splash screens, product banners) needed to support and complement the designs produced by UI engineers; and
- * Usability engineers, who were in charge of conducting and supporting user-centered data collection activities such as task analysis, focus groups, usability testing, and heuristic reviews.

Working closely with Development, UCD

engineers developed design guidelines for the Web and for graphical user interfaces, including UI internationalization and localization requirements across all products. UCD professionals assumed responsibility for designing the user interfaces of Hyperion's products for new product development initiatives as well as revising the UI design for established and acquired products.

UCD processes were integrated with the overall product development process. For the newest development projects, UCD was able to conduct international task analysis sessions that yielded valuable information. For example, a group of UI and Usability Engineers, in collaboration with Product Management, conducted task analysis for one of Hyperion's analytical applications in the United States, Germany, France, and Sweden. In the United States, the users expected to see a lot of flexibility in some of the business processes supported, whereas in Germany a more strict and rigid approach was expected.

Throughout the development of the latest versions of one of Hyperion's reporting products, a large Japanese company became a



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development partner and played an important role in the product quality, functionality, and testing. By participating in the alpha and beta stages of the product's development process, many early internationalization and localization issues were detected and addressed before the product was released. It was an eye-opening experience for the development team, as they learned and understood Japan's need for perfection in the products they use.

Development Services recommended visiting the overseas countries that represent significantly large end-user groups for the company. By conducting these international site visits, the Usability and Localization groups got a better handle on requirements within each country. For example, in Italy, having the user interface in English was acceptable, but training manuals and documentation had to be translated into Italian to satisfy clients. Because of laws in France and Germany, all user interfaces, online help, and documentation must be translated. And, of course, Japan requires absolutely everything, including packaging, to be translated.

Hyperion has been able to integrate several cultural and legal requirements into its different product lines. Continuous communication with customers and field personnel has allowed the development teams to meet and incorporate the demands of different groups into the products. Hyperion's global product design and development processes open the possibility of higher growth in the international marketplace.

What Lessons Were Learned?

Translation

Hyperion has learned many lessons in its growing path toward becoming the global corporation that it is today. Providing products in a new language, for example, has revenue benefits, but the process of translating is very important. Starting the translation process for the first time can be more than a bit challenging, but with the right people and process, localization can become a normal part of any product's development cycle. Also understanding overseas requirements for a product's usability is essential to tapping into overseas

markets and learning which functions work and which might cause problems.

New companies starting out in the localization realm are often under budget constraints. Without processes to follow, people make them up as they go along. What Hyperion experienced when people in local offices tried to translate one particular product is a good example of what not to do. Because there was no Localization staff yet in place, Hyperion did the "natural" thing, which is to figure out the cheapest way to get a product translated. Internal resources in local countries were sent files they didn't know how to handle. Links were broken, files did not compile anymore, and it took months of several people's time to fix the problems. The lesson is, even though you have native speakers who know the language and the product very well, they are not experienced translators or vendors and should not be used to translate products. Now, Hyperion uses several trusted vendors who not only have experience with Hyperion products, but also with competitors' products. As a result, terms can be translated consistently and used in everyone's products. In-house resources can be better used for reviewing and testing the product after it is translated.

Localization Processes

The second lesson Hyperion learned was to have an actual project manager in charge of the localization project. When one Development team had this type of person, the localization process went very smoothly. When a team did not have a designated person, vendors did not have a point person to contact, no one to answer questions, and no one to send files to. The first attempt at localizing one huge and complex project took a year and a half and cost almost a million dollars—just for two languages! When the Localization team was formed, there was one group in charge of the vendor relationship, which made the whole process infinitely better. The next and continuous localization projects for this particular project went much more smoothly and cost much less. The best proof of the improved process, including having a Localization team in place, was the simultaneous release in

English, French, German, Spanish, Korean and Japanese 18 months after the first attempt at localization. Overseas offices were happy because they knew when the product was shipping and could promise it to clients with a sense of security. Hyperion realized that the global design and development process had proven to save hundreds of thousands of dollars in localization expenses in comparison to the first translation project. In addition, current translation processes are finished in a fraction of the time.

Requirements

Definition and

Usability Evaluation

Benefits of international product requirement gathering and usability engineering activities (such as task analysis, user interviews, focus groups, and usability testing) were made clear when Hyperion incorporated into some products administrative control over busi-

ness processes to accommodate specific German requirements. In addition, task analysis sessions by U.K. users and representatives from Canada and the United States showed some key differences in business practices that needed to be supported by some Hyperion products. As a company, Hyperion understands the importance of gathering usability feedback from its global audience. Hyperion's commitment to its international user audience is exemplified through its usability activities in Singapore, Hong Kong, France, Sweden, Germany, United Kingdom, Canada, and the United States.

Flexible Approaches

Although establishing specialized teams and globalization processes is extremely important, the approach must be flexible in order to meet each product team's requirements. Not all teams have the same number of staff, some have never localized products before, and oth-

ers have been through the localization process so many times that they need little help. As a service provider to the Development teams, the Localization Group offers guidelines and templates as a way to determine the level of help needed by the team. For example, if a team does not want direct interaction with the vendor, the Localization project manager will have more work to do. Some teams require the Localization team's services only by consulta-

tion. Ordering teams to use the same process does not work. Each Development team might be at a different state in its adoption of localization. Being flexible and adjusting processes accordingly will ensure a smooth localization process. Hyperion holds a kick-off meeting at the beginning of each localization project. The main participants of the Development teams (Development Manager, Development Project

Manager, Quality Manager, Documentation Manager) are invited to attend as roles and responsibilities are discussed. Establishing who's doing what beforehand allows expectations to be set at the very beginning of the project and causes less confusion throughout the entire project.

How Flexible is the Internationalization Process Within Hyperion?

As noted earlier, the need to be flexible in the localization process is key. Different groups have different needs, depending on where they are in their development and localization maturity.

Hyperion established a set of guidelines for the different types of products. Existing, mature, and all new products are governed by a standard that they must function on predetermined language systems. Even if the product has no translation plans, the English-language product must work properly

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on non-English-language operating systems (Japanese, German, French, and many others). An English-language product that can function on a non-English-language operating system, can pass multibyte and accented characters through the product, and could be considered a truly internationalized product.

However for newly acquired companies, internationalization and localization requirements do not have to be realized immediately. Some acquisitions include the start-up company model, and the development processes are still maturing. In other cases, the acquisition target does not deal with overseas markets. Therefore with the guidelines and training provided by Localization and Usability Engineering, they are encouraged to

address globalization issues as soon as possible.

What's Next?

As many other global companies, Hyperion has learned and understood that cultural differences and varying regulatory restrictions cannot be overlooked. End users are continuously demanding that the products they use meet their needs, support their tasks, and, in most cases, be presented in their own languages. Increasing customer satisfaction levels globally will open new revenue avenues for global companies. With a flexible globalization process, Hyperion is ready to face the challenges associated with internationalization and localization and continue expanding in the global market. ☺



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