

Humanizing the Enterprise

Delivering Best in Class User Experience to Business Software Users

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Abstract. To deliver best in class user experiences to business users, design practitioners need to consider not just the user interface of applications, but the end-to-end customer experience. The enterprise software industry is undergoing a transformation as users expect simple, easy-to-use experiences from their business software. However, to deliver on this expectation, enterprise software vendors face three primary hurdles: The complexity of their customer's information technology landscapes, Complexity of business processes in their customer's organizations, and Lack of design skills in customer's IT organizations. This paper describes these changing expectations and unique challenges in enterprise software user experience design. It outlines the user experience strategy that SAP, a leading enterprise software company, SAP, has developed to overcome these challenges, and deliver best in class user experiences to business users.

Keywords: User Experience, UX, Strategy, UX Management, UX Leadership, Customer Experience, Human Centered Design, Information Technology,

1 Introduction

User Centered design practitioners are trained to study user needs and deliver well designed, efficient, effective and satisfactory user interfaces to address these needs. When designing enterprise software, however, such practitioners need to go beyond the user interface, and consider the end-to-end experience of both customers and business user.

Enterprise software refers to a software suite comprised of common business applications such as Human Resources, Financials, Supply Chain Management, Customer Relationship Management etc., along with tools for modeling how the entire organization works (e.g. task flows and business process flows). Enterprise software is typically purchased by companies and made available to its employees. Consumer software is typically acquired by an individual for his or her personal use, such as social networking apps, email, word processing, instant messenger, web browsing.

Business users have an increasing expectation for simple, easy-to-use, consumer grade experiences from their information technology landscapes. While this is the goal of enterprise software vendors as well, there are some unique challenges in delivering such designs into the hands of the end users.

This paper describes these changing expectations and unique challenges in enterprise software design. It also outlines the User Experience strategy of an enterprise software company SAP, to overcome these challenges, and deliver best in class user experiences to business users.

2 Changing Expectations

Consumerization is rapidly transforming businesses and business users expect simple, easy-to-use experiences from their business software. There are three main drivers for this trend:

2.1 Changing Technology

Not long ago, office workers experienced the latest technology at work, and older technologies at home. Today with the advances in mobile technology and the prevalence of social media and consumer websites, the situation is reversed. People use the latest technology in their consumer grade apps via mobile devices, consumer websites, social media and game consoles. Whereas, the business software that they use at work lags behind.

2.2 Changing Work Practices

The line between work and personal life is blurring. People work at home and shop at work. For example, it is possible that a person will make a personal purchase, and a business related purchase, on the same day, and perhaps on the same device. They cannot help but compare the two experiences. They click on “buy” on their consumer website, and the product arrives at their doorstep the next day. For their business purchases, the catalog is limited to only the company approved vendors, searching is not as convenient, they have to go through a multi-step approval process, and the item may take weeks to arrive. Furthermore, they may pay more for their business purchases. Why is the shopping experience on consumer websites so much better than their company’s procurement website?

2.3 Changing User Base

Another important factor is that the demographics of the enterprise worker are changing. The so-called digital natives¹ have entered the workplace. According to

¹ http://en.wikipedia.org/wiki/Digital_native

Wikipedia, a digital native is a person who was born after 1960, during or after the general introduction of digital technologies and who, through interacting with digital technology from an early age, has a greater understanding of its concepts. They have grown up with access to highly engaging video games and consumer software, and have similar expectations of enterprise software.

3 Unique Challenges to Enterprise Users

Enterprise software vendors, such as SAP are committed to meeting and exceeding these expectations. However, they need to overcome certain challenges that are unique to enterprise software industry.

3.1 Complexity of Technology Landscapes

According to CIO Magazine² organization's technology landscapes are increasing in complexity. This is primarily due to the heterogeneous and distributed nature of IT systems, which are facing increased pressure to adopt consumer technologies, support a mobile workforce, manage technical architectures, govern this workforce and ensure security in a distributed environment.

Accordingly to Mark McDonald, Garner's vice president of executive programs³, "the challenge of (IT) complexity is exacerbated by the fact that many organizations have technology systems built over time, or acquired through acquisitions or complicated by many waves of vendor consolidations. For these companies, moving forward requires an almost archaeological effort to unearth, understand and work with all these layers of sedimentary technology."

Therefore, even a simple upgrade to business software has a ripple effect on the already complex landscape. They need to go through a rigorous process of planning, implementation and testing such software upgrades, to ensure that the integration between systems is intact, and business reporting is still accurate.

From a user experience perspective, business software designers face the challenge of considering not only the efficacy of the user interface, but also the cost of adoption, and the additional technical complexity it introduces into the landscape.

3.2 Business Complexity

Businesses are becoming more complex, and the rate of change is faster than ever. Due to increasing globalization, a company's customers, suppliers, manufacturers, distributors may span the world. With globalization comes increased regulatory pressure and penalties of non-compliance.

² [http://www.cio.com/article/158250/
Consumer_Tech_The_New_Complexity_Add](http://www.cio.com/article/158250/Consumer_Tech_The_New_Complexity_Add)

³ <http://cxo-talk.com/mark-p-mcdonald-group-vp-gartner/>

While enterprise software is delivered to fit standard business processes, each company may have unique workflows. Business software designers are faced with the task of recognizing these unique needs of the customer, while enabling a simple, easy-to use experience for end users.

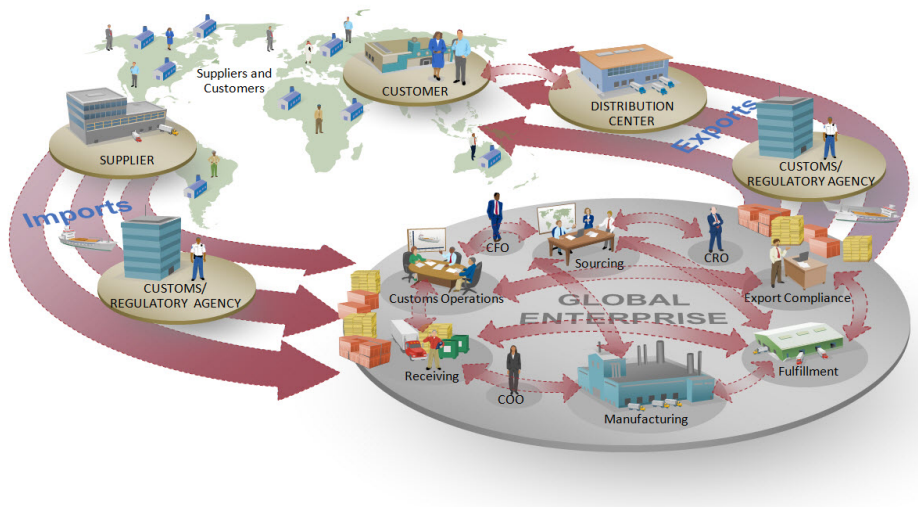


Fig. 1. Business is complex

3.3 Lack of Design Skills in IT Organizations

To address the technical and business complexity, enterprise software is customized and configured, by teams of consultants and IT staff. While these teams are typically comprised of people with technical skills who might also have knowledge of the business domain, they usually lack design skills. Therefore, they consider the technical and business requirements of the organization, but ignore the overall user experience. This leads to software that may be functionally complete, but does not take into consideration a human being who needs to use it to get their job done.

4 SAP’s User Experience Strategy

Headquartered in Walldorf, Germany, with locations in more than 130 countries, SAP, is a world leader in enterprise software and software-related services. Founded in June 1972, its flagship product is SAP R/3, an Enterprise Resource Planning (ERP) application that manages business operations.

Based on the client-server model, SAP R/3 was introduced over 20 years ago. While SAP introduced many new products with modern user interface technologies, these products have not reached the adoption level of R/3, primarily due to the challenges described above. From a user experience perspective, many end-users of SAP, experience SAP's user interface through technology that was a couple of decades old.

Many SAP users still use **SAP GUI**

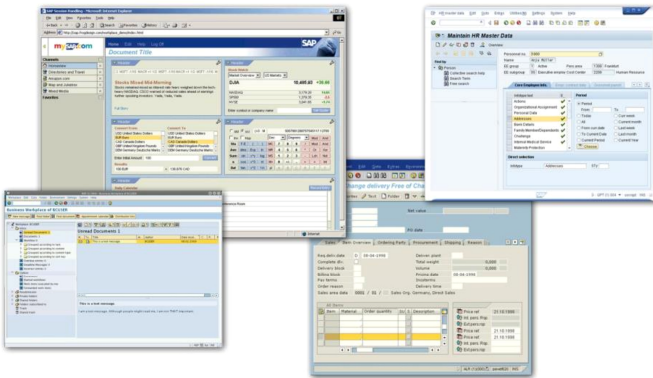


Fig. 2. SAP R/3 user interface

In 2013, to address these adoption issues and deliver best in class user experiences to their end users, the SAP decided to focus on three areas:

- Provide consumer-grade user experience for **new** applications for new business scenarios
- **Renew** existing applications by improving the user experience of the most broadly and frequently used business scenarios
- **Enable** customers to configure and customize the user experience to meet their own unique business processes

This product experience strategy is complemented by a cohesive services strategy. SAP offers Design Services to translate their UX strategy to the needs of the customers, and transform the experience for their business users.

5 New

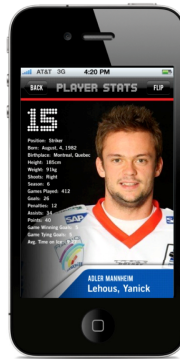
Have you seen these **consumer apps** from SAP?



Recalls Plus



PhotoTribe



Fan Experience



MyRunway

SAP launched a series of new consumer applications to enable our customers to reach their customers using the power of big data.

For example, owners of sports franchises can connect to fans directly through SAP's sports apps. This consumer application enables sports fans to access player statistics and buy fan merchandise through their smart phone. For the first time, this application enables sport arenas to know exactly who attended their sporting events. Ticket sales are an unreliable indicator, since tickets can be purchased on behalf of others. Additionally, a typical fan who is engrossed in the game is less likely to leave their seat and buy sports merchandise even if they may want to. This app provides options for fans to make purchases without leaving their seat.

5.1 Renew

The strategy is also driving the renewal of the experience for the most broadly used SAP functions. SAP introduced Fiori in 2013—a collection of apps with a simple and easy to use experience for broadly and frequently used SAP software functions that work seamlessly across devices desktop, tablet, or smartphone.

Fiori allows enterprises to leverage their existing investment in SAP and deliver easy to use, responsive applications to the end-users of these applications.

These applications are architected to be introduced into the customer's landscape with minimal disruption. The user interface design is based on the following principles:

Role Based. While traditional business software attempts to maximize features and do all things for all people, Fiori starts with a clear definition of the user and their role in the organization.



Fig. 3. Fiori

Responsive. Using HTML5 technology for the front-end, Fiori code is written once, and can be accessed via a desktop, tablet and mobile device. It is vendor agnostic and works with Apple, Microsoft and Google devices. This reduces complexity for SAP and the customer. The level of user experience degradation in using HTML5 versus a native technology is minimal.

Simple. Fiori applications strive for simplicity. The designer's rule of thumb is 1:1:3 – one user, one use case and three screens. While this is not absolute, it gives designers a framework to analyze business requirements. If the business team wants to cram multiple use cases onto the UI and the application is expanding to many screens, it may be time to pause and break up the app into its simpler parts. The team is encouraged to design multiple applications instead of combining all functionality into one.

Coherent. All Fiori apps have a single navigational paradigm and layout. This has obvious benefits to end users who can leverage this across multiple apps. While the navigation and layout remain consistent, designers are free to design the application content in the best way to fit the use case

Instant Value. Fiori apps must provide immediate value to customers without a lengthy implementation process. By leveraging the existing investment as much as possible, Fiori rapidly delivers value into the hands of end-users in days instead of the typical months.

5.2 Enable

SAP UX strategy recognizes that no matter how good the standard design, each customer has unique business needs. SAP delivers a set of robust and a set of easy to

use tools to customize, configure and personalize the experience of all its major technology offerings.

5.3 Design Services

The final part of SAP's UX strategy is offering Design as a Service. SAP created Design & Co-Innovation Centers staffed with experts in:

- User Research – user interviews, observation, usability testing
- Interaction design – screen flows, low and high fidelity mock-us, design specifications
- Visual Design – branding, visual language (color, typography, logo)
- Design Thinking – coaching, moderation, storyboarding

The team uses the Design Thinking (DT) methodology with customers to co-create a solution that meets their needs. The DT process consists of the following steps:

- Understand the business objective
- Observe the end users
- Define a point-of-view
- Ideate on design solutions to the problems identified
- Prototype a design solution
- Test the prototype with customers and iterate based on feedback

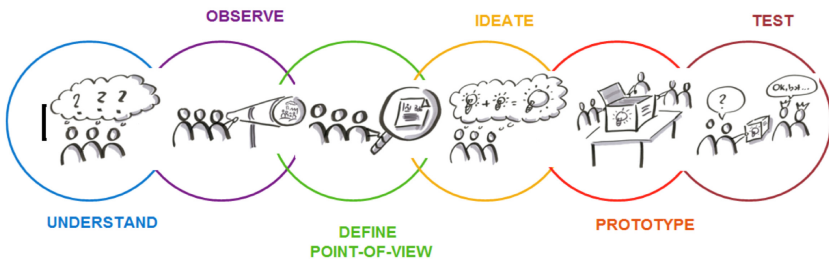


Fig. 4. Design Thinking process

The Design Thinking method is iterative and allows the customers and end-users to play an active role in shaping the design outcome. This increases the ultimate adoption of the new implementation since the business users are more invested in the results.

Here are a couple of examples that illustrate this aspect.

An Example – Redesigning a Financial Dashboard. In this project, the customer's IT Department received requirements for a financial dashboard from their stakeholders. As is typical for IT departments, they did not have any user experience designers on staff. The IT staff implemented the dashboards based on the technical specification

with minimal interaction with the end users. Upon launch, end-users did not adopt these dashboards readily. They complained about usability and look-and feel.

The customer engaged the SAP Design Services team to remedy the situation. Since there was minimal user involvement in the earlier attempt, the designers from SAP leveraged the design thinking methodology and engaged the end user community. They interviewed them to understand their information needs. They observed how these users analyzed the information and how end users resolved issues that they identified. Based on insights, from these observations, the SAP design services team redesigned the dashboards. They gave visual prominence to the most important information; they organized the information to make it easy for analysis, and changed the visual look and feel to match the customer’s brand.

The Line of Business (LOB) welcomed these changes and the introduction of design thinking and human centered design practices, helped remedy the relationship between the LOB and IT Department.

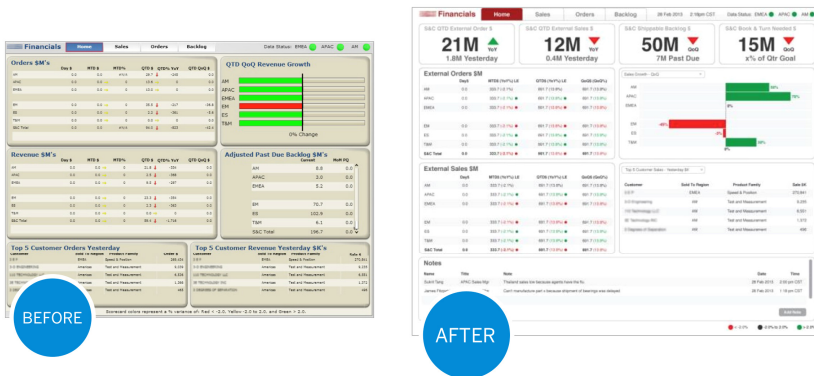


Fig. 5. Redesigning a Financial Dashboard

Reduced number of clicks by 43% from 45 to 26 clicks

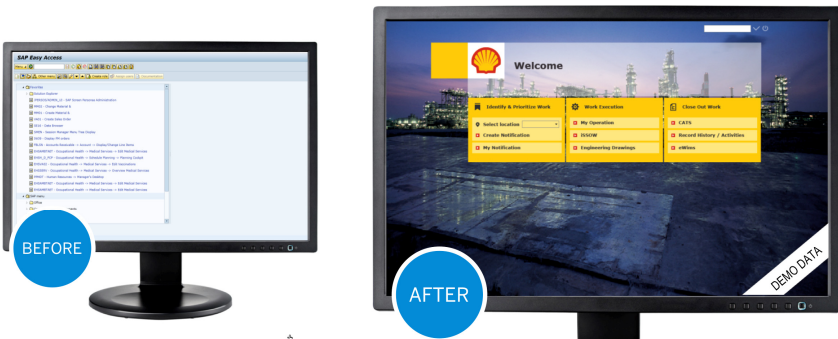


Fig. 6. Increasing user productivity through simplification

Increased User Productivity through Simplification. In this example, the end users needed a system for a specific set of use cases. The standard implementation that IT had created exposed significantly more functionality than required by the end-user. The large number of errors and the resulting loss in productivity frustrated users.

The SAP Design Services team analyzed the usage patterns of the customers. This led them to simplify the experience by removing unnecessary information. These changes reduced the number of clicks by 43% thereby reducing the error rate and significantly increased productivity.

6 Next Steps and Challenges Ahead

The initial reaction has been positive, and there are significant opportunities to expand the scope of design services for SAP. However, scaling these offerings to meet the increased demand from customers, while ensuring uncompromised quality is one of the challenges ahead.

SAP now offers a service to build a UX Center of Excellence in the customer's IT organization to help them be self-sufficient. SAP will help hire the appropriate staff, and set up the team based on the customer's organizational needs. SAP will also train the staff in Design Thinking.

7 Conclusion

Expectations are rising for high quality user experiences in business software. Enterprise software design presents a unique set of challenges to designers. This paper, outlines these challenges, and describes one enterprise vendors approach to addressing them, deliver best in class user experience to business software users and thereby humanize the enterprise.