

Study on B2B Cross-border E-commerce Website Design based on User Experience Element

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Abstract. Aiming at the dilemma in B2B cross-border e-commerce transaction faced by global trading enterprises, a self-built cross-border e-commerce website solution based on user experience elements model is proposed. This article takes Top China Furniture(TCF) company's marketing and transactional cross-border e-commerce websites as an example, explores how the user experience elements model are used to analyze and design the website on the strategic, scope, structural, skeleton and presentation levels, and help enterprise meets user needs and business goals by the website.

Introduction

With the rapid development of cross-border e-commerce in China, competition of trading companies in B2B cross-border e-commerce platform, such as Aliexpress.com and DHgate.com, becomes fiercer, and the operation costs in those platform are getting higher. Businesses gains relatively low compared to their high operation cost on those platform. Thus, many companies are starting to build their own websites to enhance brand influence and obtain overseas orders. While most of these self-built e-commerce websites are traditional websites for product and service information display, which are lack of persuasiveness and has low website conversion rate. Therefore, how to plan and design the cross-border e-commerce website for trading companies to fulfill their business strategic objectives and meets the needs of their users is a subject worth researching and exploring.

The Elements of User Experience

User Experience (UX) refers to a person's emotions and attitudes about using a particular product, system or service. James Garrett proposes the process of website creation, clearly defining five elements that go into planning and implementing a website, including strategy, scope, structure, skeleton and surface [1]. The strategy level concerns user needs and business goals; and then the strategy is translated into scope through the creation of functional specifications or content requirements; In structure level, information architecture or interaction design is designed based on the website scope; The skeleton level breaks down into information design, interface design and navigation design; The surface design concerns visual design of website.

Strategy Level

To build a cross-border e-commerce website, foreign trade companies should identify business goals and understand their customer requirement first, and then design the website according to the five user experience element model. This paper takes Top China Furniture Trading Company (TCF) as an example to illustrate the analysis and design process of its website.

Business Goals. TCF is a professional commercial furniture manufacturer established in 1997, and has been honored as one of "Global Network Merchants Top 100" by Alibaba Merchant Campaign. While in recent years traditional furniture trading supply chain has been changing gradually, overseas furniture purchaser and wholesaler disappeared due to the development of online

business, Chinese furniture manufacturers' most important customers have been overseas furniture retailer. This means TCF Company has to change the old way of marketing and sales. The company sets some overseas warehouses in Europe and America which can deliver furniture to customer as soon as possible. The company has its own website in Aliexpress.com and DHgate.com, while running overseas warehouse business process through those websites is very time-consuming and inefficient. So the company hopes to build a new company website to support their overseas warehouse business which can take customer orders directly instead of displaying product and service information as a marketing website.

Customer Requirements. TCF's current customers distributes all around the world, their requirements are mainly collected from quantitative and qualitative approach, including manager interview, customer interview, customs transaction data, global furniture and accessories purchaser directory and company's historic transaction records. After in-depth study on the above data and information, persona of TCF's customers is modeled by geography distribution, customer segmentation, purchasing scene, and purchasing behavior. Table I summarizes the customers' requirement through user persona.

Table 1 User Persona of TCF Company

Customer Attributes	Description
Geography Distribution	Europe, America, Southeast Asia, South Africa, Russia
Customer Segmentation	Independent online furniture retailer
	Offline furniture retailer
	Seller of third-party trading platform
Purchasing Scene	Order goods online after taking customer's order
	Need quick trading process to satisfy their customers
Purchasing Behavior	Unfamiliar with offline trading process
	Searching for products with high performance cost ratio
	Fragmented orders
	Small orders no more than 10 thousand dollars
	Access Internet on mobile phone and PC

From table I, it can be seen that most overseas furniture retailers' orders are fragmented and small; even one piece of furniture might be ordered due to their customers' needs, and their purchasing period need to be short and frequent. Those retailers are not quite familiar with offline trading process, so they wish the new company's website can simplify the trading process.

Scope Level

At the scope level, the user needs and business objectives of the strategic layer are translated into functional descriptions and content requirements for the website. At the functional level, it is embodied in the functional description of the website; at the information level, the scope layer is embodied in the form of content requirements [2]. The TCF cross-border e-commerce website considers the marketing needs and online sales needs of the company, and incorporates the design concept of the marketing concepts in the website, that is, the content of the website should reflect trust, persuasion and mobility, and combine the user portrait. Moreover, the target user's purchase scenario

and consumer behavior, transforming the company's business objectives and customer needs are integrated into the content and functions of the website as shown in Table 2.

Table 2 Content and Functionality of the Website

Customer Needs and Business Goals		Content/Functionality
Customer Needs	Searching for products with high performance cost ratio	Product/service advantage
		Customer feedback
	Unfamiliar with offline trading process	Online settlement and payment
		Shopping cart
		Overseas warehouse selection
	Quick trading process	Register and log in
		Message board
		FAQ
Searching		
Small orders no more than 10 thousand dollars	check and confirm orders	
Access Internet by mobile phone/PC	Single piece undertaking	
Business Goals	Branding and Marketing	Responsive Web
		Company history
		Sales information
		Product/service list
		Product details
		Contact information
	Online Transaction	Quality certification
		Check open orders and shopping cart by admin
		Product information maintenance by admin
		Modify amount of orders by admin
		Order settlement

Structure Level

In this level up from scope, a conceptual structure for the site is developed, interaction design and information architecture are concerned to understand user's behave and think.

Interaction Design. Interaction design concerns the options involved in performing and completing tasks. Conceptual model is created to explain users' impressions of how the interactive components will behave. According to analysis of scope level, except for browsing product and service information, the website should accomplish the functionality of user register, login, shopping cart, order payment and settlement. Figure 1 shows the online trading process of TIC Company.

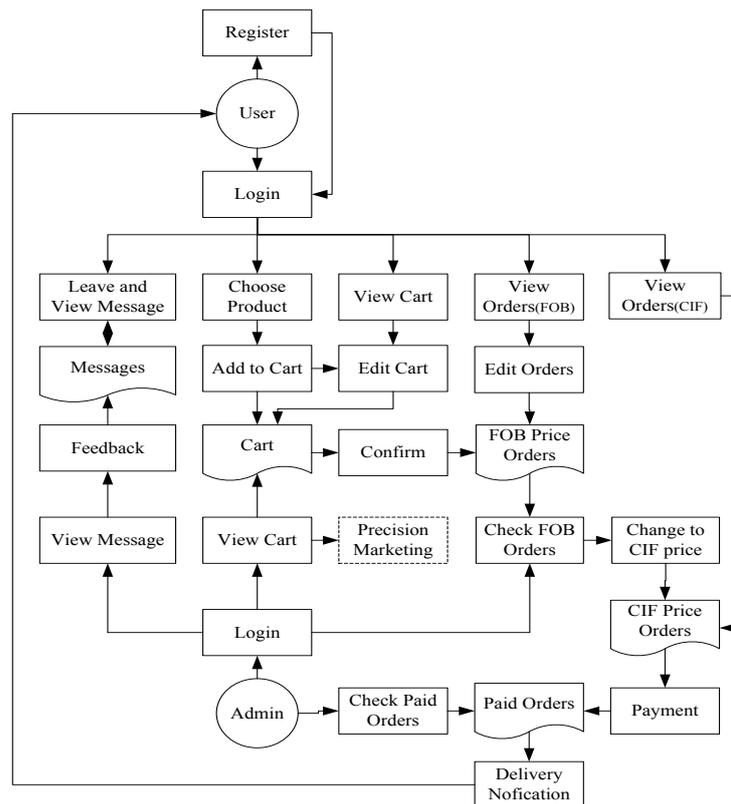


Figure 1 The Online Trading Process of TCF Company

As shown in the above figure, due to the complexity of international trade process, after customer selects their products and moves into payment process, the website admin should change the product FOB price into CIF price according to the current tax policy and insurance cost. The whole process can reduce transaction period dramatically due to simplified online operation, which can release small business trader from complex trading processes.

Information Structure. Information architecture deals with the options involved in conveying information to a user. On content sites, information architecture is concerned with creating organizational and navigational schemes that allow users to move through site content efficiently and effectively. In scope level, all the information users need has been listed in the table 2, and these elements are the bottom elements need to present to users. These low-level categories are grouped together and then grouped into higher-level categories; finally a structure that reflects TCF company's product objectives and user needs is built as figure 2

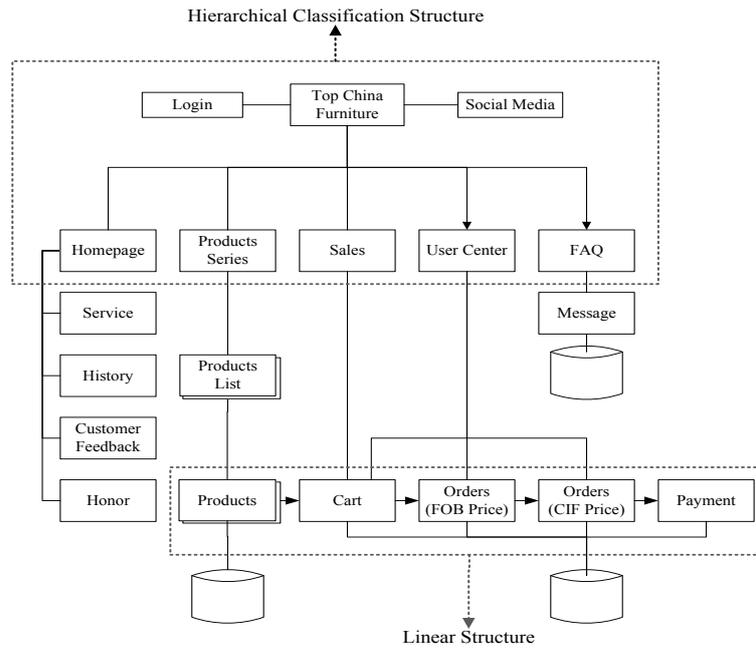


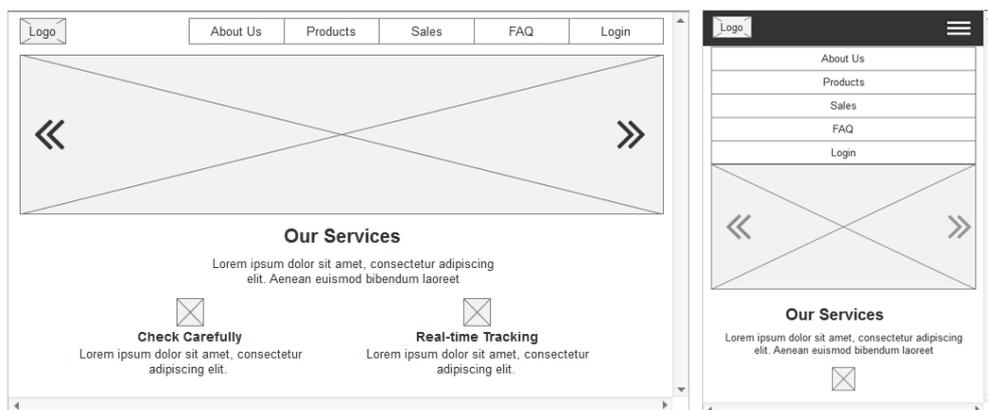
Figure. 2 Information Structure of the Site

As shown in figure 3, the whole information architecture of the website is a mixed structure, which includes hierarchical classification structure and linear structure. Second level of the whole structure is the main navigation of the site and presents the most important information of the company, user can search products, find sales information and leave message in this level. The quality of the main navigation is less than seven, which helps users get the whole picture of the site clearly and quickly. When users decide to buy specific products, they start the order process, initiating from adding products to cart page or generate orders page directly. This process is linear structure avoid system error due to process interruption [3].

Skeleton Level

On the skeleton level, as a informative and functional website, interface, navigation, and information design that will make the intangible structure concrete is further refined.

Humanized Interface Design. The interface design is responsible for selecting the right interface elements to help users meet their needs. These interface elements need to be easy to understand and use. The TCF interface uses a responsive interface design that allows users around the world to browse websites or order processing on PCs, PADs, mobile phones and other end devices anytime, anywhere. Figure 3 shows the index page of both on PC and mobile device.



Figur. 3 Responsive Web Design

Navigation Design: At the top right of the website shown as figure 4, the main navigation that always exists can easily let users jump on the secondary pages of different websites. For users who access product information, the local navigation on the left side of the website can make them switch in different product series easily; breadcrumb navigation at the top right of the product list gives users a clear idea of their access path.

The product details page has a fixed positioning content navigation on the left side of the page due to too much product detail information, which makes it easy for users to find the product description classification after reading a large number of product details.

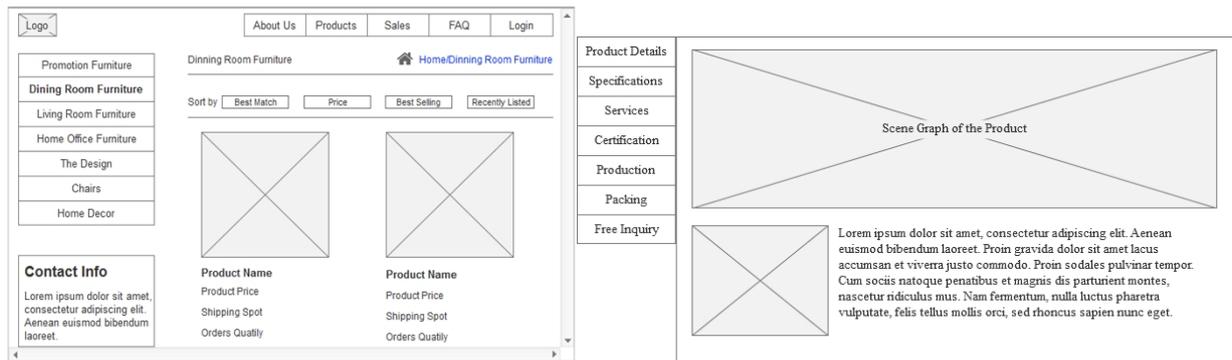


Figure. 4 Navigation Design of the Website

Presentation Level

Throughout the design process, the presentation layer is the last stop for users: deciding how the final design will be felt by the human sensory organs, from the perspective of the website, how to visually attract users to stay longer on the website, complete the strategic goals of the website.

As a marketing and trading website, the TCF website needs users to be attracted by the graphics of the products as much as possible, find the products that they are interested in, and finally be convinced by the website graphic information to complete the purchase. TCF's website makes full use of the principle of visual marketing elements in the visual layer design, and carries out the visual design of the page according to the steps of “knowing goods – changing attitudes – product purchase”, and inducing users to complete purchases through graphic combination at different levels of pages [4].

Attention. The focus images shown as figure 5 uses four banner pictures provided by the company, and the color, style and standard colors are very attractive. At the same time, on the focus image, a copy of the company's introduction, product advantages and enterprise scale is reflected, so that customers can generate trust at the first time and interest in the products.

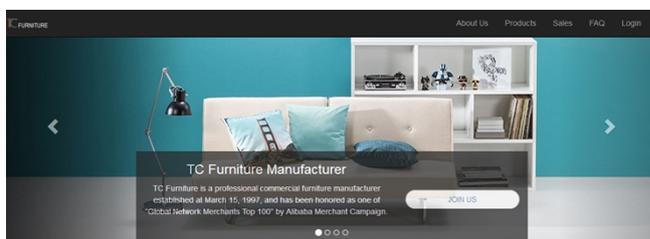


Figure. 5 Focus Images on Index Page

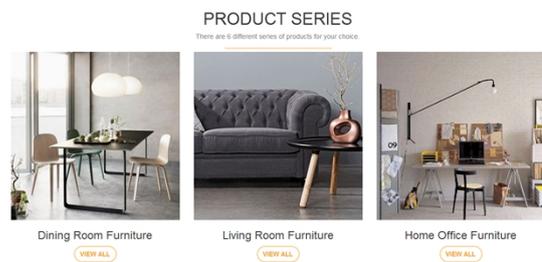


Figure. 6 Scene Picture of the Website

Desire. When a customer is interested in the product and then browses the product details, the product scene map shown as figure 6 is placed on the product list page and at the top of the product details page, which can highlight the product quality and beauty. Scene images can trigger customer's desire through realizing the value and functions of the furniture.

Trust. In product detail display, the product description, including size, model, new product features, color selection, etc. are placed, the picture is clear and beautiful, and the customer's trust is enhanced.



Figure. 7 Product Detail



Figure. 8 Product Specification

Action. On the product details page, the website also sets product specifications Information, as service guarantee, enterprise qualification, production process display, packaging process and other aspects of the user and product concerns, to help customers make their purchase decision and enhance the conversion rate.

Summary

Self-built websites have become an unavoidable direction for cross-border e-commerce companies. Starting with understanding customer's demand and enterprise's goal thoroughly, and then translate the demand and goals into scope level as website content or functionality; in structure level, a clearly information structure or business process are designed based on scope level; in skeleton level, interface layout, navigation and information are organized as their best way based on customers and the business demand; finally, a visual design should be done in order to transfer the key information to customer from perspective of human sensory organs in presentation level.

References

- [1] James Garrett: *The Element of User Experience* (New Riders Publishing, USA, 2002)
- [2] W.J. Hu: *Website UI and User Experience Design* (Electronic Industry Publishing, China, 2017)
- [3] Y. W. Xu: *Information Architecture 100* (BNN. Inc, Japan, 2009)
- [4] M. Wedel: *Visual Marketing: From Attention to Action* (Psychology Press, UK, 2007)
- [5] Information on <http://www.eidea.net.cn/news-dtl.php?id=145>
- [6] Information on <https://www.sumaart.com/share/1071.htm>