Retail stores Ergonomics: the influence of layout on clothing stores
Pacheco, Carine Adames; Bins Ely, Vera Helena Moro; Cavalcanti, Patrícia Biasi.
Universidade Federal de Santa Catarina (UFSC), BRAZIL.

Introduction: A number of studies have been conducted on points of sale aiming to offer subsidies that might help to improve the store atmosphere and thus induce the customer to purchase more. However, there have been very few studies that look into the points of sale layout and examine aspects such as sectorization and furniture/equipment distribution around the retail space that should ideally provide both employees and customers with comfort, safety and well-being. This paper aims to contribute to the reflection on the subject through the study of ergonomics criteria for planning the retail store layout. To this end, we sought to characterize the store environment and the tasks developed therein, besides identifying employees and customers' behaviors in these commercial spaces. No specific issues regarding furniture design will be analyzed; our study is limited to those aspects that have influence on the layout. The research is exploratory, qualitative, and interdisciplinary as its theoretical foundation draws upon other areas of knowledge beyond Ergonomics: Marketing, Visual Merchandising, and Environmental Psychology. This study has also benefited from practical and professional expertise of both architects and interior designers who work in retail environments, and it has achieved more foundation from the analysis of two clothing stores.

Method: Field research was carried out at two chain stores that feature clothing for men and women, and are located in large shopping centers in Florianópolis (SC, Brazil). A multi-approach method included Space Survey, Observation Videos, Walkthrough Analysis, and Behavioral Mapping. Each of the outlets has four cameras in different positions. Through their images, direct and systematic observations of behavior were performed in several intervals of 10 and 15 minutes. We sought to diversify the days and times of these observations, preferring the busiest ones - at night and on weekends. Besides employees, 33 consumers were observed in shop A while 27 shoppers were observed in store B. The Walkthrough Analysis, which is an interview with a group of users carried out while one goes around the place, was held during a morning shift at each point of sale. In store A, we had the participation of the manager and a female sector shop assistant whereas, in shop B, we had the manager and two shop assistants. Finally, during a workday at each point of sale, we developed the Behavioral Mapping aiming to deepen the understanding of the relationship between a user's activities and the store layout. In shop A, we analyzed the activities of the manager, the cashier's, 9 shop assistants, and 101 customers. In store B, we observed the behavior of the manager, 3 salespeople’s, and 102 consumers.

Results: In both stores studied, few problems for performing daily activities by users were identified, probably because both belong to a large retail chain in which there is a prior and careful environmental planning as well as continued suitability for use. However, it was possible to identify some constraints, among which we highlight: some users have difficulty going upstairs in the two-floor store, there are few sitting places for both staff and escorts, and the fitting-room area is too small to accommodate escorts. In addition, other aspects that are also significant for planning future stores have been identified, such as the width of the shop windows; the inexistence of side tables near the displays; areas for product evaluation; sizing of the circulation area, the fitting-rooms, and the cash desk; easy visual and physical access to products, and efficiency of the support areas for incoming products, administrative functions, inventory and support staff (UGAYA, 1993; GREEN, 2001; PANERO; ZELNIK, 2010).
**Discussion:** There was no difference between the results obtained with each method, but their combination was essential to confirm the data obtained, and also to complement the gaps left by either method. We have also observed that most existing research focuses almost exclusively on customers and on how to entice them to buy, not exploring the needs both customers and employees might have for carrying out their tasks. Thus, we can conclude that problems related to the layout, especially when it concerns the design of some areas such as fitting-rooms, cash desk, and support areas, arise from the conflict between what is best for maximizing sales and what is best for the satisfaction and comfort of users. Ultimately, it is the designers’ responsibility to tackle the challenges of balancing such goals within these environments.

**Keywords:** Retail Store, Ergonomics, layout, users.

**References:**

