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The Impact of Kitchen Layout on Employee Job Performance

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Abstract: *The establishments design a kitchen thinking of the maximum use of the space. There is one most important factor is the comfortability of the employee and the ergonomics involved in it. The kitchen is expected to perform superiorly on many criteria compared to other areas. When examining the scientific studies conducted on the performance of kitchen designs, one finds that they are basically divided into two groups. The first group includes issues related to the performance of industrial kitchen products. The work done in the remaining group describes basic design rules to increase the efficiency of kitchen design. However, a study examining the effects of any kitchen design rule on kitchen functionality in a comparative way was not found in all the resources obtained. Accordingly, the objective of the study has been described as determining the effect of each design rule utilized for improving the kitchen design performance on the functionality of the kitchen. To study this topic references of various related journal articles have been referred.*

Keywords: Ergonomics, Kitchen Design, Kitchen Functionality, Kitchen Design Performance

I. INTRODUCTION

People are starting to doubt quantifiable metrics like "efficiency and performance" because of the intricate functions that underlie design. There was an exploration of the relationship between these two fundamental elements, particularly with Louis Sullivan and the idea that form follows function. strategy,as a result, different strategies have been put forth by scholars and practitioners to enhance design performance (Kalay, 1999). Furthermore, the British Construction Industry Council (CIC) introduced the Design Quality Indicator (DQI) as a tool for assessing design quality (Jennifer Whyte, 2003).High-quality projects can be produced and user needs can be optimally satisfied in this approach (Deniz Ayşe Yazıcıoğlu, 2016)

The constant drive for efficiency and customization to meet the unique demands, specifications, and preferences of each user led to the prefabrication of the kitchen. (Luis Ibarra, 2006). The kitchen historically has served as an ideal place in a hotel and prefabrication due to the need for efficiency and the context of ongoing industrialized invention—including every conceivable element for making the processing of food easier, such as, for example, computerization. (S. Ganzerli, 2000)

Objective:

To determine whether there are correlations between the Kitchen Layout and employee job performance.

II. RESEARCH METHODOLOGY

The research is completed by referring to various research articles published in peer-reviewed journals, periodicals, magazines

III. LITERATURE REVIEW

Nowadays, the concept of the work triangle is used as a guideline for kitchen designs and aims to plan out efficient kitchen workspaces with minimal traffic through the work zones (Kitchen layouts and consumers' food hygiene practices: Ergonomics versus safety, 2022). Similar to the restaurant and industrial kitchen layouts (Jennifer Whyte A. S., 2010). The goal of the kitchen triangle, the centerpiece of most kitchen layouts since the 1940s, is to create the best work area possible in this busiest of rooms. Since the three most common work sites in the average kitchen are the

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cooktop or stove, the sink, and the refrigerator, the kitchen work triangle theory suggests that by placing these three areas in proximity to each other, the kitchen becomes more efficient. According to the National Kitchen and Bath Association (NKBA), each side of the triangle should be between 1.2 and 2.7 m and add up to a total of 4–7.9 m. If these work sites are placed too far away from each other, many steps are necessary to move from one work zone to another, which means a lot of time wasted during meal preparation. Meanwhile, if they are too close, the workspace becomes too narrow, making it difficult to properly prepare and cook meals. With the exception of one-wall kitchens (linear), the work triangle can be applied to all the kitchen layouts such as galleys, L- and U-shaped, L-shaped or linear with island, L-shaped or U-shaped with peninsula. Despite being recommended, the work triangle was laid out for ergonomic reasons and not for safety purposes during food handling and preparation. Additionally, designers' advice and consumers' priorities are mostly aimed at kitchen arrangement trends, appliance design, and functionality rather than food safety considerations. Since the domestic environment is one of the most common sources of foodborne outbreaks, a design that would increase the frequency of the cleaning actions for hands, cutting boards, knives, etc. could reduce the number of cross-contamination (CC) events during meal preparation and minimize the risk of foodborne illness.

As per the research conducted by Fujii, Kaihara, Uemura, Nonaka, &Shimmura (2013) and Pehkonen et al. (2009), there exists a plethora of contemporary kitchen layout designs available in the market. These layouts are often divided into two categories: Open-planned kitchens and Closed or divided kitchen areas. In 1993, the School of Architecture's "Building Research Council". The refrigerator, the sink, and the three main kitchen functions—food preparation, storage, and cooking—formed the basis of the concept of the kitchen work triangle, which was formalized by (University of Illinois) at Urbana-Champaign. The most common kitchen layouts, as noted in the writings, are the one-wall L-shaped, G-shaped, and U-shaped. Certain kitchen layout designs, including the L-shaped and G-shaped designs, are more suited for housing multiple cooks or kitchen staff members within the working area. This fosters regular, healthy, unplanned interactions between a manager and a staff member as well as collaboration among coworkers on instructions and directives, all of which improve worker satisfaction, organizational commitment, and output (Pratten, 2003; Spanu, 2013). According to Gutnick (2007), optimizing productivity in the kitchen requires not only a healthy degree of communication but also individual motivation. The kitchen's physical layout plays a major role in this regard. Even if a lot of managers and company owners want to live with a small number of kitchen furniture and accessories, they might be missing out on something that could be a significant barrier to raising worker productivity. Fostering a sense of "place" among employees should be highly valued in order to guarantee that quality workers are provided with a workspace they can call their own. stated in an article that management that can effectively inspire staff members in a supportive setting is necessary for a productive work environment. An employee's level of productivity in the kitchen and at work is greatly influenced by their environment. Open-plan offices, where employees work in spacious, open areas with minimal physical barriers, were introduced into the kitchen with the goal of fostering a sense of community among coworkers and giving them a sense of belonging to a more laid-back, innovative company. But "the consequences of open offices are fairly straightforward psychologically." Psychological privacy and physical barriers are intimately related, and job performance is enhanced by a feeling of seclusion. As a result, although the open layout facilitates collaboration, it degrades the caliber of individual effort. It enhances teamwork and communication in the workplace in certain ways, but it has a detrimental effect on creativity and rarely helps with it. People in one research complained about being too noisy and not having enough privacy In light of these considerations, the kitchen's layout should facilitate employees' performance of their jobs, simplify the work process, and minimize noise.Chow, Alonso, Douglas, and O'Neill (2010) noted in their study "Exploring open kitchen's impact on cleanliness's perception" that as food preparation workers are so important to food safety, it is necessary to look at the elements that affect their behaviour. According to Hertzman and Barrash (2007), staff performance is impacted by a poorly designed kitchen. Even though nobody intentionally designs a bad kitchen layout, it frequently occurs when new staff members are employed and new supplies and equipment are introduced to the space over time. Employee overstretching, prolonged sitting or standing, or uncomfortable postures during cooking could result from this. This makes it tough to work in the kitchen, takes too long to prepare meals, and doesn't provide a secure environment where higher performance can be delivered. Consequently, the researchers aimed to evaluate the extent of employees' understanding of kitchen layout

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design and its impact on workers. The study used three company kitchens in Ghana's Takoradi city, using an exploratory and qualitative survey design.

IV. CONCLUSION

The study's conclusions indicate that the equipment utilized in the kitchen, together with its layout, provides ample room for the kitchen crew to work. This makes it simple for them to go from one station to another and increases their productivity so they can finish their work more quickly. Additionally, the way the responders' kitchen is set up makes their jobs relatively simple, which helps them be productive all day long and stay rested for the next day's duties.Lastly, a well-designed kitchen layout reduces issues like stress, respiratory issues, physical aches and pains, and headaches, all of which make workers more productive and motivated to work.

Kitchen employees should receive training on the idea of their kitchen layout and its benefits in order to increase production.In order to prepare kitchen workers for the latest trends in kitchen layout designs and equipment, particularly when new equipment is installed, on-the-job training should be provided.When setting up kitchens, all parties concerned should consider the type of work being done at each location and plan the layout to maximize productivity.

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