

ABSTRACT

In contemporary cities, the intricate interplay between urban morphology and retail shop density is critical in shaping the character and functionality of settlements. However, as cities evolve, it is imperative to understand how the morphology of settlements relates to the spatial organization and density of retail shops within the urban fabric. Therefore, this study examines the relationship between urban morphology and retail density in the planned and unplanned settlements of Kisumu City, Kenya. The specific objectives were: i) to establish the relationship between street metric properties and retail shop density; ii) to determine spatial intelligibility and synergy of settlements and their association with retail shop density; iii) to examine selected street qualities and their association with customer copresence and retail shop density; and finally, iv) to determine the correlation between building materials and retail shop density. The study was based on a cross-sectional survey design and was guided by the theories of space syntax, central place, and bid rent. Data for the first and second objectives were collected through inventory surveys and analyzed through spatial kernel density analytic estimation, axial line analysis, and regression analysis. For the third and fourth objectives data was collected using closed-ended questionnaires and observation checklists respectively, and analyzed using analysis of variance. The findings for the first objective revealed significant associations between street metric properties and retail density in various settlements, rejecting the null hypothesis at a 0.05 significance level. Connectivity and control metrics were more significant in Migosi and Arina respectively, while choice metrics were more significant in predicting retail shop density in Manyatta and Nyalenda. On objective two, findings on synergy indicated a stronger relationship between local integration (R_3) and global integration (R_n) in Manyatta ($R^2=0.6777$) but not in Nyalenda ($R^2=0.4949$), Migosi ($R^2=0.4881$) and Arina ($R^2=0.3461$). However, the informal settlements of Manyatta and Nyalenda showed better intelligibility ($R^2=0.3752$ and $R^2=0.2496$) than the formal settlements of Migosi ($R^2=0.1380$) and Arina ($R^2=0.1744$). Intelligibility results showed relatively low scores in each settlement underscoring the need for improved citywide accessibility and interconnectivity of streets. Intelligibility and synergy exhibited a statistically significant relationship with retail shop density rejecting the null hypothesis at a 0.05 significance level. Results on objective three identified significant correlations, emphasizing the importance of factors such as street width, amenities, and safety. However, certain attributes like street lighting and spatial competition exhibited non-significant associations. Finally, on objective four, significant associations were observed with roofing and walling materials, while flooring materials showed a non-significant correlation. The study concluded that street metric properties impact retail shop density differently across settlements. All the settlements were unintelligible highlighting the necessity for improved connectivity and walkability. The study recommends enhancement of the quality of street metrics by planning for mixed-use zoning, transit-oriented development, pedestrian-friendly design, diverse retail mix, and active retail storefronts. Strengthen the intelligibility and synergy of settlements by ensuring clarity of urban layout design, installation of pedestrian pathways, and enhancing the visibility and safety of the settlements. The quality of streets can be improved by widening streets, sidewalk expansion, surveillance cameras, and well-lit spaces. Furthermore, the use of quality building materials can be achieved through zoning and building codes, capacity building, incentives and subsidies, design guidelines, public-private partnerships, monitoring and enforcement.