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Analysis on Elements in Pedestrian Environments to Revitalize the Commercial Street

Soeun Kim^{*}, Seungjoon Yoo, Noory Han, Jeasun Lee

Department of Urban Planning & Engineering, The Graduate School, Yonsei University, Seoul, South Korea

^{*} Correspondence: rlathdms64@nate.com

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ABSTRACT

In the past, rapid economic growth in South Korea led to urban spaces that lack street planning and inconvenient environment for pedestrian. However, in recent times, efforts to resolve existing urban issues and enhance pedestrian environments through urban regeneration increased, and efforts to create pleasant pedestrian environment and vitalize streets are mostly applied into commercial streets. The purpose of this study is to examine analysis on elements in pedestrian environments to revitalize the commercial street. This study selected two streets as vitalized and unvitalized streets and conducted statistical analysis. As a result, first of all, different determinants of pedestrian environment between vitalized and unvitalized streets are deducted as entrance, lot area, building set-back, street width, total ground area, and perchable space. Second, determinants in terms of accessibility are deducted as street parking spaces, local integration, and connection. Third, the determinants of lower-level businesses are deducted as clothing and miscellaneous goods, beauty shops, and vendors. Finally, variables that give positive impacts on street commercial vitalization are drawn as perchable space, and local integration, whereas variables that give negative impacts are drawn as lot area and beauty shops.

Keywords: Urban regeneration; Pedestrian; Commercial street vitalization; Pedestrian environment; Depthmap

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ANALYSIS ON ELEMENTS IN PEDESTRIAN ENVIRONMENTS TO REVITALIZE THE COMMERCIAL STREET

Soeun Kim*, Seungjoon Yoo, Noory Han & Jeasun Lee

Department of Urban Planning & Engineering, The Graduate School, Yonsei University, Seoul, South Korea

**rlathdms64@nate.com*

www.nzaar.com

Abstract

In the past, rapid economic growth in South Korea led to urban spaces that lack street planning and inconvenient environment for pedestrian. However, in recent times, efforts to resolve existing urban issues and enhance pedestrian environments through urban regeneration increased, and efforts to create pleasant pedestrian environment and vitalize streets are mostly applied into commercial streets. The purpose of this study is to examine analysis on elements in pedestrian environments to revitalize the commercial street. This study selected two streets as vitalized and unvitalized streets and conducted statistical analysis. As a result, first of all, different determinants of pedestrian environment between vitalized and unvitalized streets are deducted as entrance, lot area, building set-back, street width, total ground area, and perchable space. Second, determinants in terms of accessibility are deducted as street parking spaces, local integration, and connection. Third, the determinants of lower-level businesses are deducted as clothing and miscellaneous goods, beauty shops, and vendors. Finally, variables that give positive impacts on street commercial vitalization are drawn as perchable space, and local integration, whereas variables that give negative impacts are drawn as lot area and beauty shops.

Keywords: *Urban regeneration, Pedestrian, Commercial street vitalization, Pedestrian environment, Depthmap*

1. Introduction

In these days, urban regeneration projects are putting efforts to vitalize streets and form pleasant pedestrian environment in order to regain the right of streets that has been divested by vehicle after industrialization. As commercial street vitalization through walking activity promotion exerts profound influence on vitalizing overall urban area, streets that accommodate people's needs are preferentially revitalizing, and discovering the characteristics of those streets is regarded as an important emphasis to develop and improve commercial streets. Therefore, this study aims to identify elements of pedestrian environment that contribute to make commercial street vitalize.

2. Literature Review

The efforts to revitalize streets and form pleasant pedestrian environment received attention with urban regeneration. These efforts mainly take places in commercial

streets, and it looks forward to promote regional economic vitalization and form commercial streets that consists of various types of pedestrian activities. This study considered theoretical reviews to examine the importance of commercial streets on urban regeneration, spatial syntax measuring the accessibility in urban space, and physical pedestrian environment elements that form commercial streets.

3. Research Methods

This study proceeded following stages to investigate pedestrian environment factors for commercial street vitalization.

First, through literature review, it studied the role and importance of commercial streets in urban regeneration and physical pedestrian environment elements that form commercial streets.

Second, in order to select study area, it chose 10 potential commercial streets that are located within 400 meters away from subway stations. Then, it selected 2

commercial streets as one for vitalized and the other for unvitalized street through examination of floating population and land values.

Third, it compared differences between the vitalized and unvitalized street, and, to examine the elements of physical environment that give influences on commercial street vitalization, it conducted statistical analysis by using IBM SPSS 21 and Depthmap Software which has been utilized as Smart City spatial analysis.

4. Discussion and Conclusion

Through the T-test, this study analyzed that the pedestrian environment factors that determine whether the street is vitalized or unvitalized are total of 13 factors; the following factors are: number of entrance, lot area, building set-back, street width, total ground area, perchable space, local integration, connection, street. Parking spaces, clothing and miscellaneous goods, beauty shops, and vendors, whereas length of shrub, the number of tree, eatery, café, and pub were not included in those factors. Through regression analysis, it analyzed the factors that give either positive or negative influence on commercial street vitalization. Positive factors are drawn as perchable space and local integration, and negative factors are drawn as lot area and beauty shops.

As the result, this study concluded that the lot area, perchable space, and local integration bring coinciding result with the preceding research, but beauty shops are not. It is probable that the result is drawn because cosmetic shop is row-oriented type of business, and it has low destination to visit the place. Also, these types of businesses have relatively high reliance on the characteristics of streets, and it tends to anticipate accidental and impulsive visits of pedestrian passing through streets with

other purposes. However, because the interpretation of cosmetic shops were interpreted with subjective researcher's position, it should be supplemented through additional case analysis.

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