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## A STUDY TO ASSESS THE IMPACT OF FOOTFALLS AND CATEGORY MIX ON MALL PERFORMANCE

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### Abstract:

*Shopping centers have become a center of convergence providing an opportunity to shop, entertain, relax and socialize. The quantum of foot traffic to the mall indicates the preference of the customers to visit a specific mall as the customers believe that their interests will be best met there in terms of ambiance, shopping, facilities and convenience. Though, footfalls indicate preference but it does not anyway relate to actual conversions because there are many other parameters that influence their buying decision. On the other hand, presence of diverse categories inside the mall helps in their decision to buy as the customers want multiple engagements for his family besides shopping at one place. This study aims to find which impacts more footfalls or presence of category mix on the performance of the mall.*

**Keywords:** Gross Leasable Area (GLA); Shopping Mall; Shopping Centre.

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### 1. Introduction

Retail industry in India is expected to grow to US\$ 950 billion by 2018, registering a compounded annual growth rate (CAGR) of 8.9 per cent during 2000-18. India's retail market is expected to double to US\$ 1 trillion by 2020 from US\$ 600 billion in 2015 driven by income growth, urbanization and attitudinal shifts. (Source: The Boston Consulting Group and Retailers Association of India's report titled, Retail 2020: Retrospect, Reinvent, Rewrite). While the overall retail market will grow at 12 per cent per annum, modern trade will grow twice as fast at 20 per cent per annum, and traditional trade at 10 per cent. (Source: The Boston Consulting Group and Retailers Association of India's report titled, 'Retail 2020: Retrospect, Reinvent, Rewrite and Retailers Association of India).

A shopping centre is an object which is centrally managed and comprises operations of at least 10 independent stores (tenants), the area (rented or useful space) allocated to them makes up at least 5 thousand sq. m., and the anchor tenant occupies up to 70 percent of the rented area (Source - International Council of Shopping Centers (ICSC), 2013).

Malls are increasingly being viewed as community centers where the customers want to come for their shopping needs, to socialize, for leisure, entertainment and to relax. Mall developers need to influence the consumers to visit the malls by providing diversity of product categories, by providing ambient environment, convenience of shopping, safety & security, wide circulation areas, ample parking facilities, entertainment and recreational facilities which help to generate consistent footfalls to the center. The quantum of footfalls to a mall is a prime indicator of the preference and patronage of the consumers to a particular development. The malls need to have a balanced mix of brands that are relevant to the catchment profile and their needs. The scale of mall is important to keep variety of assortments and diverse categories because customers are interested to do their entire shopping under one roof whereas the footfalls to the mall are essential for sales conversions and revenue generation for the retail stores. There is a need to constantly innovate by giving surprises to the customers, organizing events, exhibitions & promotional activities inside the mall to generate additional footfalls

## 2. Review of Literature

**Agarwal, (2016)** stated that Malls are reinventing themselves to offer larger food and entertainment zones and reducing the size of department stores and electronic retail stores to bring in international brands and increase consumer footfalls. **Strenk,(2015)** observed that New design elements need to be incorporated which improves customers experiences inside the common areas, use of digital technologies, visual merchandizing, convenience of customers need to be focused, Cinema, Food & Beverage category should be well represented that helps in engaging the customers. **Bera & Valsan (2015)** suggested that the developers need to make the spaces more vibrant by bringing leisure to shopping and develop more quality spaces. Brands do not prefer sub-optimal design and low footfalls. Focus on differentiators. **Choudhury, Alam & Islam, (2014)** observed that incorporation of Entertainment & Food Facilities, Maintenance of Service quality and providing Facilities to Socialize are the factors that affect customer's attitude towards a Mall. **Reimers and Chao, (2014)** found that time convenience, spatial convenience, access convenience and parking convenience all influence perceptions of the overall convenience of a strip and for shopping to be considered "fun", a shopping strip must offer extended trading hours, one-stop shopping and a compact, dedicated retail environment. **Khong and Ong, (2014)** found that Shopper's exhibit patronage loyalty when they see the malls favorably based on the style, variety and quality of their products and services. **Vashisht, Wadhwa and Uppal, (2014)** stated consumers prefer to buy from a place where the accessibility is higher and where they can buy everything under one roof. **Gilbo and Yavetz, (2013)** revealed that Shopping malls offer an ideal place not only for shopping but for hang out and socialize and shoppers normally visit them with their acquaintances and family members. **Gudonaviene & Alijosiene, (2013)** observed that Merchandizing, Accessibility of the location, Entertainment & the Internal Environment are important image attributes that generate positive perception about a particular mall with the consumers. **Ubeja, (2013)** said that sales promotion activities influence customers to visit malls. **Sherriff et al, (2013)** found that Customer convenience, reducing customer waiting time and improving service turnaround are crucial factors that help in customer preferring a particular mall development. **Shanmugam, (2013)** reported that there is a strong positive relationship of the mall size, anchor quality with the mall traffic and store sales. **Deb, (2012)** found that first important value motivating the customer to do shopping at a mall is its entertaining capacity. Customers also perceive that shopping should be full of adventures exploring new products or

information. **Kumar & Arora, (2012)** said that entertainment is an important element that the customer now-a-days expect to be in any good Mall as a basic category. This could be in the form of Multiplexes, Gaming zones, Kids Zone, large Food Courts etc where the entire family can come & enjoy. **Anuradha & Manohar, (2011)** said that customers see availability of entertainment facilities as a prime consideration for their decision to visit the Malls. **Kaushal and Medhavi, (2011)** said that the quality of service perceived by the customers at a center, irrespective of the brand is what ultimately results in a repeat visit of the customer. **Burnaz & Topcu, (2011)** found that scale of mall is important as it gives opportunity to place diverse product categories. Creation of additional footfalls to the mall is essential for generating revenues for the stores. Anchor brands are essential for sustainability and performance of malls. **Chebat, Sirgy and Grzeskowiak, (2010)** said that in order to generate higher footfalls in a mall a strong mall image is to be created that develops a strong positive perception among the shoppers to patronize the mall. **Patney, (2010)** observed that there are various motivators that influence shoppers to visit the shopping malls. Customers visit the malls to Socialize, for variety in Goods and Services, budget shopping, seek pleasure, to relax and enjoy. **Reimers and Clulow, (2009)** found that time convenience has a significant influence on consumers' patronage behavior. **Rajagopal, (2009)** said that mall ambience, assortment of stores, sales promotion and shopping satisfaction of the consumers help in improved retail performance, generate mall attractiveness and increased buying activities. Recreational activities provided in the Mall drives customers to the center and motivates to increase their time spends. **Allard, Babin and Chebat, (2009)** found that perceived differentiation from the competitors is found to positively influence customers' attachment to the mall, a determining factor in the mall's evaluation. **De Nisco and Napolitano, (2006)** highlighted that entertainment should be taken as strategic intent and have be synced into the traditional retail setting. There is a positive link between entertainment orientation and performance outcomes. **Hunter, (2006)** suggested that intention to visit a shopping centre directly impacts the frequency of visits to a shopping centre **Hartet al., (2005)** found that enjoyment during the shopping is an important component that brings the customer again and again to the shopping centre and this can be provided by placing recreational, leisure and entertainment facilities. These result in consumers spending more time inside the mall, increase their bill size and influence them to recommend the shopping centre to others. **Sit et al., (2005)** observed that the presence of entertainment segment in the shopping mall helps in consumer satisfaction and is an important driver of the shoppers to the Mall. **Melody et al, (2000)** stated that high performing malls are those that are located in the high trading areas. High mall productivity relates to the trade area characteristics and the size of the mall. **Swinyard, (1998)** said that frequent mall shoppers have higher needs for 'sense of belonging', 'warm relationships', 'entertainment' and 'security' than casual shoppers. **Kaufman, (1996)** found that shoppers normally patronize a mall where they get one – stop shopping for all their needs that can be provided by extended hours of operation, drive through services and providing multiple check outs for customer convenience. **Bean, et al., (1988)** suggested that the types, sizes, and locations of the smaller tenants play an important role in determining the financial success of any shopping center.

### 3. Research Methodology

A descriptive study was undertaken and stratified sampling technique was used to select the samples across categories on random basis. The entire universe of shopping malls in Jaipur was

studied which was eleven (11) in numbers. The gross leasable area (GLA) of the shopping malls was approximately between 1 Lac sq ft to 13 Lac sq ft and the malls were dispersed across all the corners of the city. The catchment of the malls was mid-to-high income group of residential colonies and areas with commercial activities. These malls were situated within the city limits thus have good reach, accessibility and approach for the customers. Total samples selected for the study was 105.

### 3.1. Limitations of the Study

This study was carried out in Jaipur and samples were drawn from the respondents in the malls based out of the city only. Thus the findings of the data may not be considered universally applicable to other cities as well. This study may encourage examining the phenomenon in other cities also to gauge the impact of the two variables – footfalls and presence of category mix on the performance of the mall.

## 4. Descriptive Statistics

The findings regarding the mean and standard deviations of the scores on responses of respondents are presented in below table.

Table 1: Descriptive Statistics

Descriptive Statistics			
	N	Mean	Std. Deviation
	Statistic	Statistic	Statistic
Trading Destiny	10	1673.8182	2534.20306
Footfall	10	1326.8636	2174.27448
Category Mix	10	17.2727	25.90402

## 5. Validity of Data

However, before carrying out hypotheses testing, the overall significance of the correlation matrix and its factorability needed to be tested with the help of Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy.

Table 2: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.790
Bartlett's Test of Sphericity	Approx. Chi-Square	1192.202
	Df	9
	Sig.	.000

Source: Output of IBM-SPSS 22

Bartlett's test statistics was found significant at **0.000** levels, which indicates the presence of non-zero correlations in the correlation matrix. Further the KMO measure of the sampling adequacy turns out to be **0.790**.

Table 3: Reliability Statistics

Reliability Statistics	
Cronbach's Alpha	N of Items
<b>.769</b>	4

Source: Output of IBM-SPSS 22

### 6. Reliability of Data

From the above table we can see that Cronbach's alpha is more than 0.700 which indicates a high level of internal consistency for our scale with this specific sample.

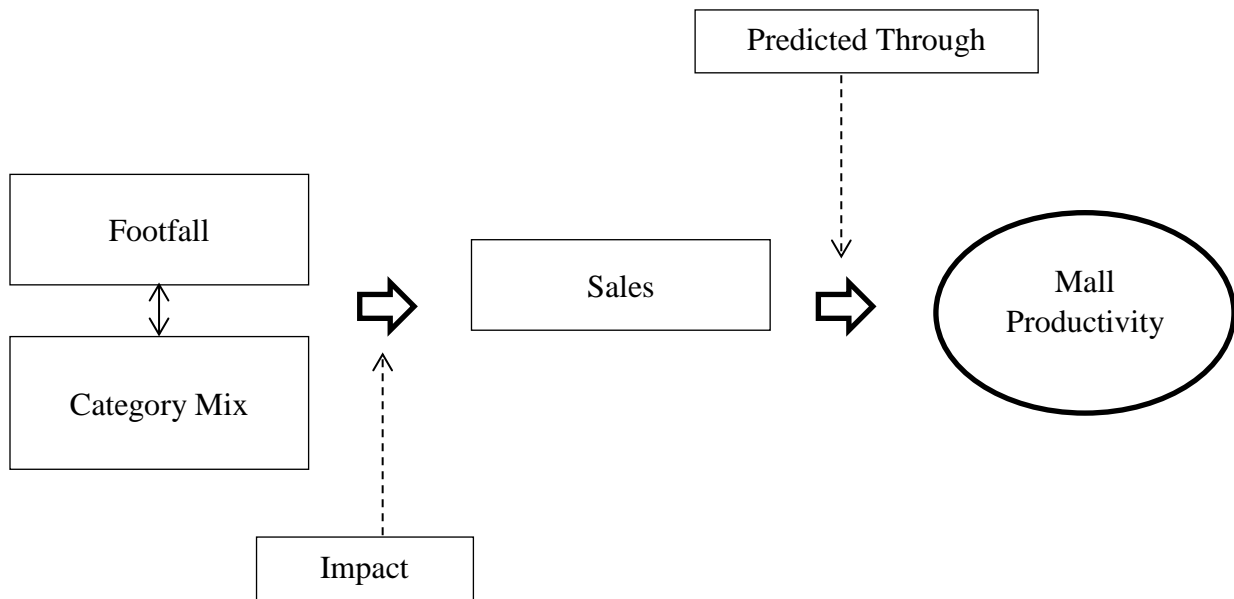


Figure 1: Conceptual Framework

In the conceptual framework (figure), footfall and category mix factors influence sales both directly and incidentally. The framework shows that mall productivity is predicted through sales of mall in terms of footfall and category mix.

Table 4: Correlation Analysis between Footfall & Sales of Mall

Correlations			
		Footfall	Footfall
<b>Footfall</b>	Pearson Correlation	1	.799**
	Sig. (2-tailed)		.006
	N	10	10
<b>Sales</b>	Pearson Correlation	.799**	1
	Sig. (2-tailed)	.006	
	N	10	10

Source: Output of IBM-SPSS 22

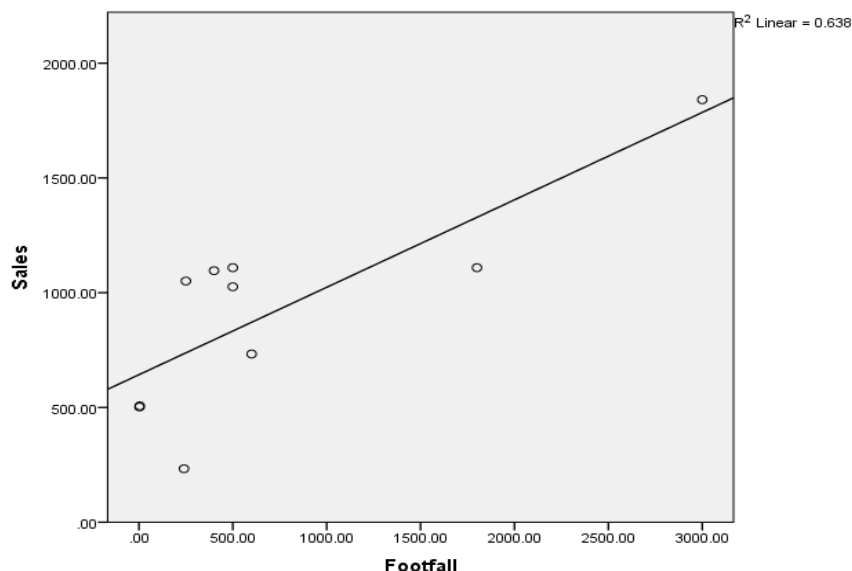


Figure 2: Scatter Plot

Source: Output of IBM-SPSS 22

The above table and figure revealed that there is a statistically significant relationship between **Footfall** and **Sales of Mall**. It has found that **Pearson correlation ‘r’ value 0.799** and **sig value (p value) is 0.000** which indicates that there is a statistically significant strong positive correlation between *footfall* and *sales of mall*.

Table 5: Model Summary

Model Summary <sup>b</sup>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.799 <sup>a</sup>	.638	.593	287.72541	.638	14.121	1	8	.006	1.724

Source: Output of IBM-SPSS 22

The "R" column represents the value of R, the **multiple correlation coefficients**. R can be considered to be one measure of the quality of the prediction of the dependent variable. The "R Square" column represents the R<sup>2</sup> value, which is the proportion of variance in the dependent variable that can be explained by the independent variables.

In the Model Summary in above **table**, **R Square** is **0.638** which means that **Footfall** explain **63.8%** of the variability with significant effect on **Sales of mall**.

Above table shows the multiple linear regression model summary and overall fit statistics. It has found that R<sup>2</sup> of our model is **0.638**. This means that the linear regression explains 63.8% of the variance in the data. The Durbin-Watson value is 1.724, which is between the two critical values of 1.5 < d < 2.5. Therefore, we can assume that there is no first order linear auto-correlation in our multiple linear regression data.



Table 6: ANOVA goodness of fit (GOF)

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1168994.821	1	1168994.821	14.121	.006 <sup>b</sup>
	Residual	662287.279	8	82785.910		
	Total	1831282.100	9			

Source: Output of IBM-SPSS 22

The F-ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. The table shows that different footfall (independent variables) statistically significantly predict the sales (dependent variable). In the above table F sig. value is less than 0.05, which means the regression model is a good fit of the data. The F-test is highly significant, thus we can assume that the model explains a significant amount of the variance in sales of mall.

Table 7: Coefficients

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	642.694	117.269		5.481	.001
	Footfall	.381	.101	.799	3.758	.006

Source: Output of IBM-SPSS 22

Unstandardized coefficients indicate how much the dependent variable varies with an independent variable. From the above table it shows that *footfall* is significant predictor as a *sig. value* is less than 0.05 indicate that null hypothesis is rejected. In other words it can say that *there is a statistically significant impact of footfall on sales of mall.*

Table 8: Correlation Analysis between Category Mix & Sales of Mall

Correlations			
		Sales	Category Mix
Sales	Pearson Correlation	1	.226
	Sig. (2-tailed)		.530
	N	10	10
Category Mix	Pearson Correlation	.226	1
	Sig. (2-tailed)	.530	
	N	10	10

Source: Output of IBM-SPSS 22

The above table and figure revealed that there is a no statistically significant relationship between **Category Mix** and **Sales of Mall**. It has found that **Pearson correlation ‘r’ value 0.226** and **sig value (p value) is 0.530** which indicates that there is a no statistically significant low positive correlation between *category mix* and *sales of mall*.

Table 9: Model Summary

Model Summary <sup>b</sup>										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.226 <sup>a</sup>	.051	.047	466.03339	.051	.432	1	8	.530	1.580

Source: Output of IBM-SPSS 22

The "R" column represents the value of R, the **multiple correlation coefficients**. R can be considered to be one measure of the quality of the prediction of the dependent variable. The "R Square" column represents the R<sup>2</sup> value, which is the proportion of variance in the dependent variable that can be explained by the independent variables.

In the Model Summary in above table, **R Square** is **0.051** which means that **category mix** explain **5.1%** of the variability with significant effect on **Sales of mall**.

Above table shows the multiple linear regression model summary and overall fit statistics. It has found that R<sup>2</sup> of our model is **0.051**. This means that the linear regression explains 5.1% of the variance in the data. The Durbin-Watson value is 1.58, which is between the two critical values of 1.5 < d < 2.5. Therefore, we can assume that there is no first order linear auto-correlation in our multiple linear regression data.

Table 10: ANOVA goodness of fit (GOF)

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	93785.120	1	93785.120	.432	.530 <sup>b</sup>
	Residual	1737496.980	8	217187.122		
	Total	1831282.100	9			

Source: Output of IBM-SPSS 22

The F-ratio in the ANOVA table tests whether the overall regression model is a good fit for the data. The table shows that different category mix (independent variables) do not predicts the sales (dependent variable). In the above table F sig. value is more than 0.05, which means the regression model is not good fit of the data.

Table 11: Coefficients

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	558.448	570.625		.979	.356
	Category_Mix	38.132	58.028	.226	.657	.530

Source: Output of IBM-SPSS 22



Unstandardized coefficients indicate how much the dependent variable varies with an independent variable. From the above table it shows that *category mix* is not significant predictors as a *sig. value* is more than 0.05 indicate that null hypothesis is accepted. In other words it can say that *there is no statistically significant impact of category mix on sales of mall.*

Table 12: Overall Comparison between Footfall and Category Mix

Footfall			Category Mix			Result
R	R2	Standard Beta	R	R2	Standard Beta	
.799	.638	.799	.226	.051	.226	Footfall has an impact on sales of mall

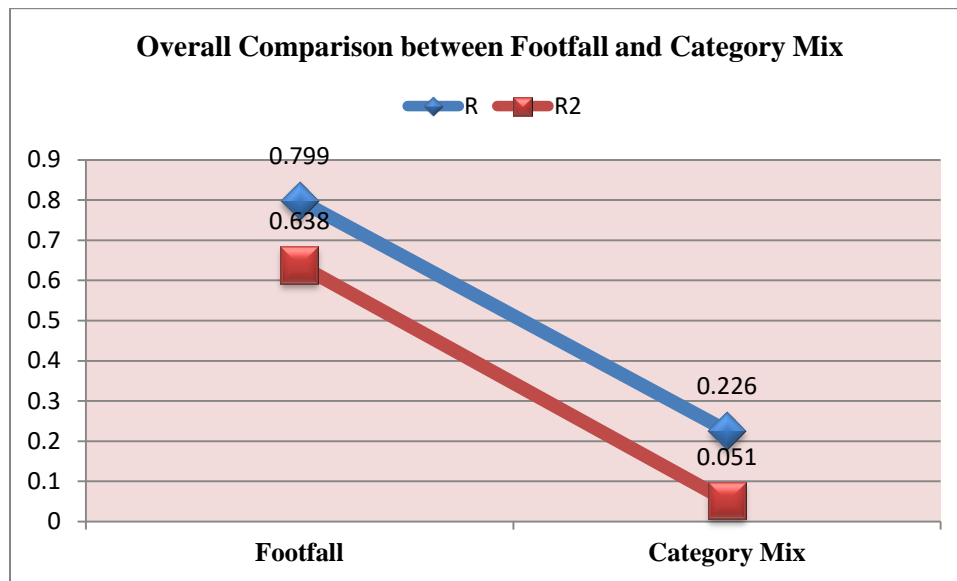


Figure 3: Overall Comparison between Footfall and Category Mix

From the above table it is analyzed that footfall has an impact on sales of mall whereas category mix has no significant impact on sales of the mall.



Figure 4: Effect of Footfall and Category Mix on Sales of Mall

### 7. Conclusion

The study helped to conclude that footfalls to the mall have a significant impact on the mall performance as more the customers visiting a property more will the probability of conversion to

sales. However, this doesn't mean higher actual conversions to sales. In the city of Jaipur where the study was carried out, it was seen that the footfall impact on sales was significant implying that those malls with low footfalls are delivering low sales per sq ft whereas malls with higher footfalls have comparatively better sales per sq ft. Thus, the effort of the mall management team should be to make the malls as destinations focusing on experiential retailing incorporating motivators giving customers all the reasons for more visits and patronize. On the other hand, the diversity of category mix ensures that customer gets choice of their brands, provide them variety in shopping, give them options of entertainment, gaming, F & B, cinema so that they can bring their entire family for spending quality time. However, its direct impact on mall performance is not seen. All the malls studied were having almost similar category mix but the sales per sq ft were different implying thereby that category mix doesn't have significant impact on the performance of the mall.

## References

- [1] Agarwal, S., 2016. Malls renovate as e-commerce players draw away footfalls, *Live Mint*, 05, E – paper
- [2] Anuradha, D. and Manohar, H.L., 2011. Customer shopping experience in malls with entertainment centres in Chennai. *African Journal of Business Management*, 5(31), p.12319.
- [3] Allard, T., Babin, B.J. and Chebat, J.C., 2009. When income matters: Customers evaluation of shopping malls' hedonic and utilitarian orientations. *Journal of Retailing and Consumer Services*, 16(1), pp.40-49
- [4] Choudhury, A. et al., 2012. Customers' attitude towards shopping malls: a study on Bashundhara city shopping mall, *D.U. Journal of Marketing*, 15
- [5] Chebat, J.C., Sirgy, M.J. and Grzeskowiak, S., 2010. How can shopping mall management best capture mall image?. *Journal of Business Research*, 63(7), pp.735-740
- [6] Bera, S. and Valsan, S., 2015. Reinventing Malls, *Realty*
- [7] Burnaz, S. and Topcu, Y.I., 2011. A decision support on planning retail tenant mix in shopping malls. *Procedia-Social and Behavioral Sciences*, 24, pp.317-324
- [8] Bean, J.C., Noon, C.E., Ryan, S.M. and Salton, G.J., 1988. Selecting tenants in a shopping mall. *Interfaces*, 18(2), pp.1-9
- [9] Deb, M., 2012. Evaluation of customer's mall preferences in India using fuzzy AHP approach. *Journal of Advances in Management Research*, 9(1), pp.29-44.
- [10] De Nisco, A. and Rosaria Napolitano, M., 2006. Entertainment orientation of Italian shopping centers: antecedents and performance. *Managing Service Quality: An International Journal*, 16(2), pp.145-166
- [11] Gudonavičienė, R. and Alijosiene, S., 2013. Influence of shopping centre image attributes on customer choices. *Economics and Management*, 18(3), pp.545-552.
- [12] Gilboa, S. and Yavetz, I., 2013. Shop until you drop? An exploratory analysis of mall experiences, *European Journal of Marketing*, 47(1/2), pp. 239 – 259
- [13] Hart, C., Farrell, A.M., Stachow, G., Reed, G. and Cadogan, J.W., 2007. Enjoyment of the shopping experience: Impact on customers' repatronage intentions and gender influence. *The Service Industries Journal*, 27(5), pp.583-604.
- [14] Hunter, G.L., 2006. The role of anticipated emotion, desire, and intention in the relationship between image and shopping center visits. *International Journal of Retail & Distribution Management*, 34(10), pp.709-721.
- [15] Khong, K. and Ong, F., 2014. Shopper perception and loyalty: a stochastic approach to modeling shopping mall behavior, *International Journal of Retail & Distribution Management*, 42(7), pp. 626 – 642

- [16] Kumar, A. and Arora, M., 2012. A study on retail space analysis of entertainment industry. *International Journal of Research in Social Sciences*, 2(2), pp.303-322.
- [17] Kaushal, S.K. and Medhavi, S., 2011. To identify the prominent factors of shopping mall behavior: A factor analysis approach. *Indian Journal of Marketing*, 41(5), pp.53-64
- [18] Kaufman, C., 1996. A new look at one-stop shopping: a TIMES model approach to matching store hours and shopper schedules, *Journal of Consumer Marketing*, 13(1), pp. 4 – 25
- [19] Melody L. et al., 2000. US shopping mall attributes: an exploratory investigation of their relationship to retail productivity, *International Journal of Retail & Distribution Management*, 28(6), pp. 261 – 279
- [20] Patney, M.B., 2010. Indian consumers and their mall patronage: Application of cultural-self and the theory of planned behavior to patronage intentions.
- [21] Reimers, V. and Chao, F., 2014. The role of convenience in a recreational shopping trip. *European Journal of Marketing*, 48(11/12), pp.2213-2236.
- [22] Reimers, V. and Clulow, V., 2009. Retail centres: it's time to make them convenient. *International Journal of Retail & Distribution Management*, 37(7), pp.541-562.
- [23] Rajagopal, P., 2009. *Growing shopping malls and behavior of urban shoppers*(No. 2008-05-MKT). Tecnológico de Monterrey, Campus Ciudad de México.
- [24] Strenk, A., 2015. Current & future retail & shopping center trends, *Realty*
- [25] Sherriff, T. et al., 2013. Shopping motivation as a moderator in the retail service evaluation, *Journal of Services Marketing*, 27(1), pp. 40 – 48
- [26] Shanmugam, R., 2013. Anchor-store quality in malls: an economic analysis, *International Journal of Retail & Distribution Management*, 41(2), pp. 90 – 112
- [27] Sit, J. and Merrilees, B., 2005. Understanding satisfaction formation of shopping mall entertainment seekers: A conceptual model. In *Proceedings of the Australian and New Zealand Marketing Academy Conference (ANZMAC 2005)* (pp. 106-114).University of Western Australia.
- [28] Swinyard, W.R., 1998. Shopping mall customer values: the national mall shopper and the list of values. *Journal of Retailing and Consumer Services*, 5(3), pp.167-172
- [29] Ubeja, S.K., 2013. A study of customer satisfaction of shopping malls in Jabalpur city: comparison between male and female. *International Journal of Marketing, Financial Services & Management Research*, 2(1), pp.1-11.
- [30] Vashisht, A, Wadhwa, B. and Uppal, A. 2014. Study of attitude of Delhi shoppers towards mall shopping experience, *Abhinav National Monthly Refereed Journal of Research in Commerce & Management*, 3(10)

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