TIME ON THE MARKET OF RESIDENTIAL CONDOMINIUM UNITS WITH PRE-SALE ARRANGEMENT IN COLOMBO DISTRICT

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ABSTRACT

The purpose of this paper is to study the time on market (TOM) for residential condominium units under pre sales arrangements and what key factors drive that TOM. The contextual understanding of previous studies on TOM for residential properties confined for properties sold either in the secondary market or properties where construction is completed. This study focuses on the relationships among TOM, listed price, and basic property characteristics of residential condominium units sold under the provisional condominium plan in Colombo, Sri Lanka. Following non-probability sampling technique, this study examines TOM of 189 pre-sale residential condominium units in Colombo district which came into market between 2016 January to 2019 January. Developers were approached to collect required data such as transaction price, transaction date, final listed date listed price, number of bedrooms, number of bathrooms, floor area, floor level, construction completion, discounting rates likewise. Data analysis followed descriptive statistics, Pearson Correlation, and multiple regression model. The analysis highlighted that from January-2016 to January-2019, TOM of provisional residential condominiums of Colombo varied from 12.76 to 5.51 months. The results further highlighted that the TOM of a pre-sale provisional residential condominium unit is a function of floor area, number of bathrooms, level of the unit, construction completion & discount rate. The study highlights that during the period considered, the floor area units of 744sqft at the initial stage of construction with a discount rate between 10% to 20% from the listed price can predicted to have the lowest TOM..

Keywords: Time on the Market; Pre-sale; Residential Condominium Units; Listed Price; Transaction Price.

1. INTRODUCTION

Selling a property is a time-consuming process (Khezr 2015). In buyer's point of view, buying a house is typical and a largest investment in his or her lifetime (Khezr 2015). Therefore, buyers always take sufficient time to make sure about the effectiveness and efficiency of that decision. In the case of selling a house or a property, the seller expects to achieve highest possible price for the property within a minimum time duration (Khezr 2015). Thus, Time on Market (TOM) is a significant concern in the property market. TOM is the time from first listing to first deposit receipt (Huang, 2017; Belkin et al., 1976). The purpose of this paper is to identify the time it takes to sell a residential condominium unit under the provisional condominium plan and to identify the factors that affect TOM of residential condominium units in the Colombo district.

The literature identifies, quality, the initial listing date, date of sale, listed price, physical characteristics of the property etc. as the factors that affect the TOM (Wickramaarachchi et al., 2020; He et al., 2020; Seo, 2018; Cubbin, 1974) in the context of homes. Yet whether the same applies for condominium property in Colombo which often transact as presales is worth

investigating. For this, TOM of the 189 listed residential condominium units which are sold as pre-sale units in Colombo within the period from January 2016 to January 2019 and the factors affecting such were studied. Descriptive statistics, Pearson Correlation and multiple regression model was employed for the required quantification. After the first introductory section, the paper consists of literature review on TOM, methods, findings and concluding comments. This study will increase the knowledge on TOM in the Colombo residential condominium market in a way both developers and investors can benefit.

2. LITERATURE REVIEW
2.1 Time on the market
The significant reason for studying TOM is that it serves as a supplementary measure of value (Huang, 2017; Hui and Hung, 2012; Belkin et al., 1976). Belkin et al.(1976) define TOM as "the time from first listing to first deposit receipt". But the deposit date of receipt may differ from the actual date of the transaction happened. Because where the sellers and buyers' minds meet, that becomes the date of property sold. Kalra and Chan (1994) defined the time on the market as the number of days from the first listing date to the closing date. The closing date is the date of sale (if the property sold) or the date of withdrawal (if property unsold). In addition to these definitions, Filippova and Fu, (2011) roughly defined the time on the market as the transpired time between the dates a seller first lists their property to the date of buyer and seller sign a sale and purchase agreement. The period can be considered as the minimum period to negotiate all the willing buyers with the seller. Accordingly, this study considers TOM as the period from the last listing date to the transaction date.

2.2 Condominium
According to the Apartment Ownership Law No :11 of 1973, the condominium is to property comprising land with a building or buildings of more than one story and having more than one independent unit of residential or non-residential accommodation. A provisional condominium according to the same law is "any building proposed to be erected on alienated land held as one land parcel and capable of being subdivided into parcels". Pre-sale is a process of selling condominium property before the construction end (Premathilaka, 2020). Pre-sales happens once the provisional plan of the condominium property is registered (Prathapasinghe et al., 2018).

2.3 Factors Affecting the TOM
Over the past decade, academics studied the price and TOM relationship by investigating the effects of property characteristics, housing market conditions, property financing, and brokerage (Filippova and Fu, 2011). Wickramaarachchi et al., (2020) confirms that lesser advertising prices, attractive environment, proximity to the city center and proper shape of lands reduce the TOM. Further, the higher prices, longer distance to the city center and irregular shape of land increase the TOM. Komarek and Filer, (2020) proved that the flood risk also affects the TOM highlighting their research results that homes in the high-risk flood zones remain on the market 5–7 days longer than that are not. Ferreira and Jalali, (2015) used fuzzy cognitive mapping and showed that exterior environment, Internal characteristics of the house, other commercial determinants, external characteristics of the house, economic determinants, characteristics of the building and social stigmas affects the TOM.

Miller et al, (1987) examined pricing strategy and asking price with TOM and confirmed that a higher degree of overpricing (listing price relative to value) is the reason for longer market time and lower selling price. Cubbin (1974) pointed that price and quality as factors that affect the TOM. Cubbin used the equation to adjust the quality differently by using more than 20 factors such as - number of rooms, total area, area of kitchen, age of the building, etc. Belkin,

(1976) pointed three factors as prime importance factors to avoid the difficulties of determining the true value of the property as time on the market, list price, and the ratio of selling price to list price. Li, (2004) studied how the pricing of the highrise multiple-unit residential developments affects the TOM by considering floor area, number of floors, other amenities, etc. Björklund et al., (2006) used the general hedonic pricing model as their hypothesis and have used factors including living area, distance to CBD, age, actual price, expected price, offer price, lot size, as the factors affecting the time on market. The study by Filippova and Fu, (2011) investigated the relationship of twelve factors that affected the TOM such as sale price, floor area, land area, brice work, contour steep and so on. Rosini et al., (2012) have descriptively analyzed the year of built, wall types, number of rooms, dwelling type and the region of property located how changes the time on market of residential properties and finally Khezr, (2015) investigated impact more than 20 factors on time on market.

Potential buyers face a situation of incomplete information in concerning the complete characteristics of the various houses they might willing to buy (Hui et al., 2012). To realize a property transaction in the market within the minimum possible period, both the seller and the buyer need to have enough knowledge about the market. Most of the issues in the property market have been raised due to the lack of knowledge of the market participant. The knowledge of the property market highly depends on the availability of information. No study has been done for the TOM on the pre-sale residential condominium properties located in Colombo. Colombo is the most ideal area to analyze the condominium market in Sri Lanka, because over 80% of condominiums are located within the Colombo district. It is the fastest developing and urbanizing district in the Western province of Sri Lanka. Due to a high demand for landed properties and limited land supply, Colombo residential market has tended to supply high rise multiple story condominiums during the last two decades. Hence, this study is focused to increase the knowledge of the property investors and developers in the Colombo residential condominium market.

3. METHODOLOGY
3.1 Data collection
The study focuses on TOM of the residential condominium in Colombo under provisional plan and the factors affecting such timing. Collecting of specific property and transaction information is highly challenging owing to the unavailability of proper public information systems. On the other hand, the individual sellers and brokers will not ready to expose their information to the public. Even though it is hard to collect data purely from sources, the required primary data was collected by approaching a large-scale property development company and validating some of the information through secondary sources such as newspapers and web sites, (Sekaran and Bougie, 2016). The period of study concerned was from January 2016 to December 2019. The population of the study is all pre-sale residential condominium units in Colombo. Applying non-probability sampling, we selected 189 listed residential properties by large scale developer operate within Colombo district based on the possibility of accessing data (Table 1). We analyzed the data under two stages. The primary analysis was completed using descriptive statistics to get a basic idea of the sample and find out the average time on the market of a pre-sale residential condominium unit in the Colombo district from January 2016 to January 2019. Factors extract from the primary analysis were used as the variable for regression analysis in the second stage. The analysis was extended up to regression modeling to find out the predictors of time on the market of a pre-sale condominium unit in Colombo.

Table 1: Summary of the condition of the sample pre-sale residential condominium units

Number Of Bedrooms				Total
1 Bed	2 Bed	3 Bed	4 Bed	
94	76	12	7	189
49.74%	40.21%	6.35%	3.7%	100%
Number Of Bathroom				
2 Bathrooms		3 Bathrooms		
163		26		189
86.24%		13.76%		100%
Level 0f the Unit				
G to 10th	11th to 20th	21st to 30th	31st to 40th	41st to 50th	
14	76	48	36	15	189
7.41%	40.21%	25.4%	19.05%	7.94%	100%

Source: (Field survey, 2020)

4. FINDINGS

4.1 Time on Market (TOM)

Table 2: Summary of TOM (first listed date to transaction date) for the Pre-Sale property from January 2016 to December 2019.

	No of Properties	Minimum	Maximum	Mean	Std. Deviation
Time on Market (in Months) (First Listed Date to **transaction date**)	189	1	32	12.76	9.623

Source: (Field survey, 2020)

Table 3: Summary of TOM (final listed date to transaction date) for Pre-Sale property from January 2016 to December 2019.

	N	Minimum	Maximum	Mean	Std. Deviation
Time on Market in Month (Final Listed Date to Soled date)	189	1	13	5.51	3.460

Source: (Field survey, 2020)

In the case of pre-sale arrangements, the condominium properties are on sale at the time of the project construction process started. This unit selling process can continue several months even after the completion of the construction. Table 2 shows the TOM of 189 properties from its first list date to transaction date. According to table 2, the minimum period on the TOM of the 189 properties recorded to be 1 month and the maximum TOM recorded to be 32 months. The average TOM from the first listed date to the transaction date of a provisional residential condominium unit is a little more than 12 months. However, it is also noteworthy that in the case of provisional condominiums (similar to other real estates), the properties are listed in the market more than one time at regular intervals. In such relisting the asking prices of the properties change accounting for value appreciations. Table 3 shows the TOM from such final listing date to the transaction date. According to table 3, the minimum period on the TOM from final listed date to transaction date is to be 1 month and the maximum TOM recorded to

be 13 months. The average TOM from the last listed date to the transaction date of a provisional residential condominium unit is nearly 6 months.

4.2 Correlation of TOM with other market configurations of the condominium properties

Table 4 shows the correlation between TOM of the 189 properties with other market configurations under both listing conditions. Other market configurations include floor area, number of bedrooms, number of bathrooms, floor level, first listed (asking) price, final listed (asking) price, selling price, level of construction completed, and discounting rate offered. The correlations have tested with the Pearson correlation method. Table 4 shows the Pearson correlations between respective variables with the P-Values (Sig. 2 tailed). According to the Pearson correlation methods, there is a correlation between those two variables if the P-Value less than 0.05.

Table 04: Analysis of correlations of variables with Final Listed/Advertised Price, Transaction/Selling Price & TOM.

Variable	Final Listed/Advertised Price		Transaction/selling Price		Time on Market in Months (Final Listed Date to transaction date)	
	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)
Floor area in sq. ft	0.913	0.001	0.899	0.001	-0.168	0.021
Number of bedrooms	0.0876	0.001	0.874	0.001	-0.053	0.473
Number of bathrooms	0.762	0.001	0.746	0.001	-0.193	0.008
Level of the Unit	0.630	0.001	0.615	0.001	-0.350	0.001
Construction completion %	0.018	0.804	0.053	0.472	0.058	0.001
First listed/Advertised Price	0.984	0.001	0.976	0.001	-0.077	0.293
Final Listed/Advertised Price			0.997	0.001	0.006	0.935
Transaction/selling Price	0.997	0.001			0.048	0.510
Time on Market in Month (Final Listed Date to Sold date)	0.006	0.935	0.048	0.510		
Discounting Rate	0.541	0.001	0.482	0.001	-0.503	0.001

Source: (Field survey, 2020)

According to table 4, the floor area of the unit has positive relationships with the final listed price and the transaction price of the unit. The floor area has a negative correlation with the TOM. This means that if the floor area is larger, the TOM will be lower, thus the property can be sold more earlier. In the 189 properties chosen, the units with larger floor area were located at higher levels.

The number of bedrooms has a positive relationship with the final listed price and the transaction price per se, but the number of bedrooms has no significant correlation with the TOM.

The number of bathrooms has a positive relationship with the final listed price and the transaction price, but the number of bathrooms has a negative correlation with the TOM. This means higher number of bathrooms can shorter the TOM.
The discount rate of the condominium has a positive correlation with the final listed price and transaction price and a negative relationship with the TOM. This means higher discount rate per se can shorter the TOM.

The construction completion level has a positive correlation with a final listed price and the TOM but shows no relation with the transaction price.
The final listed price has a positive correlation with the transaction price but there is no correlation with the TOM.

The level of the unit has a positive correlation with the final listed price and the transaction price and a negative relationship with the TOM. This means higher the level of the unit lowers the TOM.

4.3 Regression Model Development and Test

The regression model is developed to identify the predictors of the TOM of a pre-sale residential condominium unit in Colombo. According to the hypothesis for the regression model, the predictors are floor area, number of bathrooms, level of the unit, construction completion and discount rate. In this regression model, we have tested at least one of the above variables has become a time on the market predictor of the pre-sale residential condominium units in the Colombo district. The model can be elaborate as,

$$Y = \beta_0 + \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \varepsilon$$

Y	=	Time on Market		
β_0	=	Constant		
β_1	=	X1	=	Floor Area
β_2	=	X2	=	Number of Bathrooms
β_3	=	X3	=	Level of the unit
β_4	=	X4	=	Construction Completion
β_5	=	X5	=	Discount rate

According to the above model, the dependent variable is time on the market in month representing Y, and Y depends on the Floor area, Number of bathrooms, Level of the unit, Construction completion, and discount rate. Then we tested the model by using the following hypothesis.

$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$
$H_1 = $ at least one variable $\neq 0$

According to the figure, the null hypothesis shows that all slopes in the variables equal to zero and there is no slope in the model. This means there is no any dependency of TOM on the Floor area, Number of bathrooms, Construction Completion, Level of the unit, and Discount rate. The alternative hypothesis says that there is a slope in at least one variable from an above independent variable which means at least one of above variable act as a predictor of time on

the market of pre-sale residential condominium units in Colombo district. The above hypothesis was tested based on the following rule,

Rule; if P- value < 0.05 H_0 Reject

Table 05: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.690a	.477	.462	2.537	1.891

Source: (Field survey, 2020)

According to Table 5, The results of the regression indicated that the model explained 47.7% of the variance and that the model is a significant predictor of TOM of the residential condominium units sold under the provisional condominium plan. P-value of the regression model is 0.001 and it is less than 0.05. Therefore, at least one of the above variables has a significant linear relationship with the TOM of the residential condominium units sold under the provisional condominium plan.

Table 06: Coefficients Table

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
Constant		5.449	1.557		3.500	.001
	Floor area in sq. ft	.002	.001	.295	2.579	.011
	Number of bathrooms	-.621	.983	-.062	-.631	.529
	Level of the Unit/Story	-.016	.024	-.049	-.652	.515
	Construction completion %	.765	.096	.455	7.991	.000
	Discounting Rate	-47.779	7.235	-.474	-6.604	.000

Source: (Field survey, 2020)

According to Table 6, While Floor area ($\beta_1 = 0.002$ P < 0.05), Level of the unit ($\beta_3 = -0.016$ P < 0.05) & Discount rate ($\beta_4 = -47.779$ P < 0.05) contributed significantly to the model Number of Bathroom ($\beta_5 = -0.621$ P > 0.05) and Construction completion ($\beta_4 = -0.765$ P < 0.05) did not significantly contribute to the model. Based on that the final Regression Model for TOM of pre-sale residential condominium units sold under the provisional condominium plans in similar nature within similar locations is,

$Y = \beta_0 + \beta_1 + \beta_2 + \beta_4 + \beta_5 + \varepsilon$

Y = Time on the Market

β_0 = Constant

β_1 = Floor area

β_2 = Number of Bathrooms

β_3 = Level of the Unit

β_4 = Construction completion

β_5 = Discount rate

Y= 5.449 +0.002X1 -0.621X2 - 0.016X3 + 0.765X4 - 47.779X5

According to the final regression model, when the floor area increases from 1.0 sq. ft. the TOM will increase by 0.002 months. Adding more bathroom to the unit will decrease TOM

by 0.621 months. When the unit goes up to one level, the TOM will be decreased by 0.016 months. At each 10% level of construction completion the TOM will increase from 0.765 months. When the discount rate increases from 1% on the final listed value TOM will be decreased by 47.779 months.

5. CONCLUSION

This study has provided an analysis of TOM of selected 189 provisional (Pre-sale) residential condominium units within the Colombo district. The overall findings show that the TOM of the unit from the first listed date to the transaction date is 12.76 months and final listed date to the transaction date is 5.51 months. Provisional condominium market configurations that relate with the TOM of those 189 properties included number of floor area, bathrooms, level of the unit, construction completion and the discounting rate. All these variables also have become the predictors of the TOM of the condominium properties of similar nature sold under provisional condominium plan.

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