Chapter 4: Research Results

This chapter elaborates on the research result of the study. The discussion commences with the summary of sample profile, follows by the research results and discussion based on each research objectives. The chapter ends with the summary of research results.

4.1   Summary of Demography Profile of Respondents

The survey managed to reach a wide spread of professional that involves in various stages of purchase decision making process, and have a good spread of different roles and responsibilities (cluster); Not a single cluster has a representative of more than 30.0%, and each cluster has at least 15.0% representative in this study, thus ensuring heterogeneity within groups and homogeneity among groups. 63.5% of the respondents are men, while the balances 36.5% are women. They represent a variety of age groups; around 42.5% are in the age range between 35-44 years old, and 33.6% in the range of 45-54 years old. Closed to 90% of the respondent has a minimum of 5 years working experience in construction industry; and 44% of them attached to the same company for the past 5 years. Majority of the respondent (51.6%) hold a bachelor degree, while 18.2% of them only completed their secondary school education. The demographic details of the 318 respondents who responded to this study are summarized as table 3 below:

Table 3: Summary of the Demographic of Respondents

Description		Frequency	Percentage
Gender	Male	202	63.5%
	Female	116	36.5%
	Total	**318**	**100.0%**
Age (in years)	< 25 years old	NIL	NIL
	25-34 years old	40	12.6%
	35-44 years old	135	42.5%
	45-54 years old	107	33.6%
	> 54 years old	36	11.3%
	Total	**318**	**100.0%**
Education Background	Secondary school	58	18.2%
	Certificate/ diploma	83	26.1%
	Bachelor degree	164	51.6%
	Post-graduate degree	12	3.8%
	Doctoral degree	1	0.3%
	Total	**318**	**100.0%**
Roles & Functions	Procurement	53	16.7%
	Contracts/ quantity surveyors	49	15.4%
	Site/construction	90	28.3%
	Design & Planning	65	20.4%
	Distribution	61	19.2%
	Total	**318**	**100.0%**
Job Title	Professional	30	9.4%
	General Manager/ Director	81	25.5%
	Manager/ Asst. Manager	95	29.9%
	Executive/ Supervisor	112	35.2%
	Total	**318**	**100.0%**
Years of Experience in Construction Industry	< 5 years	34	10.7%
	6-10 years	115	36.2%
	> 10 years	169	53.1%
	Total	**318**	**100.0%**
Years with Current Company	< 1 year	12	3.8%
	1-2 years	49	15.4%
	2-3 years	46	14.5%
	3-4 years	36	11.3%
	4-5 years	35	11.0%
	> 5 years	140	44.0%
	Total	**318**	**100.0%**

Description		Frequency	Percentage
Company's Roles	Developer	32	10.1%
	Architect	30	9.4%
	Consultant	6	1.9%
	Quantity Surveyor	6	1.9%
	Main-contractor	121	38.1%
	Sub-contractor	60	18.9%
	Distributor/ dealer/ agent	63	19.8%
	Total	**318**	**100.0%**

Estimates Size of Company	< 10 employee	46	14.5%
	10-19 employee	106	33.3%
	20-99 employee	122	38.4%
	100-249 employee	39	12.3%
	250-500 employee	3	0.9%
	> 500 employee	2	0.6%
	Total	**318**	**100.0%**

Company's Ownership Structure	Sole-proprietorship	8	2.5%
	Partnership	4	1.3%
	Private Limited Company	291	91.5%
	Public Listed Company	15	4.7%
	Total	**318**	**100.0%**

Product's Type being Evaluated by Purchasing Team	Roofing	46	14.5%
	Ceiling	65	20.4%
	Flooring	168	52.8%
	Sanitary-ware	17	5.3%
	Ironmongeries	6	1.9%
	Paints/ coatings	2	0.6%
	Others	14	4.4%
	Total	**318**	**100.0%**

4.2   Analyses of Measures

Reliability analysis is being assessed on each measure to determine whether the items should be included in or discarded from the analysis.   The summary of the Cronback's Alpha scores are shown as table below:

Table 4: Summary of Cronback's Alpha scores

No.	Measure	No. of Items	Cronback's Alpha
1.	Brand Sensitivity	10	0.863
2.	Purchase Risk – Organization	3	0.957
3.	Purchase Risk – Individual	9	0.855
4.	Purchase Importance	9	0.660
5.	Purchase Complexity	4	0.757
6.	Time Pressure	3	0.810

All the reliability (Cronback's Alpha) scores based on the data collected from the survey are exceeded the basic requirement of 0.600 score; while 4 out of the 6 measures achieve Cronback's Alpha score of above 0.800. Overall, the internal consistency reliability of the measures used in this study can be considered to be good, and all items of the above measures are taken into the subsequence analysis.

The details descriptive and Cronback's Alpha for the study's measurement item are show as table 5 below:

Table 5: Details descriptive and Cronback's Alpha

No.	Measures/ Items	Mean	Standard Deviation	Cronback's Alpha
1.	Brand Sensitivity			
	▪ When we made the purchase, the brand name was consider	3.83	0.571	0.863
	▪ When we recommended this product, we took the brand into consideration	3.83	0.568	
	▪ We choose this product based on its brand name	3.82	0.617	
	▪ With this purchase, the brand name was important to us	3.81	0.582	
	▪ When evaluating product like this, we prefer recommending well-known brands	4.17	0.390	
	▪ We would not have moved forward, if certain brands weren't available to us	2.33	0.729	
	▪ The well-known global or national brands are best for our organization	3.82	0.577	
	▪ Well known suppliers offer the best products to our firm	4.04	0.691	
	▪ We prefer buying the best-selling brands	3.99	0.681	
	▪ The most recognized brands are usually very good choices	4.03	0.689	
2.	Purchase Risk – Organization			
	▪ Risk due to the performance/ functionality of the product	4.30	0.460	0.957
	▪ Risk due to the potential of financial loss of high costs	4.33	0.471	
	▪ Risk due to the potential that the product would not meet the approval of management, client or authority	4.34	0.473	

No.	Measures/ Items	Mean	Standard Deviation	Cronback's Alpha
3.	Purchase Risk – Individual			
	• I will feel personal dissatisfaction	4.26	0.686	0.855
	• My relations with the users of the purchased product will be strained	4.31	0.687	
	• The status of the purchasing department will decrease	4.26	0.705	
	• My next performance review will be less favourable	4.26	0.672	
	• I will have less chance for promotion	4.26	0.672	
	• My next raise will be smaller	4.35	0.477	
	• I will lose status among my peers	4.32	0.481	
	• I will lose my job	2.35	0.729	
	• My personal popularity will diminish	4.13	0.686	
4.	Purchase Importance			
	• This purchase was necessary for our business	4.43	0.502	0.660
	• We expected that this purchase would significantly improve our business	4.36	0.519	
	• This purchase was important to our overall profitability	4.38	0.505	
	• This purchase had important strategic implications	3.90	0.614	
	• We felt like this purchase was important for competitive reasons	3.92	0.617	
	• We considered how this purchase would impact our organization's long term profitability	4.35	0.523	
	• It was necessary to consider long term purchasing objectives when making this purchase	3.64	0.501	
	• Future plans were an important issue in this purchase decision	3.60	0.509	
	• We need to develop plans that considered possible long term effects	3.62	0.518	

No.	Measures/ Items	Mean	Standard Deviation	Cronback's Alpha
5.	Purchase Complexity			
	▪ Because of the complex nature of this product, we had to involve more people than we usually do compared with other similar purchases	3.66	0.654	0.757
	▪ The purchase of this product required a change in our processes and/or procedures	3.25	0.640	
	▪ This purchase required more time and effort than usual	3.32	0.630	
	▪ We had to gather more information before purchasing this product than we usually do for other similar purchases	3.64	0.628	
6.	Time Pressure			
	▪ A well-known brand is chosen, when decision makers are under pressured to reach a decision quickly	3.95	0.638	0.810
	▪ A well-known brand is chosen, when decision makers typically feel high time pressure	3.82	0.627	
	▪ A well-known brand is chosen, when decision makers does not have the resources to gather and process information about the product, or evaluate all alternatives	4.08	0.655	

4.3   Research Results and Discussions

Six hypotheses were generated for this study.   These call for the use of Pearson Correlation Test (for hypothesis 1, 2 & 3), T-Test (for hypotheses 4), ANOVA (for hypotheses 5) and a Multiple Regression Analysis (for hypothesis 6). The results of these tests and their interpretation are discussed as below:

4.3.1 Research Objective One

The first research objective of this study is to examine the relationship between "brand sensitivity", "purchase importance", "purchase complexity" and "time pressure". The aim is to identify whether there are any linear relationship among these independent variables with "brand sensitivity". Three hypotheses have been developed to test the relationship.

4.3.1.1 Hypothesis Testing

H1:   Organizational purchasing agent's level of "brand sensitivity" is positively correlated to the level of "purchase importance"

Hypothesis 1 can be stated in the null and alternative as follows:

$H1_0$:   There is no correlation between "brand sensitivity" and "purchase importance"

$H1_A$:   Organizational purchasing agent's level of "brand sensitivity" is positively correlated to the level of "purchase importance"

H2: **Organizational purchasing agent's level of "brand sensitivity" is positively correlated to the level of "purchase complexity"**

Hypothesis 2 can be stated in the null and alternative as follows:

$H2_0$: There is no correlation between "brand sensitivity" and "purchase complexity"

$H2_A$: Organizational purchasing agent's level of "brand sensitivity" is positively correlated to the level of "purchase complexity"

H3: **Organizational purchasing agents' "brand sensitivity" level is increase when time resources for gathering and processing information about the product, and evaluate its alternatives is limited.**

Hypothesis 3 can be stated in the null and alternative as follows:

$H3_0$: There is no correlation between "brand sensitivity" and "time pressure"

$H3_A$: Purchasing agent's "brand sensitivity" is positively correlated to the level of "time pressure"

4.3.1.2 Analysis and Results

Pearson Correlation Analysis was conducted, and applied for the testing of hypothesis 1, 2 and 3. The correlation coefficient (r) has a range of values from negative one to positive one (-1 to +1), the value specify the strength of the relationship, and the sign specify the directions (i.e. positively or negatively correlated) between the variables. The results of the correlation are show in table 6 as below:

Table 6: Pearson Correlation Matrix

	Brand Sensitivity
Purchase Importance	0.125*
Purchase Complexity	0.133*
Time Pressure	0.283**

* Correlation is significant at the 0.05 level (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed)

The results revealed that there is a significant positive relationship between "brand sensitivity" and the independent variables of "purchase importance" (r=0.125, p<0.05), "purchase complexity" (r=0.133, p<0.05) and "time pressure" (r=0.283, p<0.01). This implies that **hypothesis 1, 2 & 3 are substantiated**.

4.3.1.3 Discussion

The above findings show that purchasing agent's brand sensitivity is low when the purchasing agent is performing a less importance purchase (r=0.125, p<0.05) or less complicated purchase (r=0.133, p<0.05). Meanwhile, when purchasing agent experience limited/insufficient time in performing a systematic purchase evaluation (i.e. high "time pressure" situation), and does not have sufficient resources to gather and process information related to the purchase evaluation, their brand sensitivity is expected to increase (r=0.283, p<0.01).

4.3.2 Research Objective Two

The second research objective aim to investigate the influence of gender toward "perceived purchase risks" and the level of "brand sensitivity". The hypothesis was developed as below:

4.3.2.1 Hypothesis Testing

H4: Women purchaser will perceive higher purchase risk, and possess higher level of brand sensitivity compare to men.

Hypothesis 4 can be stated in the null and alternative as follows:

$H4_0$: There will be no difference between men and women in their "perceived purchase risk", and level of "brand sensitivity"

$H4_A$: Women purchaser will perceive higher "purchase risk", and possess higher level of "brand sensitivity" compare to men

Hypothesis four (H4) can be statistically expressed as below:

$H4_0$ is: $\mu_m = \mu_f$

$H4_A$ is: $\mu_m < \mu_f$

Where μ_m is the purchase risk perceived by male; and μ_f is the purchase risk perceived by female.

4.3.2.2 Analysis and Results

T-Test is commonly uses to examine the significant mean differences between two groups. In the case of this study, T-Test is applied to examine

whether the "perceived purchase risk" are significantly different for women than for man. The result of the T-Test is show in table 7 as below:

Table 7: T-Test

Gender	N	Mean	Standard Deviation	Std. Error Mean
Male	202	36.3366	4.28065	0.30119
Female	116	36.7759	3.39843	0.31554

The results of the T-Test show that the difference in the means of 36.3366 and 36.7759 with standard deviations of 4.28065 and 3.39843 for male and female on "perceived purchase risk" is not significant. Thus, **hypothesis 4 is not substantiated**.

4.3.2.3 Discussion

The T-Test result indicates that there is no significant difference in term of "perceived purchase risk" between women and man purchasers.

4.3.3 Research Objective Three

The third research objective is to examine the influence of differences in "roles and functions" of the purchasing agents toward "perceived purchase risks" and the level of brand sensitivity. A hypothesis has been developed as below:

4.3.3.1 Hypothesis Testing

**H5:   The purchasing agent's level of "brand sensitivity" will not be the
same depending on his/ her "roles & functions".**

Hypothesis 5 can be stated in the null and alternative as follows:

$H5_0$:   The level of "brand sensitivity" will be the same irrespective of the
purchasing agent's "roles & functions"

$H5_A$:   The level of "brand sensitivity" will not be the same depending on the
purchasing agent's "roles & functions"

Hypothesis five (H5) can be statistically expressed as below:

$H5_0$ is: $\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$

$H5_A$ is: $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq \mu_5$

Where μ_1, μ_2, μ_3, μ_4 & μ_5 signify the means on the level of brand sensitivity of
individual purchasing agent that responsible for the roles and functions of
procurement, contracts (quantity survey), construction, design & planning and
distribution respectively.

4.3.3.2 Analysis and Results

In view that there are more than two groups (5 different roles & functions) and
level of brand sensitivity is measured on an interval scale, Analysis of
Variance (ANOVA) is use to test this hypothesis. The results of ANOVA will
shows whether or not the means of the various groups are significantly
different from one another, as indicated by the F-statistic, as show in table 8
below:

Table 8: ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	490.686	4	122.671	7.817	0.000
Within Group	4911.645	313	15.692		
Total	5402.330	317			

The ANOVA test shown a significant F-value of 7.817 (p=0.0001), which implies that **hypothesis 5 is substantiated**.

4.3.3.3 Discussion

A significant hypothesis 5 implies that there are significant differences in the mean brand sensitivity among purchasing agents who plays a different daily roles and functions. Hence, B2B marketers should carefully consider the target audience when developing their branding strategies, as approaching the "inappropriate" target audiences may resulting in wastage of the organization's valuable resources.

4.3.4 Research Objective Four

This final research objective is to investigate if "purchase importance", "purchase complexity", "time pressure", and "perceived purchase risks" on both organizational and individual level can significantly determining the level of brand sensitivity in an organizational buying context.

4.3.4.1 Hypothesis Testing

H6: **Independent variables of "Purchase Importance", "Purchase Complexity", "Time Pressure", and "Perceived Purchase Risk" will significantly explain the variance of brand sensitivity in an organizational buying context.**

Hypothesis 6 can be stated in the null and alternative as follows:

$H6_0$: Independent variables of "Purchase Importance", "Purchase Complexity", "Time Pressure", and "Perceived Purchase Risk" will not significantly explain the variance of brand sensitivity in an organizational buying context

$H6_A$: Independent variables of "Purchase Importance", "Purchase Complexity", "Time Pressure" and "Perceived Purchase Risk" will significantly explain the variance of brand sensitivity in an organizational buying context

4.3.4.2 Analysis and Results

Multiple regression analysis is used to test hypothesis 6, and was run based on three different scenarios to examine the most influential independent variables toward "brand sensitivity". Three models were run on the multiple regression analysis, with model 1 consists of the independent variables of "purchase importance", "purchase complexity" and "time pressure"; model 2 consists of all variable in model 1 and "perceived individual purchase risk" and model 3 consists of all variable in model 2 and "perceived organizational

purchase risk". The results of regressing the independent variables against

brand sensitivity are shown as table 9 below:

Table 9: Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.330	0.109	0.100	3.91581
2	0.332	0.110	0.099	3.91828
3	0.359	0.129	0.115	3.88333

Model		Unstandardized Coefficients		Standard Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.587	3.806		4.884	0.000
	Purchase Importance	0.219	0.089	0.133	2.469	0.014
	Purchase Complexity	0.192	0.115	0.091	1.678	0.094
	Time Pressure	0.715	0.135	0.283	5.277	0.000
2	(Constant)	19.993	4.217		4.741	0.000
	Purchase Importance	0.228	0.090	0.138	2.543	0.011
	Purchase Complexity	0.193	0.115	0.091	1.679	0.094
	Time Pressure	0.704	0.136	0.279	5.168	0.000
	Purchase Risk – Ind.	-0.043	0.056	-0.042	-0.776	0.438
3	(Constant)	16.028	4.452		3.600	0.000
	Purchase Importance	0.216	0.089	0.131	2.431	0.016
	Purchase Complexity	0.192	0.114	0.090	1.684	0.093
	Time Pressure	0.699	0.135	0.277	5.177	0.000
	Purchase Risk – Ind.	-0.073	0.057	-0.071	-1.290	0.198
	Purchase Risk – Org.	0.428	0.166	0.140	2.581	0.010

4.3.4.3 Discussion

Model 1 shown R value of 0.330 with R square of 0.109, the ANOVA shows

F-value of 12.774 and is significant at 0.0001 level. The result indicates that

10.9% of the variance (R-square) in brand sensitivity has been significantly

explained by the three independent variables. When taking the perceived

individual purchase risk into the regression model, Model 2 shown R value of

0.332 with R square of 0.11, the ANOVA shows F-value of 9.719, and is significant at the 0.0001 level. The result for model 2 indicates that 11% of the variance (R-square) in brand sensitivity has been significantly explained by the four variables. Model 3 takes into the consideration of perceived organizational purchase risk, and it shows the R value of 0.359 with R square of 0.129, the ANOVA shows F-value of 9.248 and is significant at the 0.0001 level. The result indicates that 12.9% of the variance (R-square) in brand sensitivity has been significantly explained by the five variables. Thus, **hypothesis 6 is substantiated**.

The coefficients table from the multiple regression analysis reports indicates that among all the variables, "time pressure" returns **Beta** scores of 0.283 (model 1), 0.279 (model 2) and 0.277 (model 3), and are significant at the 0.0001 level. It may also be seen that "time pressure" is the most significant variable in influencing the level of brand sensitivity in this study.