

Chapter 9

Reliability Analysis and Hypotheses Testing

9.1. Introduction:-

This chapter is concerned with the second stage of the data analysis process for the data collected from 114 SBEs across the UK depending on inferential statistics. To gain meaningful results from the second analyse stage, steps were taken to make sure that the collected data are in order and to assess the reliability and validity of the measurements used in the survey. The chapter starts by illustrating the purification and calculation processes of the measuring instruments and the results of this data purification process, which are discussed in details in chapter four (section 4.9). Within this context, Cronbach Alpha and item-to-total correlation are calculated and used as indicators of the validity and reliability of the scale measurements. Next, the chapter illustrates how the results of this statistical purification are used for hypothesis testing and the interpretation of the research findings, which in turn, are related to the research aims and objectives. These inferential statistics has been conducted depending on the Statistical Package for Social Science (SPSS - version 16).

However, since the research in mainly concerned with E-Marketing adoption and the effect of this adoption on marketing performance of SBEs, the results of the data analysis by inferential statistics are framed and structured into three main parts, which relate to the main research questions. Here, the first part of the results are concerned with E-Marketing adoption stage, the second part focus on E-Marketing implementation and finally, the third part examines the impact of E-Marketing adoption on marketing performance of SBEs.

To this end, part one investigates “what factors have an impact on E-Marketing adoption by SBEs within the UK?” This question leads to a number of hypotheses, each

of which is tested by using regression analysis and structure equation modelling. In this part, TAM and IDT related factors (namely perceived ease of use, perceive relative advantage and perceived compatibility), internal environmental factors (namely owner skills, organisational culture, the SBE resources, type of the product, international orientation and size of the firm) and external environmental factors (namely competitive pressure, government influences and cultural orientation towards E-Marketing) are investigated to determine its impact on E-Marketing adoption by small businesses.

The second part examines “what are the different forms, tools and levels of E-Marketing implementation by UK SBEs?” The hypotheses arising from this question are tested by using regression analysis and one sample T-Test. Finally, the third part addresses “what is the impact of E-Marketing adoption by UK SBEs on its marketing performance?” Once more the hypotheses arising from this question are tested by using regression analysis and one sample T-Test.

All these steps are illustrated in figure 9-1 which shows the data analysis process through inferential statistics (as briefly discussed in chapter four – section 4.9.3). Moreover, table 9-1 outline a list of the factors investigated within the second phase of data analysis as well as the stage associated to these factors. Here it can be seen that the adoption stage incorporates internal factors such as owner (entrepreneur) skills, organisational culture, the SBE resources, international orientation and size of the firm; as well as external factors such as competitive pressure, government influences and cultural orientation towards E-Marketing by the SBE customers.

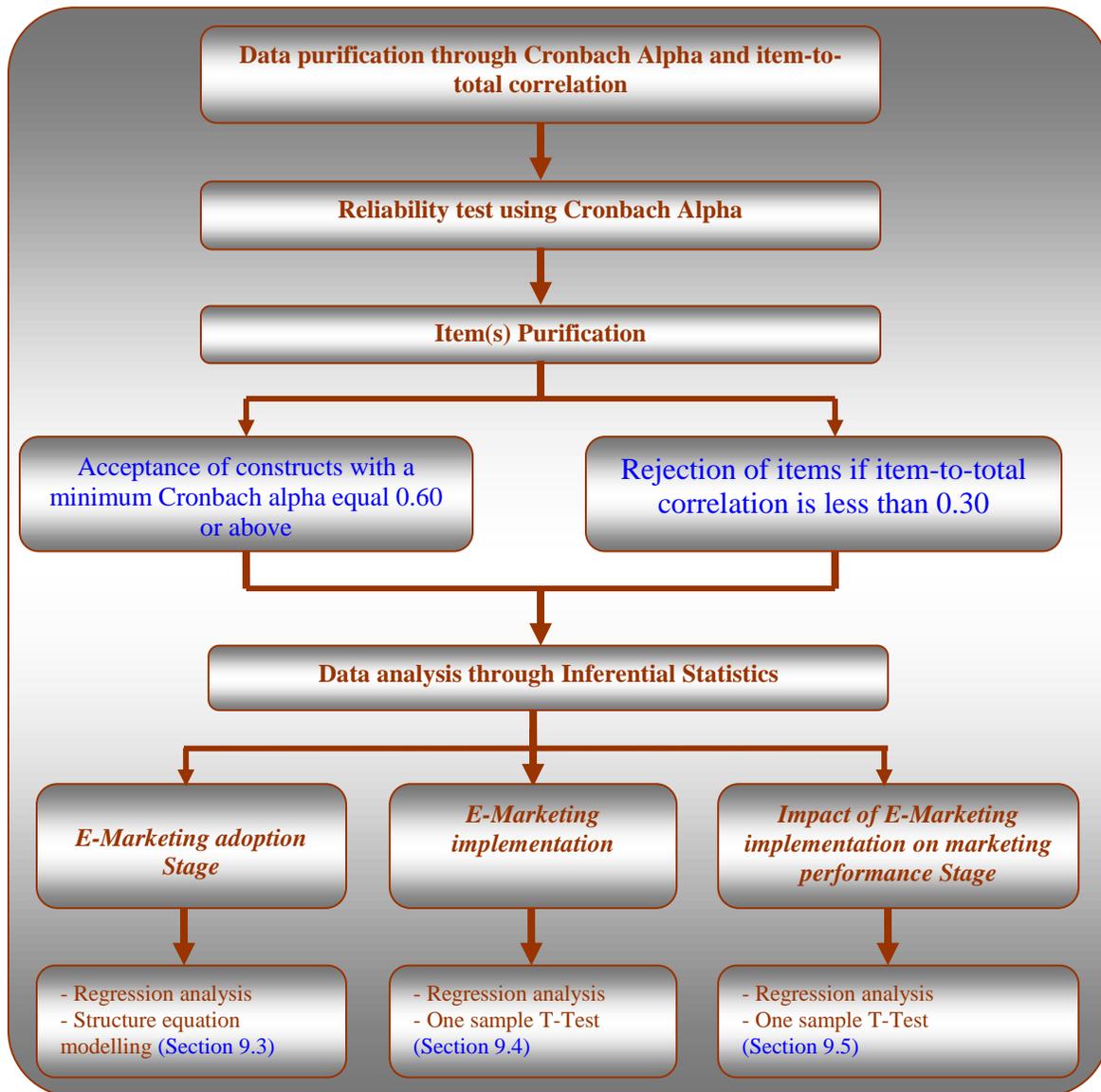


Figure 9-1: Data analysis process through inferential statistics

Table 9-1: The different factors investigated within the second phase data analysis

<i>Stage</i>	<i>Factors (constructs)</i>
<i>E-Marketing adoption Stage</i>	<i>A. Internal factors:</i>
	Owner (entrepreneur) skills
	Organisational culture
	The SBE resources
	Type of the product
	International orientation
	Size of the firm
	<i>Perceived ease of use</i>

	<i>Perceive relative advantage</i>
	<i>Perceived compatibility</i>
	<u><i>B. External Factors:-</i></u>
	Competitive pressure
	Government influences
	Cultural orientation towards E-Marketing
<i>E-Marketing implementation Stage</i>	<u><i>A. E-Marketing forms:</i></u>
	B2B
	B2C
	B2G
	<u><i>B. E-Marketing tools:</i></u>
	Internet Marketing
	E-Mail Marketing
	Mobile Marketing
	Intranet Marketing
	Extranet Marketing
	<u><i>C. E-Marketing implementation levels</i></u>
	No Implementation
	Low Implementation
	Medium Implementation
	High Implementation
<i>Impact of E-Marketing implementation on marketing performance Stage</i>	<u><i>The current and future effect of implementing E-Marketing on the marketing performance</i></u>
	New Sales
	New Customers
	Increased Profits
	Good Customer Relationships
	Reduction of sales costs
	Faster discovery of customer needs
	Greater customisation of products
	New markets
	Fast communication with customers
	Increased customer satisfaction
	Developing new products
	Faster adaptability of customer needs
	Providing better service quality
	Increased market share
	Brand equity

9.2 Reliability analysis results:-

Reliability analysis had been conducted depending on the calculation of the item-to-total correlation as well as the coefficient alpha (Cronbach alpha) to perform the reliability analysis process for the research measures. The process started with the calculation of the item-to-total correlation and coefficient alpha (Cronbach alpha) to obtain the total dimension of the constructs. In this respect, Cronbach alpha was calculated first for all the research measures to determine its level of reliability. Based on the calculations, Cronbach alpha coefficient ranged from 0.649 to 0.924, which was considerably higher than the reliability acceptable level of 0.60 suggested by Nunnally (1978) and most of the researchers within the field (e.g. Churchill, 1979; Magal et al., 1988; Eid, 2003 and Haron, 2002). Consequently, based on the coefficient alpha results the research measures are satisfactory for conducting further data analysis through inferential statistics to test the research hypothesis.

To confirm the coefficient alpha results, item-to-total correlation was calculated for all the items within each domain to determine the degree of correlation for each item which was then used to determine the low item-to-total correlation items. Out of the research dimensions, eleven items in three dimensions were found to have a low item-to-total correlation that is below the acceptable limit of 0.3 suggested by Edgett (1991) and most of the researchers within the field (e.g. Eid, 2003; Haron, 2002; Mat-Saad, 2001 and Shoobridge, 2004). These items include three items in internal factors group, one item in the external factors group and seven items in the E-Marketing adoption group. Based on the results of the item-to-total correlation, although the coefficient alpha results were acceptable the items with low item-to-total correlation were removed in order to improve the reliability of the research scales. Moreover, both item-to-total correlation and coefficient alpha (Cronbach alpha) were recalculated.

After removing all the eleven items and recalculating the item-to-total correlation, the item-to-total correlation values for all the items were found to have a high value which is above the acceptable limit of 0.3 and the correlation ranged from 0.314 to 0.919. Afterwards, Cronbach alpha was recalculated and it was found that not only all the

research measures were found to have a value of coefficient alpha that is significantly above the acceptable level of 0.60 and ranging from 0.728 to 0.924, but also the values of the coefficient alpha recorded an improved reliability.

Table 9-2 illustrate the results of the item-to-total correlation and coefficient alpha (Cronbach alpha) first and second analysis. These results confirm that the research instrument and scales used within this research possess a high level of reliability and is satisfactory acceptable for conducting further data analysis through inferential statistics to test the research hypothesis.

Table 9-2: Reliability Analysis for the Research Variables

<i>Item Code</i>	<i>Item</i>	<i>Item-total correlation First analysis</i>	<i>Cronbach's Alpha First analysis</i>	<i>Item-total correlation Second analysis</i>	<i>Cronbach's Alpha Second analysis</i>
<i>A. Internal factors:</i>					
<i>A1</i>	<i>Entrepreneur (owner) skills:</i>		.802		.802
A11	Easy to use E-Marketing tools	.683		.683	
A12	Easy to interact with E-Marketing tools	.665		.665	
A13	Little mental effort to interacting with E-Marketing tools	.516		.516	
A14	E-Marketing tools are very important	.593		.593	
A15	Support from the top management	.510		.510	
<i>A2</i>	<i>Organisational culture:</i>		.762		.762
A21	Consistency with the SBE values	.558		.558	
A22	The attitude of staff	.520		.520	
A23	Consistency with the beliefs of the SBE	.544		.544	
A24	The behaviour of SBE staff	.526		.526	
A25	E-Marketing tools as a very useful tool.	.571		.571	
<i>A3</i>	<i>The SBE resources:</i>		.649		.807
A31	Qualified and skilled marketing staff	.476		.625	
A32	Good technological infrastructure	.434		.564	
A33	Sufficient financial resources	.590		.714	
A34	Having sufficient financial resources.	.434		.591	
A 35	Not having sufficient financial resources.	.222		Excluded*	
A36	Not having skilled and qualified staff.	.230		Excluded*	
A37	Good and sufficient technical resources.	.227		Excluded*	

A4	Type of the product:		.728		.728
A41	The types of products	.476		.476	
A42	Regardless of the types of products	.614		.614	
A43	Type of products did not affect our decision of adopting E-Marketing.	.732		.732	
A44	Changing the types of products	.707		.707	
A5	International orientation:		.828		.828
A51	Regardless of national or international business orientation.	.615		.615	
A52	Usefulness for international business.	.638		.638	
A53	Work on the local level.	.666		.666	
A54	We plan to expand internationally	.701		.701	
A6	Size of the firm:		.783		.783
A61	We are too small to adopt E-Marketing.	.699		.699	
A62	The size did affect our decision	.759		.759	
A63	We will adopt when we become bigger	.458		.458	
A64	Regardless of our enterprise size.	.475		.475	
A7	Perceived ease of use:		.924		.924
A71	Accomplish tasks more quickly.	.791		.791	
A72	Improves the quality of the work.	.826		.826	
A73	Easier to do job.	.736		.736	
A74	Increases productivity.	.773		.773	
A75	Greater control over work.	.711		.711	
A76	Enhances effectiveness on job.	.752		.752	
A77	Improves job performance.	.736		.736	
A8	Perceive relative advantage:		.858		.858
A81	Compatible with all aspects of work.	.634		.634	
A82	Compatible with current situation	.750		.750	
A83	Fits well with the way I like to work.	.741		.741	
A84	Fits into work style.	.706		.706	
A9	Perceived compatibility:		.846		.846
A91	Interaction is clear and understandable.	.680		.680	
A92	Easy to do what I want to do.	.721		.721	
A93	Easy to use.	.773		.773	
A94	Learning to use is easy.	.565		.565	
<u>B. External Factors:-</u>					
B1	Competitive pressure		.801		.889
B11	Competitive pressure is one reason for adoption	.671		.725	
B12	Business environment support	.592		.675	
B13	Enough legal acts	.662		.697	

B14	Competitive pressure is the main reason	.750		.769	
B15	Avoid losing our market share	.698		.719	
B16	A response to market trends.	.675		.685	
B17	Regardless of market trends and competitive pressure	-.022		Excluded*	
B2	Government influences		.913		.913
B21	Incentives provided by the government.	.915		.915	
B22	Protection provided by the government.	.919		.919	
B23	Government influences.	.863		.863	
B24	No influence of the government	.547		.547	
B3	Cultural orientation towards E-Marketing		.836		.836
B31	Do not like purchasing through the Internet.	.509		.509	
B32	Do not trust E-Marketing tools	.546		.546	
B33	Lack of trust between enterprises	.625		.625	
B34	Prefer to pay in cash	.612		.612	
B35	Do not trust E-Marketing tools because of security issues.	.645		.645	
B36	Do not trust E-Marketing tools because of privacy issues.	.534		.534	
B37	Do not trust E-Marketing tools because they mistrust the enterprises using it.	.756		.756	
B38	Customers are able to utilize technology.	.314		.314	
<u>C. E-Marketing adoption:-</u>			.676		.847
C1	Depending on traditional marketing.	-.080		Excluded*	
C2	Plan to adopt E-Marketing	-.052		Excluded*	
C3	Have no access to the internet	-.012		Excluded*	
C4	To communicate with our customers.	.337		.341	
C5	To advertise our products	.506		.557	
C6	Accessing other companies sites	.473		.497	
C7	To support our enterprise traditional marketing activities	.362		.383	
C8	Systematic or regular updates for web site	.590		.705	
C9	Website is connected to a small customer database.	.581		.588	
C10	Interacts with customers through registration forms, newsletters and e-mail accounts.	.623		.736	
C11	To conduct commercial transactions	.626		.698	
C12	Computerised customer database	.470		.510	

C13	Minimise the manual input	.468		.497	
C14	Depending on Business to Business (B2B)	.285		Excluded*	
C15	Depending on Business to Consumer (B2C)	.010		Excluded*	
C16	Depending on Business to Government (B2G)	-.001		Excluded*	
C17	We do not use B2B, B2C and B2G in conducting our marketing activities but we plan to do so in the future.	-.073		Excluded*	
<u>J1. The current effect of implementing E-Marketing on the marketing performance:-</u>			.736		.736
J11	New Sales	.555		.555	
J12	New Customers	.547		.547	
J13	Increased Profits	.627		.627	
J14	Good Customer Relationships	.483		.483	
J15	Reduction of sales costs	.529		.529	
J16	Faster discovery of customer needs	.641		.641	
J17	Greater customisation of products	.650		.650	
J18	New markets	.593		.593	
J19	Fast communication with customers	.576		.576	
J110	Increased customer satisfaction	.661		.661	
J111	Developing new products	.490		.490	
J112	Faster adaptability of customer needs	.677		.677	
J113	Providing better service quality	.670		.670	
J114	Increased market share	.683		.683	
J115	Brand equity	.560		.560	
<u>J2. The future effect of implementing E-Marketing on the marketing performance:-</u>			.862		.862
J21	New Sales	.556		.556	
J22	New Customers	.605		.605	
J23	Increased Profits	.736		.736	
J24	Good Customer Relationships	.791		.791	
J25	Reduction of sales costs	.600		.600	
J26	Faster discovery of customer needs	.831		.831	
J27	Greater customisation of products	.800		.800	
J28	New markets	.788		.788	
J29	Fast communication with customers	.459		.459	
J210	Increased customer satisfaction	.775		.775	
J211	Developing new products	.793		.793	
J212	Faster adaptability of customer needs	.803		.803	
J213	Providing better service quality	.762		.762	
J214	Increased market share	.771		.771	

J215	Brand equity	.648	.648
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* These items were excluded because it has a low item-to-total correlation that is below the acceptable limit of 0.3 suggested by most researchers (e.g. Edgett, 1991).

As illustrated in the table, all the research variables had an acceptable item-to-total correlation values ranging from 0.314 to 0.919 as well as a highly acceptable reliability coefficient (Cronbach's Alpha) ranged from 0.728 to 0.924 (Table 9-3 summaries the results of Cronbach's Alpha). The values of item-to-total correlation and Cronbach's Alpha are considerably and significantly higher than the reliability acceptable levels suggested by Edgett (1991), Magal et al., (1988) and Nunnaly (1978). Consequently, the research measures are satisfactory acceptable for conducting further data analysis through inferential statistics to test the research hypothesis.

Table 9-3: Reliability Analysis of the main constructs of the study

<i>Item Code</i>	<i>Item</i>	<i>Cronbach's Alpha</i>	<i>Total Number of Items</i>
A	<u>A. Internal factors:</u>		
A1	Entrepreneur (owner) skills	0.802	5
A2	Organisational culture	0.762	5
A3	The SBE resources	0.807	4
A4	Type of the product	0.728	4
A5	International orientation	0.828	4
A6	Size of the firm	0.783	4
A7	Perceived ease of use	0.924	7
A8	Perceive relative advantage	0.858	4
A9	Perceived compatibility	0.846	4
B	<u>B. External Factors:-</u>		
B1	Competitive pressure	0.889	6
B2	Government influences	0.913	4
B3	Cultural orientation towards E-Marketing	0.836	8
C	C. E-Marketing adoption	0.847	10
H1	The current effect of implementing E-Marketing on the marketing performance	0.736	16
H2	The future effect of implementing E-Marketing on the marketing performance	0.862	15

9.3 E-Marketing adoption stage:-

As the study aims to extend the TAM and IDT models to gain a better understanding of the factors affecting the adoption of E-Marketing by small business enterprises, within the E-Marketing adoption stage the statistical analyses for the purified data resulting from the data purification process will be conducted in four stages. Within these four stages the TAM and IDT models will be extended at different levels by adding more internal and external SBE environmental factors to achieve a better understanding about which of these factors has the greatest impact on E-Marketing adoption by SBEs. These four stages are illustrated in the following figure:-

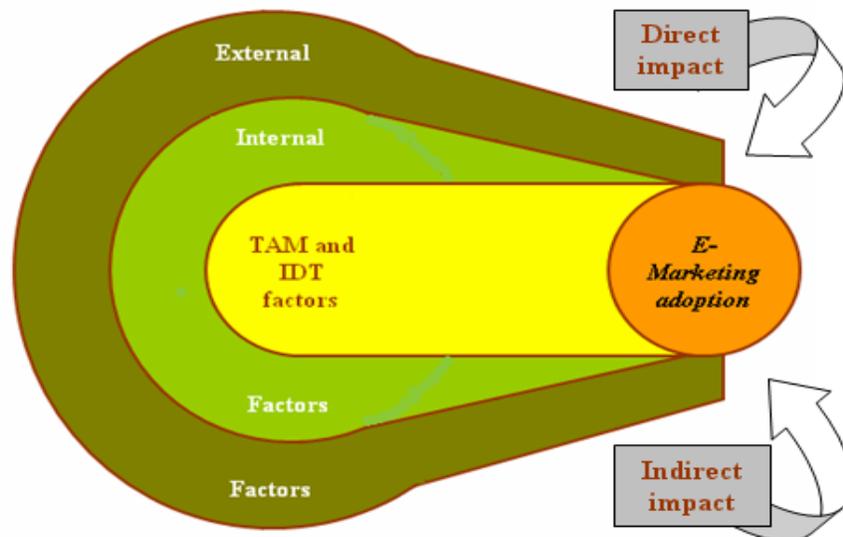


Figure 9-2: Statistical analyses stages for E-Marketing adoption by SBEs

Here, the first stage examines the classic TAM and IDT models within the SBEs context. The second stage extend the models (TAM and IDT) by adding SBE internal factors such as owner skills and support, available resources, the SBE organisational culture, type of products, international orientation of the SBE and the SBE size. These factors are based on the findings of the exploratory studies (chapters five and six). This stage investigates the impact of adding these factors on the primary framework (TAM and IDT).

The third stage builds on the second stage by adding some external environmental factors such as competitive pressures, government influence and cultural orientation

towards E-Marketing by the SBE customers and investigates the impact of adding these factors on the secondary framework (resulted from stage two). These external factors are also based on the findings of the exploratory studies (chapters five and six). Each of these stages have been subjected to multiple regression and simple regression analysis

Finally and due to the different results generated from the examination of the first three frameworks, it is believed that it will be fruitful to investigate the direct and indirect impact of the TAM and IDT related factors, internal environmental factors and external environmental factors on the adoption of E-Marketing by the UK SBEs. Accordingly a fourth framework was constructed to investigate the different direct and indirect relationships between TAM and IDT related factors, the internal factors and the external environmental factors. The relationships between these factors are tested and examined by using structure equation modelling (SEM) and path analysis. The statistical analyses stages and tools used within each stage are illustrated in figure 9-3.

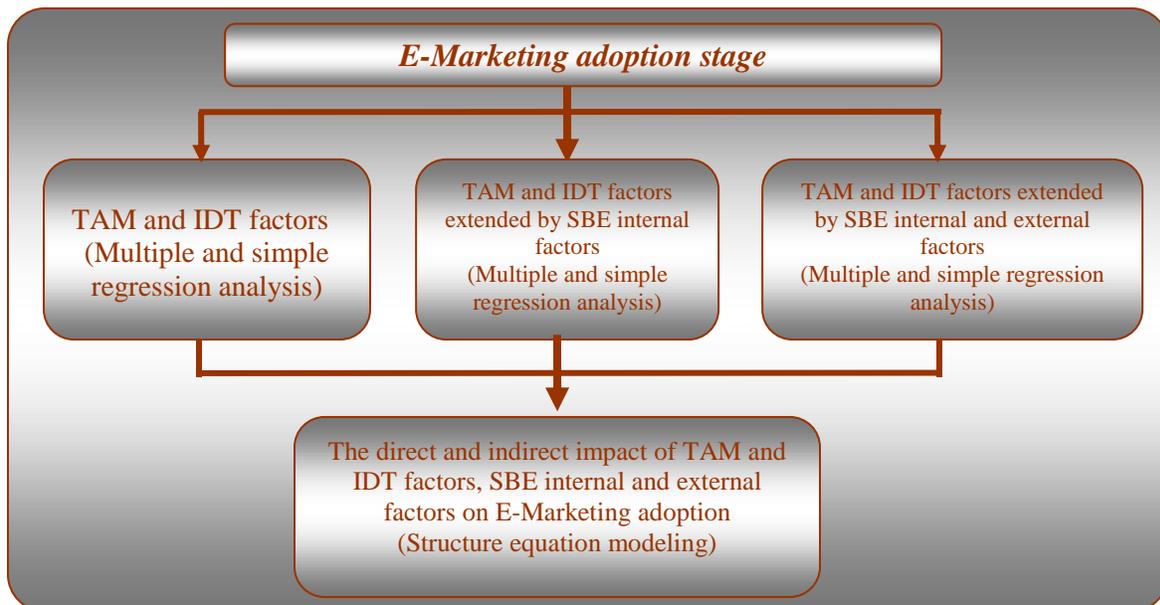


Figure 9-3: Statistical analyses stages for E-Marketing adoption by SBEs and statistical tools used within each stage

Each of these frameworks generated some hypotheses related to it. These hypotheses constructed a core part of this study and are tested in an attempt to achieve an answer for the research questions. The statistical analysis related to the examination of

each of the previous models and frameworks for the purpose of hypotheses testing are discussed and illustrated in the following part of the chapter.

9.3.1 Stage 1: TAM and IDT related factors:-

Within this stage the primary TAM and IDT related factors namely perceived ease of use, perceived relative advantage and perceived compatibility are examined to investigate its impact on E-Marketing adoption by SBEs. This model is illustrated in figure 9-4 below.

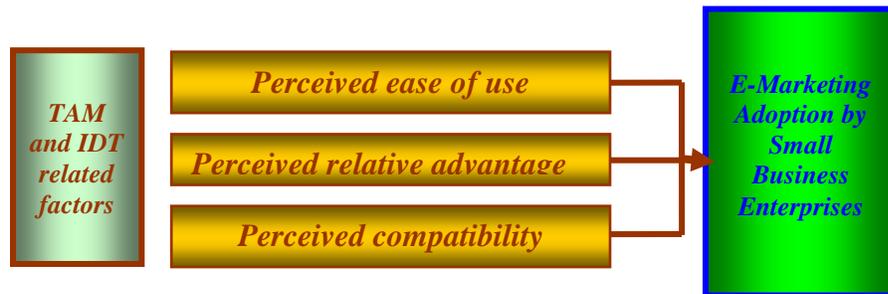


Figure 9-4: TAM and IDT related factors model

Based on this theoretical framework (figure 9-4), the following hypotheses are constructed to test the impact of TAM and IDT related factors on E-Marketing adoption by UK small businesses.

H1	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use
H2	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).
H3	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility

These hypotheses have been tested using multiple regression analysis.

9.3.1.1 Hypotheses testing procedures:-

According to (Cramer, 1998), hypotheses testing provide the mathematical underpinning for inferential statistics employed in this study. There are some common steps that are generally used in hypotheses testing by most researchers. According to Cramer (1998) and Sekaran (1984) these steps are:-

1. Identify what is the appropriate statistic test to be used.
2. Determine and set up the rejection region by looking up the critical value in the appropriate table.
3. Calculate the test statistic.
4. Draw the conclusion: reject or fail to reject.
5. Interpret the results.

Undoubtedly, the most important part in this testing procedure is to decide which test to be used in which situation. However, for this part of this study, simple regression, multiple regression analysis and Structure equation modelling were seen as the most appropriate tools for hypotheses testing since the hypotheses involved the relationships between one dependent variable (DV) and more than one independent variable (IV).

9.3.1.2 Multiple regression analysis:-

Multiple regression analysis was used to test E-Marketing adoption hypotheses (hypotheses 1 and 2) since it is a very common statistical technique that can be used to analyse the relationship between a single dependent variable (DV) and several independent variables (IV) (Hair et al., 1998) and is in line with the main analytical technique used by Davis et al (1989) to test TAM.

Within multiple regression, the objective is to use the independent variables whose values are known to predict the single dependent variable (Cramer, 1998; Hair et al., 1998). Multiple regression can be calculated according to the following formula:-

$$y = b_0 + b_1x_1 + b_2x_2 + \dots + b_kx_k + \varepsilon$$

Where:-

- y the predicted value on the dependent variable
- b_0 the y intercept, the value of y when all $X_s=0$
- X the various independent variables
- $\beta_{1..k}$ the various coefficient assigned to the independent variables during the regression.
- ε the standard error of estimates.

The backbone of the regression process is to gain the β (beta) values known as the regression coefficients (or beta coefficient) which allow the calculation of realistic values for y (the predicted value on the dependent variable) within the regression equation. According to Eid (2003), the β coefficient is the un-standardised simple regression coefficient for the case of one independent variable. Accordingly, when there are two or more independents, the β coefficient is a partial regression coefficient. The beta weights are the regression β coefficients for standardised data. Therefore, Beta (β) is the average amount the dependent variable increases when the independent variable increases by one standard deviation and the other independent variables are held constant. A positive coefficient shows that the predicted value of the dependent variable increases when the value of the independent variable increases and vice versa. On the other hand, the correlation between the obtained and predicted values of y indicates the strength of the relationship between the dependent variable and the independent variables.

Since most of the researchers within the field use the results of Analysis of Variance (ANOVA) to test the null hypothesis that there is no linear relationship between dependent variable and independent variables, the results of Analysis of Variance (ANOVA) was used to measure the significance of the overall regression model. Within the Analysis of Variance, the value used to test the null hypothesis is F ratio. The F test is used to test the significance of R which indicates the significance of the regression model as a whole. As with other significance tests, the usual social science cut-off point is that the model should be significant at the 0.05 level or better.

Moreover, the relationship between the independent variables in the regression model for undesired effects of multicollinearity and singularity was examined. Multicollinearity exists when variables are highly correlated (0.90 and above), and singularity exists when the variables are perfectly correlated. According to Sykes (1993), the difficulty arises when two independent variables are closely correlated, creating a situation in which their effects are difficult to separate. Both multicollinearity and singularity reflect a high degree of redundancy of the variables and therefore these variables need to be removed from the analysis. The relationship between the

independent variables was examined by two collinearity statistic tools namely the tolerance value and the variance inflation factor (VIF).

Tolerance refers to the amount of variability of the specified independent variables not explained by the other variables. Therefore, very small tolerance values indicates a high level of collinearity, since it means that it is highly predicted (collinear) with other predictor variables (Hair et al., 1998). On the other hand, the variance inflation factor (VIF) is an index which measures how much the variance of a coefficient (square of the standard deviation) is increased because of collinearity (the effect that the other predictors of variables have on the variance of a regression coefficient). Therefore, large VIF values indicate a high level of collinearity. The cut-off used by most researchers within the field is a tolerance of 0.10, which corresponds to VIF values above 10.00 (Garson, 2009a).

According to Eid (2003), if there are more independent variables than cases the regression solution may be found which perfectly predicts the dependent variable for each case. For that the ratio of number of cases to independent variables must be high to avoid a meaningless solution. Accordingly, as a rule of thumb, there should be approximately 20 times more cases than independent variables to achieve good results. This requirement has been met since the ratio of number of cases to independent variables within this study is high. Moreover, the normality of the data was investigated by conducting normality tests and the examination of the residual plots assists in the assessment of the results and proved that it meets the assumptions of normality

9.3.1.3 Results of hypotheses testing:-

As mentioned earlier multiple regression analysis was used to test the hypotheses related to TAM and IDT factors. The multiple regression model can be expressed in a multiple linear regression equation as follows:-

E-Marketing adoption = Constant + β_1 Perceived ease of use (H21) + β_2 perceived relative advantage (H22) + β_3 perceived compatibility (H23) + ε

To investigate the above hypotheses, all the variables related to perceived ease of use, perceived relative advantage and perceived compatibility were entered in a single block. It was found that the proposed multiple regression model show a significant percentage of variance to indicate the impact of SBEs TAM and IDT related factors on E-Marketing adoption by these SBEs. Table 9-4 shows that 67.1 % of the observed variability in E-Marketing adoption is explained by the three independent variables (perceived ease of use, perceived relative advantage and perceived compatibility, $R^2=0.680$, Adjusted $R^2=0.671$). Accordingly, perceived ease of use, perceived relative advantage and perceived compatibility explain the variation in E-Marketing adoption in a good way.

Table 9-4: Model Summary^b

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.824 ^a	0.680	0.671	.34142
a. Predictors: (Constant), Perceived ease of use, perceived relative advantage, perceived compatibility				
b. Dependent Variable: E-Marketing Adoption				

To test the corresponding null hypothesis that there is no linear relationship among the dependent variable (E-Marketing adoption) and the independent variables (perceived ease of use, perceived relative advantage and perceived compatibility) within the research population, the Analysis of Variance (ANOVA) was used. Table 9-5 illustrate the results of this Analysis of Variance. As can be seen from the table, the ratio of the two mean squares (F) was 77.818 (F value = 77.818, $P<0.001$). Since the observed significance level was less than 0.001, the three independent variables influence E-Marketing adoption by SBEs.

Table 9-5: Summary of ANOVA^b results

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	27.213	3	9.071	77.818	.000^a
	Residual	12.822	110	0.117		
	Total	40.035	113			

a. Predictors: (Constant), Perceived ease of use, perceived relative advantage, perceived compatibility

b. Dependent Variable: E-Marketing Adoption

To test the null hypothesis that the population partial regression coefficient for the variables is equal to zero, t-statistic and its observed significance level were used. The results are shown in table 9-6.

Table 9-6: Results of Regression Coefficients^a

<i>Model 1</i>	Unstandardied Coefficients	Standardised Coefficients	T-value	Sig.	Collinearity Statistics	
	β	<i>Beta</i>			<i>Tolerance</i>	<i>VIF</i>
(Constant)	.888		4.347	.000		
Perceived ease of use	.211	.239	2.494	.014	.318	3.144
Perceived relative advantage	.366	.433	4.261	.000	.282	3.549
Perceived compatibility	.188	.217	2.445	.016	.369	2.714

a. Dependent Variable: E-Marketing Adoption

As can be seen from the results in table 9-6, the researcher can safely reject the null hypotheses that the coefficients for perceived relative advantage (B= 0.433, t= 4.261, p<0.001), perceived ease of use (B= 0.239, t= 2.494, p<0.05) and perceived compatibility (B= 0.217, t= 2.445, p<0.05) are equal zero. Multicollinearity between the independent variables was minimal, as shown in table 9-6 the values of Tolerance averaged between 0.282 to 0.369 and the variance inflation factor (VIF) averaged between 2.714 and 3.549, indicating that the results are reliable. The beta weights show that the perceived relative advantage (B= 0.433) is relatively stronger than perceived ease of use (B= 0.239) and perceived compatibility (B= 0.217) in explaining the adoption of E-Marketing by SBEs. Based on the previous discussion, the hypotheses are accepted.

Table 9-7: Summary of the results for the hypothesis

<i>Hypotheses</i>	<i>Results</i>
H1A - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use	Accepted
H1B - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).	Accepted

H1C - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility

Accepted

9.3.2 Stage 2: Extending TAM and IDT by SBE internal factors:-

Within stage two, the primary TAM and IDT related factors model (tested in the first stage) are extended by adding internal environmental factors in terms of owner skills and support, available resources, organisational culture, type of products, international orientation and SBE size. The resulting framework is used to investigate the impact of these factors on E-Marketing adoption by SBEs. This framework is illustrated in figure 9-5.

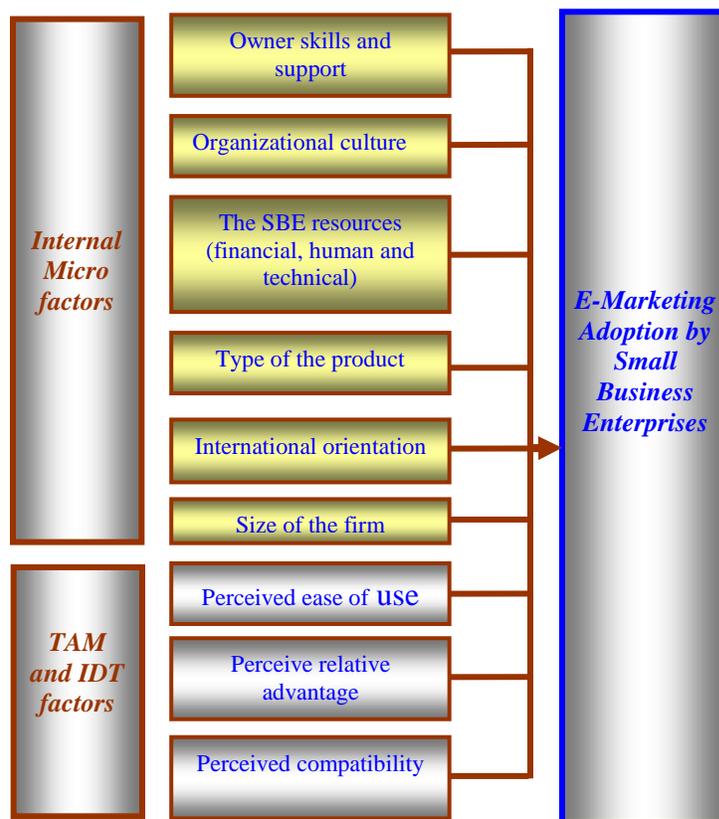


Figure 9-5: TAM and IDT model extended by SBE internal environmental factors (Primary Framework).

Based on the theoretical framework set out in figure 9-5, the following hypotheses were constructed for the purpose of testing the impact of TAM and IDT related factors as well as the SBE internal environmental factors on E-Marketing adoption by UK SBEs.

H2A	Adopting E-Marketing by the SBEs is dependent on the SBE owner skills and support.
H2B	Adopting E-Marketing by the SBEs is dependent on the available resources of the SBE
H2C	Adopting E-Marketing by the SBEs is dependent on the SBE organisational culture.
H2D	Adopting E-Marketing by the SBEs is dependent on the type of products produced by the SBE.
H2E	Adopting E-Marketing by the SBEs is dependent on the international orientation of the SBE
H2F	Adopting E-Marketing by the SBEs is dependent on the SBE size
H2G	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use
H2H	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).
H2I	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility

These hypotheses had been tested using multiple regression analysis.

9.3.2.1 Results of hypotheses testing:-

As mentioned earlier multiple regression analysis was used to test these hypotheses. The multiple regression model can be expressed in a multiple linear regression equation as follows:-

E-Marketing adoption = Constant + β_1 Owner skills (H2a) + β_2 Available resources of the SBE (H2b) + β_3 SBE organisational culture (H2c) + β_4 Type of products (H2d) + β_5 International orientation of the SBE (H2e) + β_6 SBE size (H2f) + β_7 E-Marketing perceived ease of use (H2g) + β_8 E-Marketing perceived relative advantage (H2h) + β_9 E-Marketing perceived compatibility (H2i) + ε

To investigate each of these hypotheses, all the variables were entered in a single block. It was found that the proposed multiple regression model show a significant percentage of variance to indicate the impact of TAM and IDT related factors as well as SBEs internal factors on E-Marketing adoption by these SBEs. Table 9-8 shows that 69.1% of the observed variability in E-Marketing adoption is explained by the nine

independent variables ($R^2 = 0.716$, Adjusted $R^2 = 0.691$). According to Sykes (2009), a high value of R^2 suggests that the regression model explains the variation in the dependent variable well. Based on that and by taking into consideration the value of R^2 resulted from the regression, internal factors explains the variation in E-Marketing in a good way.

Table 9-8: Model Summary^b

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.846 ^a	0.716	0.691	0.33071
a. Predictors: (Constant), Compatibility, Type Of Product, Size Of SBE, International Orientation, Owner Skills, Organisational Culture, Ease Of Use, SBE resources, Relative Advantage				
b. Dependent Variable: E-Marketing Adoption				

To test the corresponding null hypothesis that there is no linear relationship among the dependent variable (E-Marketing adoption) and the independent variables within the population, the Analysis of Variance (ANOVA) was used. Table 9-9 illustrate the results of this Analysis of Variance. As can be seen from the table, the ratio of the two mean squares (F) was 29.117 (F value = 29.117, $P < 0.001$). Since the observed significance level was less than 0.001, the nine independent variables influence E-Marketing adoption by UK SBEs.

Table 9-9: Summary of ANOVA^b results

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	28.661	9	3.185	29.117	.000^a
	Residual	11.375	104	0.109		
	Total	40.035	113			
a. Predictors: (Constant), Compatibility, Type Of Product, Size Of SBE, International Orientation, Owner Skills, Organisational Culture, Ease Of Use, SBE resources, Relative Advantage						
b. Dependent Variable: E-Marketing Adoption						

To test the null hypothesis that the population partial regression coefficient for the variables is equal to zero, t-statistic and its observed significance level were used. The results are shown in table 9-10.

Table 9-10: Results of Regression Coefficients^a

Model		Unstandardied Coefficients	Standardised Coefficients	T-value	Sig.	Collinearity Statistics	
		β	Beta			Tolerance	VIF
	(Constant)	.104		.336	.737		
Internal Factors	Owner Skills	.409	.403	4.456	.000	.575	1.738
	Organisational Culture	.259	.275	2.775	.007	.480	2.082
	SBE resources	.088	.108	1.063	.290	.453	2.210
	Type Of Product	.004	.006	.076	.940	.867	1.153
	International Orientation	.041	.063	.866	.388	.890	1.123
	Size Of SBE	.063	.092	1.258	.211	.884	1.131
TAM and IDT Factors	Ease Of Use	.197	.224	2.390	.019	.312	3.203
	Relative Advantage	.297	.351	3.286	.001	.239	4.184
	Compatibility	.156	.181	1.994	.049	.331	3.022

a. Dependent Variable: E-Marketing Adoption

As can be seen from the results in table 9-10, the researcher can safely reject the null hypotheses that the coefficients for owner skills (B= 0.403, t= 4.456, p<0.001), relative advantage (B= 0.351, t= 3.286, p<0.05), organisational culture (B= 0.275, t= 2.775, p>0.05), the perceived ease of use (B= 0.224, t= 2.390, p<0.05), and the perceived compatibility (B= 0.181, t= 1.994, p<0.05) are 0. Multicollinearity between the independent variables was minimal, as shown in table 9-10 the values of Tolerance averaged between 0.239 to 0.890 and the variance inflation factor (VIF) averaged between 1.131 and 4.184, indicating that the results are reliable.

However, the null hypothesis is accepted for SBE resources (B=0.108 t= 1.063, p>0.05), type of product (B= 0.006, t= 0.076, p>0.05), international orientation (B=.063, t= 0.866, p>0.05) and size of SBE (B= 0.092, t= 1.258, p>0.05) given the fact that the partial coefficient for these factors does not contribute significantly to the model. The

beta weights show that the owner (entrepreneur) skills ($B= 0.403$) is relatively stronger than relative advantage ($B= 0.351$), organisational culture ($B= 0.275$), perceived ease of use ($B= 0.224$), and the perceived compatibility ($B= 0.181$) in explaining the adoption of E-Marketing by SBEs. The results are summarised in the following table.

<i>Hypotheses</i>	<i>Results</i>
H2A - Adopting E-Marketing by the SBEs is dependent on the SBE owner skills and support.	<i>Accepted</i>
H2B - Adopting E-Marketing by the SBEs is dependent on the available resources of the SBE	<i>Rejected</i>
H2C - Adopting E-Marketing by the SBEs is dependent on the SBE organisational culture.	<i>Accepted</i>
H2D - Adopting E-Marketing by the SBEs is dependent on the type of products produced by the SBE.	<i>Rejected</i>
H2E - Adopting E-Marketing by the SBEs is dependent on the international orientation of the SBE	<i>Rejected</i>
H2F - Adopting E-Marketing by the SBEs is dependent on the SBE size	<i>Rejected</i>
H2G - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use	<i>Accepted</i>
H2H - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).	<i>Accepted</i>
H2I - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility	<i>Accepted</i>

Although the hypothesis for SBE resources, type of product, international orientation and size of SBE are rejected, to support these findings the individual effect of each of these factors on the adoption of E-Marketing by SBEs was investigated through conducting simple regression analysis. This is mainly to determine the importance of each independent variable in relation with the dependent variable (E-Marketing adoption).

Simple regression analysis is appropriate to be used because the data collected within this study were measured by a five point Likert scale (which is a very widely used tool among researchers in the field as can be seen in the literature – e.g. Eid, 2003; Aaker et al., 1995; Bagozzi, 1994; Kohli and Jaworski, 1990 and Haron, 2002). Additionally, according to Hair et al (1998), Schertzer and Kernan (1985) and Madsen (1989) this

method assumes equal intervals between scale items and therefore produce data that can be assumed to be intervally scaled thus confirms to the suitability of the technique and make them near metric data that can be analysed by regression analysis. Table 9-11 illustrate the outcomes of the simple regression analysis among SBE resources, SBE type of products, SBE international orientation and SBE size as independent variables and small businesses E-Marketing adoption.

Table 9-11: Results of simple regression analysis between SBE resources, SBE type of products, SBE international orientation, SBE size and small businesses E-Marketing adoption.

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
SBE resources	0.549 ^a	0.302	0.295	0.49965
SBE type of products	0.028 ^a	0.001	-0.008	.59764
SBE International Orientation	0.185 ^a	0.034	0.026	0.58758
SBE size	0.109 ^a	0.012	0.003	0.59433

As can be seen from table 9-11, for the SBE resources factor the value of R in this analysis is .549 while the value R^2 is 0.309 and Adjusted R^2 is 0.295. This means that 29.5 % of the total observed variation in E-Marketing adoption is explained by the small business resources. Similarly, 2.6% and 0.03% of the total observed variation in E-Marketing adoption is explained by the small business international orientation and SBE size respectively. On the other hand, with regards to the SBE type of products it is noticed that the value of R in this analysis is 0.028 while the value R^2 is 0.001 and Adjusted R^2 is -0.008 which means that the small business type of products can not explain the observed variation in E-Marketing adoption. Moreover, table 9-12 illustrate the results of testing the corresponding (equivalent) null hypothesis that there is no linear relationship in the research population between the dependent variable (E-Marketing adoption) and the independent variables (SBE resources, SBE type of products, SBE international orientation and SBE size). The test was conducted through the use of Analysis of Variance (ANOVA).

As can be seen from the table, the ratio of the two mean squares (F) for SBE resources is 48.368 (F value = 48.368, $P < 0.001$) and for the SBE international orientation is 3.962 (F value = 3.962, $P < 0.05$). Since the observed significance level was less than 0.001 and 0.05, SBE resources and SBE international orientation influence E-Marketing adoption by SBEs. On the other hand, VIF value for both factors show no indication of multicollinearity which indicates that the results of the analysis are reliable.

Table 9-12: Results of testing the equivalent null hypothesis for SBE resources, SBE type of products, SBE international orientation and SBE size

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
SBE type of products	Regression	.031	1	0.031	0.087	0.768^a
	Residual	40.004	112	0.357		
	Total	40.035	113			
SBE resources	Regression	12.075	1	12.075	48.368	.000^a
	Residual	27.960	112	0.250		
	Total	40.035	113			
SBE International Orientation	Regression	1.368	1	1.368	3.962	.049^a
	Residual	38.667	112	0.345		
	Total	40.035	113			
SBE size	Regression	.474	1	.474	1.341	.249^a
	Residual	39.561	112	0.353		
	Total	40.035	113			

Based on the previous analysis, SBE resources (as well as SBE international orientation) alone reveal that it has a significant positive linear relationship with E-Marketing adoption. This suggests that with the other eight variables in the multiple regression model, the impact of SBE resources and SBE international orientation on E-Marketing adoption was overshadowed.

9.3.3 Stage 3: Extending TAM and IDT by SBE internal and external factors:-

Within this third stage, the secondary framework tested in the second stage (TAM and IDT related factors extended by SBE internal factors) are extended by adding external environmental factors namely competitive pressures, government influence and

cultural orientation towards E-Marketing by the SBE customers. This framework investigates the impact of TAM and IDT factors as well as internal and external factors on E-Marketing adoption by UK SBEs and is illustrated figure 9-6 below.

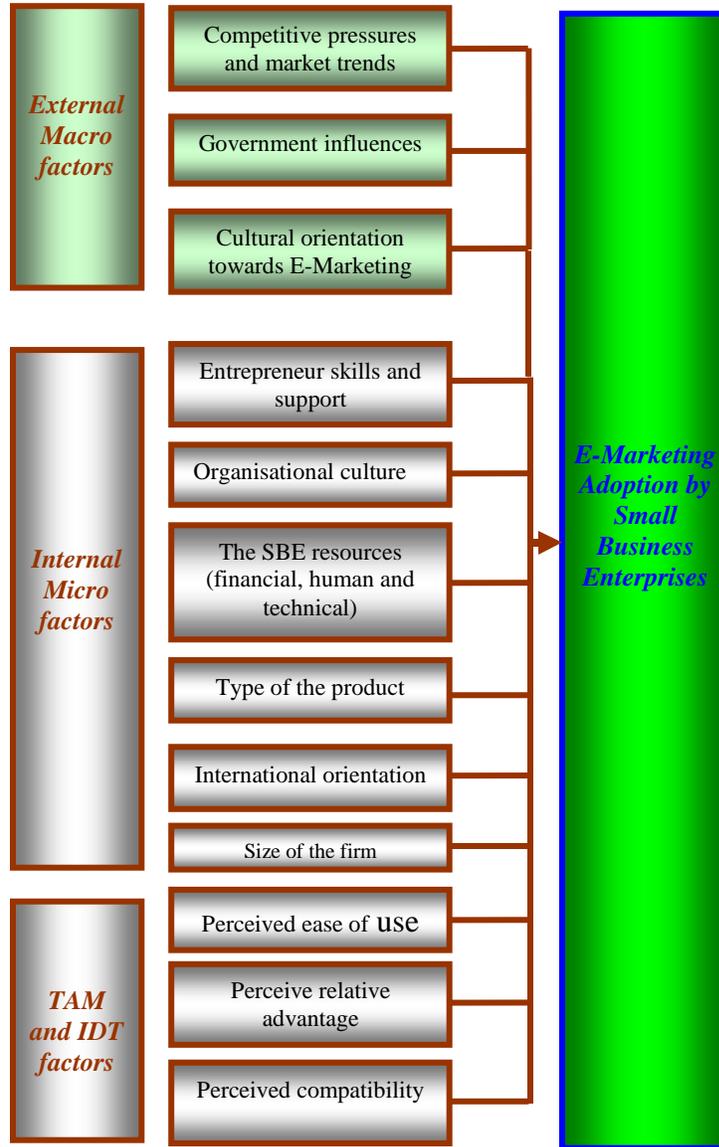


Figure 9-6: TAM and IDT model extended by SBE internal and external environmental factors.

Based on this theoretical framework (figure 9-6), the following hypotheses were constructed for the purpose of testing the impact of TAM and IDT related factors as well as internal and external environmental factors on E-Marketing adoption by SBEs.

H3A	Adopting E-Marketing by the SBEs is dependent on the SBE owner skills and support.
H3B	Adopting E-Marketing by the SBEs is dependent on the available resources

	of the SBE
H3C	Adopting E-Marketing by the SBEs is dependent on the SBE organisational culture.
H3D	Adopting E-Marketing by the SBEs is dependent on the type of products produced by the SBE.
H3E	Adopting E-Marketing by the SBEs is dependent on the international orientation of the SBE
H3F	Adopting E-Marketing by the SBEs is dependent on the SBE size
H3G	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use
H3H	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).
H3I	Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility
H3J	There is a positive relationship between market trends and competitive pressures and E-Marketing adoption by the SBEs.
H3K	There is a positive relationship between government influence and E-Marketing adoption by the SBEs.
H3L	There is a positive relationship between cultural orientation towards E-Marketing by the SBE customers and E-Marketing adoption by the SBEs.

These hypotheses are now all tested using multiple regression analysis, as outlined below.

9.3.3.1 Results of hypotheses testing:-

As mentioned earlier multiple regression analysis was used to test these hypotheses. The multiple regression model can be expressed in a multiple linear regression equation as follows:-

E-Marketing adoption = Constant + β_1 Owner skills (H3a) + β_2 Available resources of the SBE (H3b) + β_3 SBE organisational culture (H3c) + β_4 Type of products (H3d) + β_5 International orientation of the SBE (H3e) + β_6 SBE size (H3f) + β_7 E-Marketing perceived ease of use (H3g) + β_8 E-Marketing perceived relative advantage (H3h) + β_9 E-Marketing perceived compatibility (H3i) + β_{10} competitive pressures (H3j) + β_{11} government influence (H3k) + β_{12} cultural orientation towards E-Marketing by the SBE customers (H3l) + ϵ

It was found that the proposed multiple regression model explains a significant percentage of variance to indicate the impact of TAM/IDT factors, SBEs internal and external factors on E-Marketing adoption by these SBEs. Table 9-13 shows that 70.2 % of the observed variability in E-Marketing adoption is explained by the twelve independent variables ($R^2 = 0.733$, Adjusted $R^2 = 0.702$). According to Sykes (2009), a high value of R^2 suggests that the regression model explains the variation in the dependent variable well. Based on that and by taking into consideration the value of R^2 resulted from the regression, TAM/IDT factors, internal and external factors explain the variation in E-Marketing in a good way.

Table 9-13: Model Summary^b

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.856 ^a	0.733	0.702	0.32519
a. Predictors: (Constant), compatibility, type of product, size of SBE, international orientation, owner skills, organisational culture, ease of use, SBE resources, relative advantage, competitive pressures, government influence, cultural orientation towards E-Marketing by the SBE customers.				
b. Dependent Variable: E-Marketing Adoption				

To test the corresponding null hypothesis that there is no linear relationship among the dependent variable and the independent variables, the Analysis of Variance (ANOVA) was used. Table 9-14 illustrate the results of this Analysis of Variance. As can be seen from the table, the ratio of the two mean squares (F) was 23.131 (F value = 23.131, $P < 0.001$). Since the observed significance level was less than 0.001, the twelve independent variables influence E-Marketing adoption by UK SBEs.

Table 9-14: Summary of ANOVA^b results

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	29.354	12	2.446	23.131	0.000^a
	Residual	10.681	101	0.106		
	Total	40.035	113			
a. Predictors: (Constant), compatibility, type of product, size of SBE, international orientation, owner skills, organisational culture, ease of use, SBE resources, relative advantage, competitive pressures, government influence, cultural orientation towards E-						

Marketing by the SBE customers.

b. Dependent Variable: E-Marketing Adoption

To test the null hypothesis that the population partial regression coefficient for the variables is equal to zero, t-statistic and its observed significance level were used. The results are shown in table 9-15.

Table 9-15: Results of Regression Coefficients^a

<i>Model</i>		Unstandardied Coefficients <i>β</i>	Standardised Coefficients <i>Beta</i>	T- value	Sig.	Collinearity Statistics	
						<i>Tolerance</i>	<i>VIF</i>
	(Constant)	.001		.003	.998		
Internal Factors	Owner Skills	.158	.156	1.996	.049	.432	2.314
	Organisational Culture	.048	.051	.652	.516	.427	2.343
	SBE resources	-.038	-.047	-.574	.567	.387	2.583
	Type Of Product	.030	.040	.667	.506	.732	1.367
	International Orientation	.009	.013	.219	.827	.741	1.349
	Size Of SBE	.064	.093	1.556	.123	.741	1.350
TAM and IDT Factors	Ease Of Use	.190	.215	2.331	.022	.310	3.223
	Relative Advantage	.269	.318	3.001	.003	.235	4.259
	Compatibility	.210	.243	2.596	.011	.300	3.329
External Factors	Competitive Pressures	-.014	-.018	-.251	.802	.527	1.899
	Government Influence	-.030	-.054	-.753	.453	.508	1.969
	Cultural orientation towards E- Marketing	.102	.121	1.965	.005	.699	1.431

a. Dependent Variable: E-Marketing Adoption

As can be seen from the results in table 9-15, this research can safely reject the null hypotheses that the coefficients for owner skills (B= 0.156, t= 1.996, p<0.05), perceived ease of use (B= 0.215, t= 2.331, p<0.05), perceived relative advantage (B= 0.318, t= 3.001, p<0.05), the perceived compatibility (B= 0.243, t= 2.596, p<0.05) and cultural orientation (B= 0.121, t= 1.965, p<0.05) are 0. Multicollinearity between the

independent variables was minimal, as shown in table 9-15 the values of Tolerance averaged between 0.235 to 0.741 and the variance inflation factor (VIF) averaged between 1.349 and 4.259, indicating that the results are reliable.

However, the null hypothesis is accepted for SBE resources (B= - 0.047 t= - 0.574, $p>0.05$), type of product (B= 0.040, t= 0.667, $p>0.05$), international orientation (B= 0.013, t= 0.219, $p>0.05$), size of SBE (B= 0.093, t= 1.556, $p>0.05$), organisational culture (B= 0.051, t= 0.652, $p>0.05$), competitive pressures (B= -0.018, t= -0.251, $p>0.05$) and government influence (B= -0.054, t= -0.753, $p>0.05$) given the fact that the partial coefficient for these factors does not contribute significantly to the model.

The beta weights show that perceived relative advantage (B= 0.318) is relatively stronger than perceived compatibility (B= 0.243), perceived ease of use (B= 0.215), owner skills (B= 0.156) and cultural orientation (B= 0.121) in explaining the adoption of E-Marketing by SBEs. The results are summarised in the following table.

Table 9-16: Summary of the results of TAM/IDT, SBE internal and external factors hypotheses

<i>Hypotheses</i>	<i>Results</i>
H3A - Adopting E-Marketing by the SBEs is dependent on the SBE owner skills and support.	<i>Accepted</i>
H3B - Adopting E-Marketing by the SBEs is dependent on the available resources of the SBE	<i>Rejected</i>
H3C - Adopting E-Marketing by the SBEs is dependent on the SBE organisational culture.	<i>Rejected</i>
H3D - Adopting E-Marketing by the SBEs is dependent on the type of products produced by the SBE.	<i>Rejected</i>
H3E - Adopting E-Marketing by the SBEs is dependent on the international orientation of the SBE	<i>Rejected</i>
H3F - Adopting E-Marketing by the SBEs is dependent on the SBE size	<i>Rejected</i>
H3G - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use	<i>Accepted</i>
H3H - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).	<i>Accepted</i>
H3I - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility	<i>Accepted</i>
H3J - There is a positive relationship between market trends and competitive pressures and E-Marketing adoption by the SBEs.	<i>Rejected</i>

H3K - There is a positive relationship between government influence and E-Marketing adoption by the SBEs.	<i>Rejected</i>
H3L - There is a positive relationship between cultural orientation towards E-Marketing by the SBE customers and E-Marketing adoption by the SBEs.	<i>Accepted</i>

Although the hypothesis for SBE resources, organisational culture, type of product, international orientation, size of SBE, competitive pressures and government influence are rejected, to support these findings the individual effect of each of these factors on the adoption of E-Marketing by SBEs was investigated through conducting simple regression analysis. This is mainly to determine the importance of each independent variable in relation with the dependent variable (E-Marketing adoption). Based on the simple regression analysis it was found that some factors have a positive linear relationship with E-Marketing adoption by the small businesses. Within this context; SBE resources, SBE international orientation, organisational culture and competitive pressures alone reveal that they has a significant positive linear relationship with E-Marketing adoption. This suggests that with the other eleven variables in the multiple regression model, the impact of SBE resources, SBE international orientation, organisational culture and competitive pressures on E-Marketing adoption were overshadowed.

9.3.4 Stage 4: Examining the direct and indirect relationships among TAM/ IDT factors, SBE internal and external factors and E-Marketing adoption:-

As discussed in the previous parts of the chapter, the examination of the first three frameworks generated different results. Within this context, the examination of the first framework (TAM and IDT) illustrated that all the three factors included in the framework have positive impact on E-Marketing adoption and can explain the variation in this adoption in a good way. This was expected since these three factors are generated from two well established models that had been tested many times before and both of them are proven to be effective and successful to predict the adoption of new technologies like E-Marketing. Also the examination of the second (primary) framework illustrated that not

all the factors included in the framework have an impact on E-Marketing adoption. Out of nine factors included in the framework only five factors were found to have an impact on the adoption of E-Marketing. Furthermore, the examination of the third (secondary) framework illustrated the same thing. Not all the factors included in the framework had been found to have an impact on E-Marketing adoption. Out of twelve factors included in the framework only five factors were found to have an impact on the adoption of E-Marketing by UK SBEs.

On the other hand, it is found that the three frameworks has different level of explanation for the variation in E-Marketing adoption by SBEs as can be seen in the value of the adjusted R^2 generated from these frameworks. As can be seen in table 9-17, the third (secondary) framework (TAM, IDT, internal and external factors) is the highest in explanation with an adjusted $R^2 = 0.702$ and the smallest standard error of the estimate (0.32519) followed by the second (primary) framework (TAM, IDT and internal factors) with an adjusted $R^2 = 0.691$ and standard error of the estimate = 0.33071. Moreover, the first framework (TAM and IDT factors) was the lowest in the level of explanation with an adjusted $R^2 = 0.671$ and standard error of the estimate = 0.34142.

Table 9-17: Adjusted R Square for the first three frameworks

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.824	0.680	0.671	0.34142
2	0.846	0.716	0.691	0.33071
3	0.856	0.733	0.702	0.32519

These findings support the arguments of this research that expanding the TAM and IDT models will lead to improvement of the ability of the models to predict the adoption of E-Marketing by SBEs. This goes in line with the findings of Chau (1996), Igbaria, et al. (1995), Gefen and Straub (1997), Eid (2003) and Vijayasarathy (2004). Moreover, the factors affecting the adoption of E-Marketing differed among the three frameworks. As can be seen from table 9-18 although each framework generated different factors, the three factors adopted from the TAM and IDT were proven to have an impact on E-Marketing adoption by SBEs within the three frameworks. Moreover,

there is one factor that was found to be affecting the adoption of E-Marketing when it was used to expand the first framework through the primary and secondary frameworks. This factor is the SBE owner skills. Also cultural orientation towards E-Marketing was found to be affecting the adoption of E-Marketing when used to expand the first framework through the secondary framework.

Table 9-18: Factors affecting the adoption of E-Marketing in the first three frameworks

<i>Framework</i>	<i>Factors</i>	<i>Standardised Coefficients Beta</i>
<i>Framework 1 (TAM and IDT factors)</i>	Perceived relative advantage	0.433
	Perceived ease of use	0.239
	Perceived compatibility	0.217
<i>Framework 2 (TAM, IDT and internal factors)</i>	Owner Skills	0.403
	Relative Advantage	0.351
	Organisational Culture	0.275
	Ease of Use	0.224
	Compatibility	0.181
<i>Framework 3 (TAM, IDT, internal and external factors)</i>	Relative Advantage	0.318
	Compatibility	0.243
	Ease of Use	0.215
	Owner Skills	0.156
	Cultural orientation towards E-Marketing	0.121

Although the examination of the three frameworks proved that expanding the TAM and IDT models will lead to improvement in the ability of the models to predict the adoption of E-Marketing by UK SBEs, there is still a need to understand the different relationships among the TAM and IDT factors from one side and the SBE internal and external factors from the other side. This research argues that investigating these relationships will lead to a deeper understanding of the phenomena under investigation within this research.

On the other hand, the results of the three frameworks indicate that TAM and IDT related factors are consistently strong predictors for E-Marketing adoption. Nevertheless, the additional factors that are proposed to be influencing adoption factors by the literature

review and the two exploratory studies were not all significant. Yet, the literature review revealed that these additional factors are once found to influence the adoption of new technologies (like E-Marketing). Moreover, in the Theory of Reason Action (TRA – underpinning TAM), influence of personal attributes, demographic variables, social and situation factors are manifested via attitudes (and subject norms). This argument applies the same to the theory of planned behaviour.

Based on the above, this study has a good reason to go on to examine the direct and indirect relationships of all the concerned factors. Thus, stage four was aimed to explore such relationships among TAM/IDT factors, the SBE internal factors, the SBE external factors and E-Marketing adoption by UK SBEs. That would be expected to provide a much holistic picture of the E-Marketing adoption decision making process. To illustrate the direct and indirect impact of these factors on E-Marketing by SBEs a fourth framework was introduced for investigation. The framework is illustrated in figure 9-7.

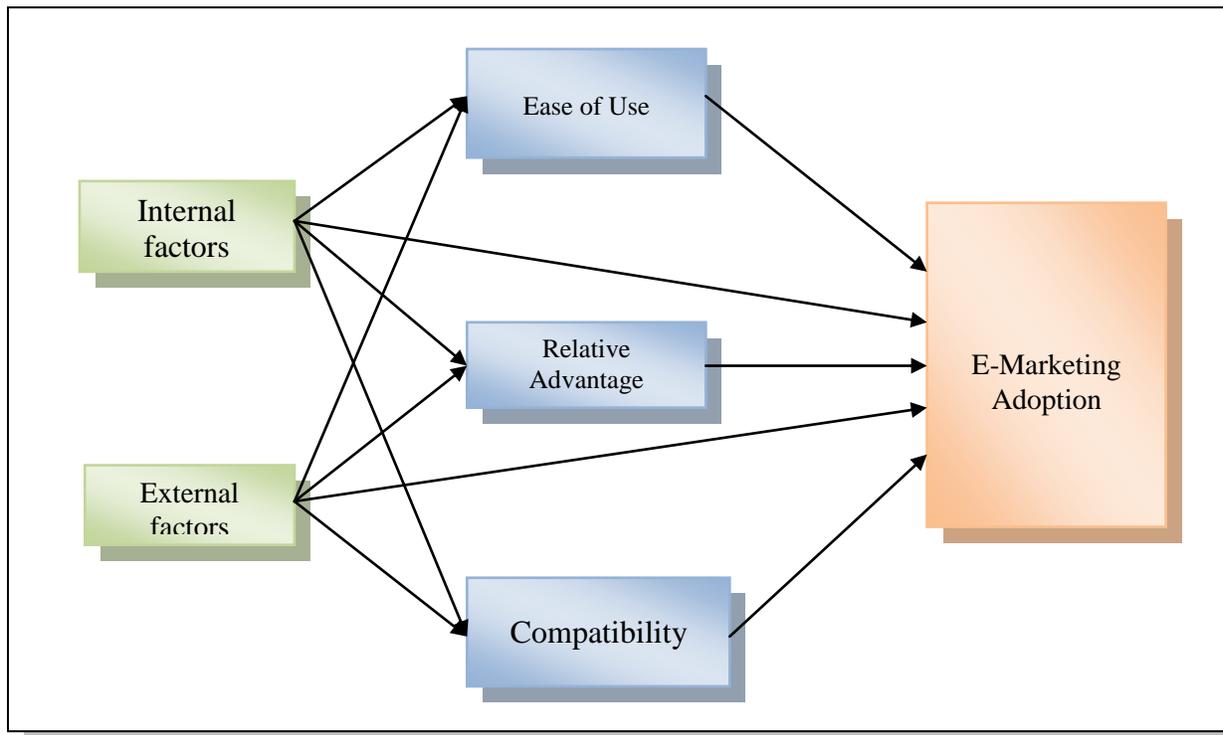


Figure 9-7: Relationships among TAM/IDT factors, SBE internal and external environmental factors with E-Marketing adoption

Based on this theoretical framework, the following hypotheses were constructed for the purpose of testing the direct and indirect relationships within the framework.

H4 - Adopting E-Marketing by the SBEs is dependent on the SBE internal and external related factors.

H4A - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing adoption by the SBE.

H4B - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived ease of use.

H4C - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived relative advantage (usefulness).

H4D - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived compatibility.

H4E - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use

H4F - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).

H4G - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility

H4H - Competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers have a positive impact on E-Marketing adoption by the SBE.

H4I – E-Marketing perceived ease of use is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.

H4J - E-Marketing perceived relative advantage (usefulness) is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.

H4K - E-Marketing perceived compatibility is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.

Structure equation modelling (SEM) was used to test the hypotheses related to the total impact of the SBE internal and external related factors on the SBE E-Marketing adoption. Structural Equation Modeling is rooted and has main purposes similar to those associated with multiple regression, but in a more powerful way which takes into account the modeling of interactions, nonlinearities, correlated independents, measurement error

and correlated error terms (Garson, 2009). It is a very widely used tool by researchers in the marketing field as can be seen in the marketing literature (e.g. Eid, 2003; Hair et al, 1998; Battor, 2008) because of the advantages associated with the Structural equation modeling. According to Garson (2009), advantages of SEM compared to multiple regression includes:-

- More flexibility assumptions.
- Usage of confirmatory factor analysis to reduce measurement error by having multiple indicators per latent variable.
- The attraction of SEMs graphical modeling interface.
- The attractiveness of testing models and frameworks taken as a whole rather than coefficients separately.
- The ability to test models with multiple dependents.
- The ability to model error terms.
- The capability of testing coefficients across multiple subjects groups.
- The ability to handle difficult data.

From a practical point of view, SEM is usually viewed as a confirmatory rather than exploratory procedure (Garson, 2009; Eid, 2003 and Tabachnick et al, 2001), and can be conducted using one of three approaches namely Strictly confirmatory approach, Alternative models approach and Model development approach.

For the purpose of hypotheses testing, SEM was selected as the analysis technique in stage four of the adoption phase for the following reasons:

- To gain the benefits associated with the usage of SEM as powerful analysis technique.
- SEM is useful when a dependent variable act as an independent variable in subsequent dependence relationship (Tabachnick and Fidell; 2000). As the fourth stage is mainly concerned with investigating the direct and indirect relationships among the different factors affecting the adoption of E-Marketing, within these relationships TAM and IDT related factors will act as dependent variables affected by the internal and external SBE factors. Meanwhile, these factors will act an independent variables affecting E-Marketing adoption by SBEs.

- SEM is a confirmatory rather than exploratory procedure which is consistent with the objective of this research aiming to confirm the hypothesized relationships between the model's variables.
- It is more appropriate to use SEM as a second generation data analysis technique which can analyse the relationships among multiple dependent and independent variables simultaneously than using a first generation technique (multiple regression) which does not have the same ability.

The data were analysed using path analysis, which is a multivariate analytical methodology for empirically examining sets of relationships in the form of linear causal models (Garson, 2009b; Duncan, 1966; Alwin and Hauser, 1975 and Li, 1975). The aim of using Path analysis is to examine the direct and indirect effects of each variable on the basis of knowledge and theoretical constructs (Pedhazur, 1982 and Kenny, 2008). Figure 9-8 illustrates the proposed path diagram that reflects the relationships between the different adoption variables.

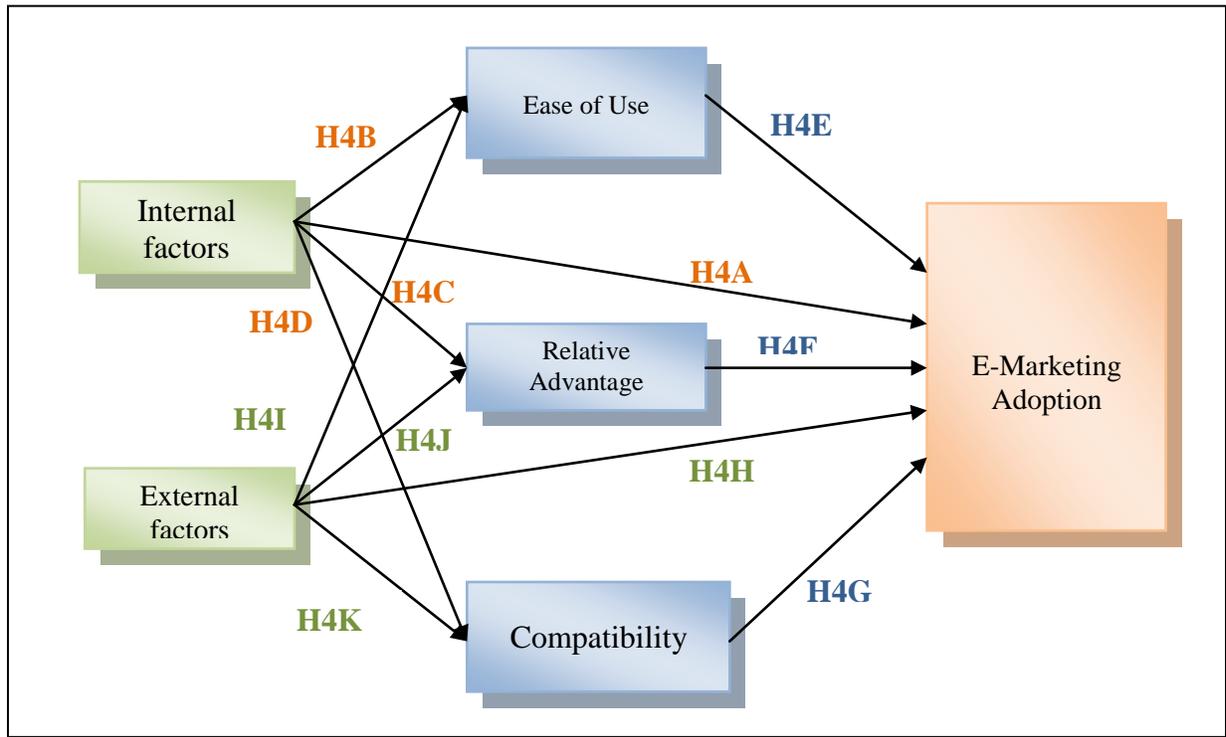


Figure 9-8: Hypothesised Relationships between the adoption variables.

To calculate the value of the path coefficient associated with each path which represents the strength of each linear influence, the structural equation modelling package, AMOS V16, was used to test the hypotheses developed in the model applying the maximum likelihood estimates (MLE) method, following the guidelines suggested by Jöreskog and Sörbom (1984 and 1982).

9.3.4.1 Results of hypotheses testing:-

To satisfy the analysis requirements, the multivariate normality of the data was investigated by conducting skewness test of normality (Garson, 2009b and Bagozzi and Yi, 1988) as well as investigating the histograms of the adoption different variables which is an effective graphical technique for showing both the skewness and normality of a data set (Croarkin, 2009). The results indicated no departure from normality. Therefore, the analysis proceeded by using the MLE method to estimate the model using AMOS V16.

9.3.4.2 Goodness of fit of the structural model:-

The model (figure 9-8) was tested as a structural model using AMOS V16 and the model achieved results indicating a very good fit of the data. The different goodness-of-fit statistics used by most of the researchers within the field of marketing were used to investigate the model goodness-of-fit and its results are summarised in the following table:-

Table 9-19: Fit Indices for the Path Model

Goodness of Fit Index (GFI)	Root Mean square Residual (RMR)	Comparative Fit Index (CFI)	Incremental fit index (IFI)
0.880	0.0098	0.847	0.885

By reviewing the literature it is noticed that there is an enormous research related to testing the goodness of fit of SEM models and frameworks. However, it seems to be that there is no agreement on which is the best approach. On the other hand, there are different goodness-of-fit statistics used by most of the researchers within the field of marketing. From these statistics and measures:-

- Goodness of Fit Index (GFI).
- Root Mean square Residual (RMR).
- Comparative Fit Index (CFI).
- Incremental Fit Index (IFI)

The goodness of fit index (GFI) is one of the most commonly used measures to measure the goodness-of-fit of a data set. It was devised by Jöreskog and Sörbom (1984) and generalised to more estimation criteria by Tanaka and Huba (1985). GFI with a value less than or near to 1 is better and a value of 1 indicates a perfect fit. Another measure is the comparative fit index (CFI) which was introduced by Bentler (1990) and is identical to the McDonald and Marsh (1990) relative noncentrality index (RNI). It is truncated to fall in the range from 0 to 1. A CFI values close to 1 indicate a very good fit.

Also the root mean square residual (RMR) and incremental fit index (IFI) can be used. In this respect, root mean square residual (RMR) is the square root of the average squared amount by which the sample variances and covariances differ from their estimates obtained under the assumption that the model is correct. The smaller the RMR is the better and an RMR of zero indicates a perfect fit. On the other hand, incremental fit index (IFI) which was developed by Bollen (1989a and 1989b) can be used to assess the goodness-of-fit of a data set. When using this measure, IFI values close to 1 indicate a very good fit. As can be seen from table 9-19, the model goodness of fit index (GFI) is 0.880, the root mean square residual (RMR) is 0.0098, the incremental fit index (IFI) is 0.885 and the comparative fit index (CFI) is 0.847. The results obtained confirm that the model have a very good fit.

9.3.4.3 Testing the hypothesised causal relationships:-

Figure 9-9 shows the Path diagram for the model which reflects the estimated standardised parameters for the paths, their level of significance and the square multiple correlations for each construct (where: *** Significant at 0.001, ** Significant at 0.01, * Significant at 0.05, ns not significant)

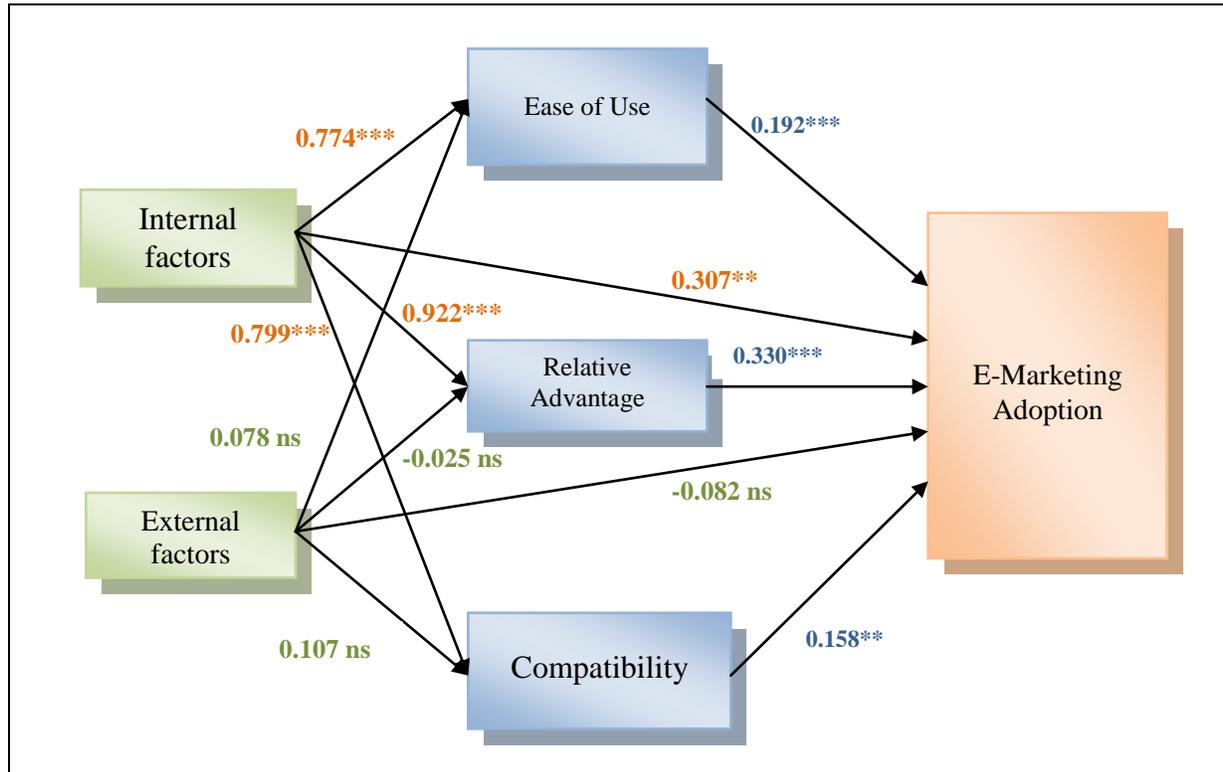


Figure 9-9: Results of Path Analysis

Table 9-20 illustrate the regression weight of all the causal paths and the significance of each path.

Table 9-20: Regression weight of all the causal paths and the significance of each path within the model (*** Significant at 0.001, ** Significant at 0.01)

<i>Hypothesised Relationships</i>		<i>Standardised Estimate</i>	<i>Significance</i>
<i>From</i>	<i>To</i>		
Internal Factors	Ease of Use	0.774	***
Internal Factors	Relative Advantage	0.922	***
Internal Factors	Compatibility	0.799	***
External Factors	Compatibility	0.107	.417
External Factors	Relative Advantage	-0.025	.854
External Factors	Ease of Use	0.078	.551
Internal Factors	E-Marketing Adoption	0.307	**

External Factors	E-Marketing Adoption	-0.082	.268
Compatibility	E-Marketing Adoption	0.158	**
Relative Advantage	E-Marketing Adoption	0.330	***
Ease of Use	E-Marketing Adoption	0.192	***

To strength the model results the overall impact of variables within the model was calculated. The main aim for that is to get hold of the direct or indirect relationships and impact among the research variables. Within the current model, the effect of the internal factors, external factors, perceived ease of use, relative advantage and compatibility on the SBE E-Marketing adoption might be direct or indirect (i.e., mediated via the effect of other variables), or both. Consequently, calculating the direct and indirect effect of each variable would be fruitful. Table 9-21 demonstrate the direct, indirect and total effects of all the research variables.

Table 9-21: The direct, indirect and total effects of all the research variables

<i>Dependent Variables</i>	<i>Internal Factors</i>			<i>External factors</i>		
	<i>Direct Effect</i>	<i>Indirect Effect</i>	<i>Total Effect</i>	<i>Direct Effect</i>	<i>Indirect Effect</i>	<i>Total Effect</i>
Compatibility	0.478	0.000	0.478	0.086	0.000	0.086
Relative Advantage	0.540	0.000	0.540	-0.020	0.000	-0.020
Ease of Use	0.473	0.000	0.473	0.064	0.000	0.064
E-Marketing Adoption	0.237	0.448	0.685	-0.086	0.025	-0.061
<i>Independent Variables</i>	<i>E-Marketing Adoption</i>					
	<i>Direct Effect</i>	<i>Indirect Effect</i>	<i>Total Effect</i>			
Compatibility	0.243	0.000	0.243			
Relative Advantage	0.436	0.000	0.436			
Ease of Use	0.204	0.000	0.204			
Internal Factors	0.237	0.448	0.685			
External factors	-0.086	0.025	-0.061			

As can be seen from figure 9-9 and table 9-21, the small business internal factors positively affects the SBE perceived ease of use (standardised estimate = 0.774, $P < 0.001$), relative advantage (standardised estimate = 0.922, $P < 0.001$), compatibility (Standardised Estimate = 0.799, $P < 0.001$) and E-Marketing adoption (standardised estimate = 0.307, $P < 0.05$).

On the other hand, the small business external factors have insignificant positive impact on the SBE perceived ease of use (standardised estimate = 0.078, $P = 0.551$) and compatibility (standardised estimate = 0.107, $P = 0.417$). Also the small business external factors have insignificant negative impact on relative advantage (standardised estimate = -0.025, $P = 0.854$) and E-Marketing adoption (standardised estimate = -0.082, $P = .268$).

With regards to the impact of the SBE perceived ease of use, perceived relative advantage and perceived compatibility on SBE E-Marketing adoption, all the three factors positively affects E-Marketing adoption by UK SBEs. The highest effect on E-Marketing adoption occurred by perceived relative advantage (standardised estimate = 0.330, $P < 0.001$) followed by the SBE perceived ease of use (standardised estimate = 0.192, $P < 0.001$) and the lowest impact occurred by compatibility (standardised estimate = 0.158, $P < 0.05$). The results are summarised in table 9-22.

Table 9-22: Summary of the results of TAM/IDT, SBE internal and external factors direct and indirect relationships hypotheses

<i>Hypotheses</i>	<i>Results</i>
H4A - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing adoption by the SBE.	<i>Accepted</i>
H4B - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived ease of use.	<i>Accepted</i>
H4C - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived relative advantage (usefulness).	<i>Accepted</i>
H4D - Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived compatibility.	<i>Accepted</i>
H4E - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use	<i>Accepted</i>
H4F - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).	<i>Accepted</i>
H4G - Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility	<i>Accepted</i>

H4H - Competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers have a positive impact on E-Marketing adoption by the SBE.	<i>Rejected</i>
H4I – E-Marketing perceived ease of use is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.	<i>Rejected</i>
H4J - E-Marketing perceived relative advantage (usefulness) is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.	<i>Rejected</i>
H4K - E-Marketing perceived compatibility is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.	<i>Rejected</i>

9.4 E-Marketing implementation stage:-

As the study is trying to explore the different aspects related to E-Marketing implementation by SBEs to gain a better understanding of the forms, levels and tools of E-Marketing implemented by UK SBEs, within the E-Marketing implementation stage the statistical analyses for the purified data will be conducted to investigate these different forms, levels and tools of E-Marketing used by SBEs. Figure 9-10 illustrate E-Marketing implementation (EMI) as an outcome of the use of E-Marketing forms, E-Marketing tools and E-Marketing implementation levels.

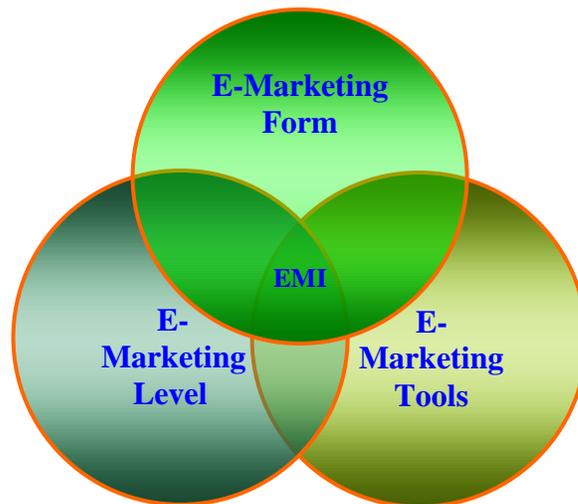


Figure 9-10: E-Marketing implementation as an outcome of the use of E-Marketing forms, E-Marketing tools and E-Marketing implementation levels.

The hypotheses in this part were based on the theoretical framework set out in chapter seven (section 7.5). Based on this theoretical framework, the following

hypotheses were constructed for the purpose of testing the different forms, levels and tools of E-Marketing used by UK SBEs.

H5A – When implementing E-Marketing SBEs depend on more than one form of E-Marketing forms.

H5B - When implementing E-Marketing SBEs depend on more than one tool of E-Marketing tools.

H5C – SBEs implement E-Marketing in different implementation levels

H5D – Internet marketing and E-Mail marketing are the most commonly used E-Marketing tools by SBEs when implementing E-Marketing.

H5E – B2B and B2C are the most commonly used E-Marketing forms by SBEs when implementing E-Marketing.

9.4.1 Results of hypotheses testing:-

9.4.1.1 E-Marketing forms hypotheses testing:-

There are two hypotheses related to forms of implementing E-Marketing (hypotheses H5A and H5E). As mentioned in chapter 8 (section 8.3.3), SBEs within the study were using three basic E-Marketing forms when conduct their E-Marketing activities namely; Business to Consumer (B2C), Business to Business (B2B) and Business to Government (B2G). To test the two hypotheses related to forms of implementing E-Marketing statistical frequencies was used. In this context, frequency analysis was used to distribute the participating SBEs according to the E-Marketing forms implemented by these SBEs. Table 9-23 and figure 9-11 illustrate the distribution of the different combinations of E-Marketing forms used by the research SBEs.

Table 9-23: Distribution of the different combinations of E-Marketing forms used by the research SBEs

		<i>Frequency</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	Business to Business (B2B)	28	24.6	24.6
	Business to Consumer (B2C)	36	31.6	56.1
	Both (B2B & B2C)	34	29.8	86.0
	Both B2B & B2G	1	.9	86.8
	Both B2C & B2G	7	6.1	93.0
	B2C, B2B and B2G	8	7.0	100.0

	Total	114	100.0	
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As can be seen from table 9-23, almost one third of the SBEs (31.6 %) used Business to Consumer (B2C) as a sole E-Marketing form (36 SBEs), 24.6 % of (28 SBEs) used Business to Business (B2B) as a sole E-Marketing form, 29.8 % used a combination of both Business to Business (B2B) and Business to Consumer (B2C) as E-Marketing forms (34 SBEs), 0.9% used a combination of Business to Business (B2B) and Business to Government (B2G) as E-Marketing forms (1 SBE), 6.1% used a combination of both Business to Consumer (B2C) and Business to Government (B2G) as E-Marketing forms (7 SBEs) and finally, 7% (8 SBEs) used a combination of Business to Business (B2B), Business to Consumer (B2C) and Business to Government (B2G) as E-Marketing forms.

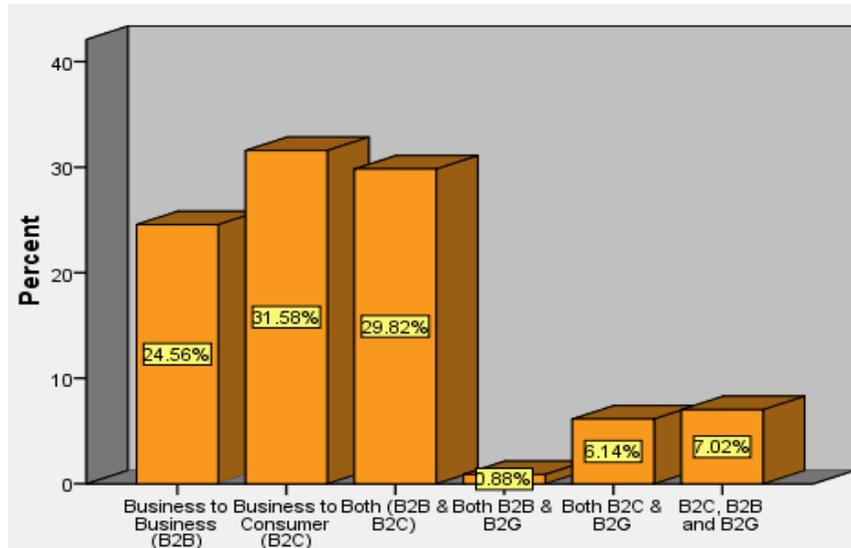


Figure 9-11: Distribution of the different combinations of E-Marketing forms

In addition it is noticed that although a large number of SBEs used a combination of E-Marketing forms when implementing E-Marketing (50 SBEs with a percentage of 43.9 % of the total number of SBEs participating in the research), the majority of survey respondents (64 SBEs with a percentage of 56.1 % of the total number of SBEs) used a single (sole) E-Marketing form. Moreover, all the research respondents depended on Business to Business (B2B) and Business to Consumer (B2C) as an E-Marketing form either as a sole E-Marketing form (56.1 % of the total) or as a combined E-Marketing form with one or more E-Marketing form (43.9 % of the total).

Based on the previous discussion, hypothesis H5E is supported since B2B and B2C are the most commonly used E-Marketing forms by SBEs when implementing E-Marketing. Also hypothesis H5A is rejected since the majority of survey respondents (56.1) used a single (sole) E-Marketing form. Table 9-24 summaries these results.

Table 9-24: Summary of the results of E-Marketing forms hypotheses

<i>Hypotheses</i>	<i>Results</i>
H5A – When implementing E-Marketing SBEs depend on more than one form of E-Marketing forms.	Rejected
H5E – B2B and B2C are the most commonly used E-Marketing forms by SBEs when implementing E-Marketing.	Accepted

9.4.1.2 E-Marketing tools hypotheses testing:-

As mentioned in chapter 8 (section 8.3.3), SBEs within the study were using five basic E-Marketing tools for conduct their E-Marketing activities namely; Internet Marketing (IM), E-Mail Marketing (E-MM), Mobile Marketing (MM), Intranet Marketing (InM) and Extranet Marketing (ExM). There are two hypotheses related to tools of implementing E-Marketing (hypotheses H5B and H5D)

H5B - When implementing E-Marketing SBEs depend on more than one tool of E-Marketing tools.

H5D – Internet marketing and E-Mail marketing are the most commonly used E-Marketing tools by SBEs when implementing E-Marketing.

To test these two hypotheses, statistical frequencies and one sample t-test were used. Within this context, frequency analysis was used to distribute the participating SBEs according to the E-Marketing tools used by these SBEs. Table 9-25 summarises the relative distribution of these five E-Marketing tools among survey respondents.

Table 9-25: Distribution of the respondents SBEs usage of Internet Marketing, E-Mail Marketing, Mobile Marketing, Intranet Marketing and extranet Marketing as E-Marketing tools.

<i>Internet Marketing</i>					
		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	25%	24	21.1	21.1	21.1
	50%	54	47.4	47.4	68.4

	75%	29	25.4	25.4	93.9
	100%	7	6.1	6.1	100.0
	Total	114	100.0	100.0	

E-Mail Marketing

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	0%	6	5.3	5.3	5.3
	25%	70	61.4	61.4	66.7
	50%	25	21.9	21.9	88.6
	75%	13	11.4	11.4	100.0
	100%	0	.0	.0	100.0
	Total	114	100.0	100.0	

Mobile Marketing

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	0%	72	63.2	63.2	63.2
	25%	30	26.3	26.3	89.5
	50%	6	5.3	5.3	94.7
	75%	6	5.3	5.3	100.0
	100%	0	.0	.0	100.0
	Total	114	100.0	100.0	

Intranet Marketing

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	0%	89	78.1	78.1	78.1
	25%	15	13.2	13.2	91.2
	50%	4	3.5	3.5	94.7
	75%	6	5.3	5.3	100.0
	100%	0	.0	.0	100.0
	Total	114	100.0	100.0	

Extranet Marketing

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	0%	79	69.3	69.3	69.3
	25%	21	18.4	18.4	87.7
	50%	5	4.4	4.4	92.1
	75%	9	7.9	7.9	100.0
	100%	0	.0	.0	100.0
	Total	114	100.0	100.0	

As can be seen from the table, all the research respondents (114 SBEs with a percentage of 100% of the total) used Internet Marketing as an E-Marketing tool. In addition 94.7 % of the respondents (108 SBEs) used E-Mail Marketing as an E-Marketing tool, 36.8 % (42 SBEs) used Mobile Marketing as an E-Marketing tool, 21.9 % (25 SBEs) used Intranet Marketing as an E-Marketing tool and finally 30.7% (35 SBEs) used Extranet Marketing as an E-Marketing tool. Based on the fact that all the research respondents used Internet Marketing as an E-Marketing tool and that a significant number of these SBEs used one or more E-Marketing tools, hypothesis H5B is supported since the research respondents depended on more than one tool of E-Marketing tools to implement E-Marketing.

To support the previous fact, a crosstabulation was conducted to investigate the distribution of the different E-Marketing tools among survey respondents. Table 9-26 summarizes the results of this crosstabulation.

Table 9-26: Summary of the results of E-Marketing tools crosstabulation

			<i>Internet Marketing</i>				
			25%	50%	75%	100%	Total
<i>E-Mail Marketing</i>	25%	Count	20	33	16	1	70
		% of Total	17.5%	28.9%	14.0%	.9%	61.4%
	50%	Count	1	20	3	1	25
		% of Total	.9%	17.5%	2.6%	.9%	21.9%
	75%	Count	1	0	8	4	13
		% of Total	.9%	.0%	7.0%	3.5%	11.4%
	Total	Count	22	53	27	6	108
		% of Total	19.3%	46.5%	23.6%	5.2%	97.3%
<i>Mobile Marketing</i>	25%	Count	6	19	5	0	30
		% of Total	5.3%	16.7%	4.4%	.0%	26.3%
	50%	Count	1	3	1	1	6
		% of Total	.9%	2.6%	.9%	.9%	5.3%
	75%	Count	0	1	3	2	6
		% of Total	.0%	.9%	2.6%	1.8%	5.3%
	Total	Count	7	23	9	3	42
		% of Total	6.2%	20.2%	7.9%	2.6%	36.9%
<i>Intranet</i>	25%	Count	1	10	4	0	15

Marketing		% of Total	.9%	8.8%	3.5%	.0%	13.2%
	50%	Count	0	4	0	0	4
		% of Total	.0%	3.5%	.0%	.0%	3.5%
	75%	Count	0	1	3	2	6
		% of Total	.0%	.9%	2.6%	1.8%	5.3%
	Total	Count	1	15	7	2	25
% of Total		0.9%	13.2%	6.1%	1.8%	22.0%	
Extranet Marketing	25%	Count	5	13	2	1	21
		% of Total	4.4%	11.4%	1.8%	.9%	18.4%
	50%	Count	0	4	1	0	5
		% of Total	.0%	3.5%	.9%	.0%	4.4%
	75%	Count	1	2	4	2	9
		% of Total	.9%	1.8%	3.5%	1.8%	7.9%
	Total	Count	6	19	7	3	35
		% of Total	5.3%	16.7%	6.1%	2.6%	30.7%

As can be seen from table 9-26, all the research respondents used Internet Marketing as an E-Marketing tool. Moreover, 97.3 % of these SBEs were using Internet Marketing as well as E-Mail Marketing as E-Marketing tools. Additionally, 36.9 % of respondents SBEs were using Internet Marketing and Mobile Marketing, 22% were using Internet Marketing and Intranet Marketing and finally 30.7% of respondents SBEs were using Internet Marketing and Extranet Marketing as E-Marketing tools. These findings support the acceptance of hypothesis H5B.

On the other hand, as can be seen from table 9-25, all the research respondents used Internet Marketing as an E-Marketing tool and 94.7 % of the respondents used E-Mail Marketing as an E-Marketing tool. This indicates that Internet Marketing and E-Mail Marketing are the most commonly used E-Marketing tools by SBEs when implementing E-Marketing. Consequently, hypothesis H5D is supported.

Moreover, a one-sample t-test was conducted to determine whether the observed means of E-Marketing tools are significantly different from the mid-point of the scale. The results are illustrated in table 9-27.

Table 9-27: One sample t-test results of statistical significance of E-Marketing tools

Test Value = 1

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Internet Marketing	25.358	113	.000	2.13158	1.9650	2.2981
E-Mail Marketing	18.681	113	.000	1.41228	1.2625	1.5621
Mobile Marketing	6.533	113	.000	.55263	0.3850	0.7202
Intranet Marketing	4.705	113	.000	.37719	0.2184	0.5360
Extranet Marketing	5.846	113	.000	.52632	0.3479	0.7047

As can be seen in table 9-27, the results are found to be very significantly different from the mid-point 1.0 ($p < 0.001$). This confirms that almost all the tools used for E-Marketing are in the positive side. It is also noticed that the confidence interval of the difference in the case of Internet Marketing and E-Mail Marketing are higher. Consequently, the acceptance of hypothesis H5D is confirmed since Internet Marketing and E-Mail Marketing are the most commonly used E-Marketing tools by SBEs

9.4.1.3 E-Marketing implementation levels hypotheses testing:-

As discussed in detail in chapter seven (section 7.4.2.2) there are four levels of E-Marketing implementation namely no implementation, low implementation, medium implementation and high implementation. There is one hypothesis related to the levels of implementing E-Marketing by SBEs (hypothesis H5C).

H5C – SBEs implement E-Marketing in different implementation levels

The hypothesis was tested depending on frequency analysis. Table 9-28 summarises the distribution of the research respondents according to the level of E-Marketing implementation.

Table 9-28: The distribution of the research respondents according to the level of E-Marketing implementation.

		<i>Frequency</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
<i>Valid</i>	Low Implementation	21	18.4	18.4
	Medium Implementation	54	47.4	65.8
	High Implementation	39	34.2	100.0
	<i>Total</i>	<i>114</i>	<i>100.0</i>	

As can be seen from table 9-28, all the research respondents were implementing E-Marketing. The majority of the research respondents 47.37 % (54 SBEs) were implementing E-Marketing in medium level. On the other hand, about one third of the research respondents 34.21 % (39 SBEs) were implementing E-Marketing in a high level followed by 18.42 % of the research respondents (21 SBEs) with a low implementation level. Based on that, hypothesis H5C is supported since the SBEs implement E-Marketing in different implementation levels. Table 9-29 summaries the results of the hypotheses related to the E-Marketing implementation stage

Table 9-29: Summary of the results of the hypotheses related to the E-Marketing implementation stage

<i>Hypotheses</i>	<i>Results</i>
H5A – When implementing E-Marketing SBEs depend on more than one form of E-Marketing forms.	<i>Rejected</i>
H5B - When implementing E-Marketing SBEs depend on more than one tool of E-Marketing tools.	<i>Accepted</i>
H5C – SBEs implement E-Marketing in different implementation levels	<i>Accepted</i>
H5D – Internet marketing and E-Mail marketing are the most commonly used E-Marketing tools by SBEs when implementing E-Marketing.	<i>Accepted</i>
H5E – B2B and B2C are the most commonly used E-Marketing forms by SBEs when implementing E-Marketing.	<i>Accepted</i>

9.5 E-Marketing impact stage:-

The hypotheses in this part are based on the theoretical framework illustrated in chapter seven (section 7.5). There are two hypotheses related to the impact of E-Marketing adoption by SBEs on the marketing performance of these enterprises (hypotheses H6A and H6B). To test these two hypotheses regression analysis and one sample t-test were used.

H6A –E-Marketing adoption by SBEs have a positive impact on the current marketing performance of the SBE.

H6B – E-Marketing adoption by SBEs have a positive impact on the expected future marketing performance of the SBE.

9.5.1 E-Marketing adoption impact on the current marketing performance:-

To test the hypothesis related to the impact of E-Marketing adoption by SBEs on the current marketing performance of these enterprises regression analysis and one sample t-test were used. Within this context, simple regression was used to determine the importance of the independent variable (E-Marketing adoption) in relation with the dependent variable (current marketing performance). The simple regression model can be expressed in a linear regression equation as follows:-

$$\text{Current marketing performance} = \text{Constant} + \beta_1 \text{ E-Marketing adoption (H6A)} + \varepsilon$$

To investigate the above hypothesis, the variable related to E-Marketing adoption was entered in a single block. It was found that the proposed regression model show a significant percentage of variance to indicate the impact of E-Marketing adoption by SBEs on the current marketing performance of these enterprises. Table 9-30 show that 17.2 % of the observed variability in the SBEs current marketing performance is explained by the independent variable (E-Marketing adoption), $R^2 = 0.180$, Adjusted $R^2 = 0.172$). Accordingly, E-Marketing adoption explains the variation in the SBEs current marketing performance in a good way.

Table 9-30: Model Summary^b

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.424 ^a	0.180	0.172	0.66491
a. E-Marketing Adoption				
b. Dependent Variable: Current Effect on Marketing Performance				

To test the corresponding null hypothesis that there is no linear relationship among the dependent variable (Current Effect on Performance) and the independent variable (E-Marketing Adoption) within the population, the Analysis of Variance (ANOVA) was used. Table 9-31 illustrate the results of this Analysis of Variance. As can

be seen from the table, the ratio of the two mean squares (F) was 24.555 (F value = 24.555, $P < 0.001$). Since the observed significance level was less than 0.001, the independent variable has positive influences on the current marketing performance of the UK SBEs.

Table 9-31: Summary of ANOVA^b results

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	10.856	1	10.856	24.555	.000^a
	Residual	49.515	112	.442		
	Total	60.371	113			
a. E-Marketing Adoption						
b. Dependent Variable: Current Effect on Performance						

To test the null hypothesis that the population partial regression coefficient for the variables is equal to zero, t-statistic and its observed significance level were used. The results are shown in table 9-32.

Table 9-32: Results of Regression Coefficients^a

<i>Model</i>		<i>Unstandardied Coefficients</i>	<i>Standardised Coefficients</i>	<i>T-value</i>	<i>Sig.</i>
		<i>β</i>	<i>Beta</i>		
1	(Constant)	1.664		3.993	.000
	E-Marketing Adoption	.521	.424	4.955	.000

As can be seen from the results in table 9-32, the researcher can safely reject the null hypotheses that the coefficients for E-Marketing adoption ($B = 0.424$, $t = 4.955$, $p < 0.001$) is 0. Based on the previous discussion, the hypothesis is accepted.

Moreover, a one-sample t-test was conducted to determine whether the observed means of the current performance indicators are significantly different from the mid-point of the scale (3.00). The one-sample statistics are illustrated in table 9-33 and the results of the one sample t-test are illustrated in table 9-34.

Table 9-33: One-sample statistics for current performance indicators

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
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New Sales	114	3.9825	.76404	.07156
New Customers	114	3.9561	.78018	.07307
Increased Profits	114	3.9035	.80890	.07576
Good Customer Relationships	114	3.7719	.85222	.07982
Reduction of sales costs	114	3.5439	1.05713	.09901
Faster discovery of customer needs	114	3.6053	.99217	.09293
Greater customisation of products	114	3.5088	.99775	.09345
New markets	114	3.5439	.92306	.08645
Fast communication with customers	114	3.8421	.86811	.08131
Increased customer satisfaction	114	3.7368	.90282	.08456
Developing new products	114	3.7982	3.93347	.36840
Faster adaptability of customer needs	114	3.5965	.86954	.08144
Providing better service quality	114	3.7281	.89527	.08385
Increased market share	114	3.6316	.87505	.08196
Brand equity	114	3.4474	1.01399	.09497

Table 9-34: One sample t-test results of statistical significance of current performance indicators

	<i>Test Value = 3</i>					
	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>Mean Difference</i>	<i>95% Confidence Interval of the Difference</i>	
					<i>Lower</i>	<i>Upper</i>
New Sales	13.729	113	.000	.98246	.8407	1.1242
New Customers	13.085	113	.000	.95614	.8114	1.1009
Increased Profits	11.926	113	.000	.90351	.7534	1.0536
Good Customer Relationships	9.671	113	.000	.77193	.6138	.9301
Reduction of sales costs	5.493	113	.000	.54386	.3477	.7400
Faster discovery of customer needs	6.513	113	.000	.60526	.4212	.7894
Greater	5.444	113	.000	.50877	.3236	.6939

customisation of products						
New markets	6.291	113	.000	.54386	.3726	.7151
Fast communication with customers	10.357	113	.000	.84211	.6810	1.0032
Increased customer satisfaction	8.714	113	.000	.73684	.5693	.9044
Developing new products	2.167	113	.032	.79825	.0684	1.5281
Faster adaptability of customer needs	7.324	113	.000	.59649	.4351	.7578
Providing better service quality	8.683	113	.000	.72807	.5619	.8942
Increased market share	7.706	113	.000	.63158	.4692	.7939
Brand equity	4.711	113	.000	.44737	.2592	.6355

As can be seen in table 9-34, the results are found to be very significantly different from the mid-point 3.00 ($p < 0.001$ for all the performance indicators except for developing new products for which $p < 0.05$). This confirms that all the performance indicators for E-Marketing are in the positive side. Consequently, the researcher can safely accept the hypothesis that current marketing performance is dependent up on the adoption of E-Marketing by SBEs.

9.5.2 E-Marketing adoption impact on the future marketing performance:-

To test the hypothesis related to the impact of E-Marketing adoption by SBEs on the future marketing performance of these enterprises a regression analysis and one sample t-test were used. Within this context, simple regression was used to determine the importance of the independent variable (E-Marketing adoption) in relation with the dependent variable (future marketing performance). The simple regression model can be expressed in a linear regression equation as follows:-

$$\text{Future marketing performance} = \text{Constant} + \beta_1 \text{ E-Marketing adoption (H6B)} + \varepsilon$$

To investigate the above hypothesis, the variable related to E-Marketing adoption was entered in a single block. It was found that the proposed regression model show a significant percentage of variance to indicate the impact of E-Marketing adoption by SBEs on the future marketing performance of these enterprises. Table 9-35 shows that 26.1 % of the observed variability in the SBEs future marketing performance is explained by the independent variable (E-Marketing adoption), $R^2= 0.268$, Adjusted $R^2= 0.261$). Accordingly, E-Marketing adoption explains the variation in the SBEs future marketing performance in a good way.

Table 9-35: Model Summary^b

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	.517 ^a	.268	.261	.62405
a. E-Marketing Adoption				
b. Dependent Variable: Future Effect on Marketing Performance				

To test the corresponding null hypothesis that there is no linear relationship among the dependent variable (future marketing performance) and the independent variable (E-Marketing Adoption) within the population, the Analysis of Variance (ANOVA) was used. Table 9-36 illustrate the results of this Analysis of Variance. As can be seen from the table, the ratio of the two mean squares (F) was 40.909 (F value = 40.909, $P < 0.001$). Since the observed significance level was less than 0.001, the independent variable has positive influences on the future marketing performance of the SBEs.

Table 9-36: Summary of ANOVA^b results

<i>Model</i>	<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>	
1	Regression	15.931	1	15.931	40.909	.000^a
	Residual	43.617	112	.389		
	Total	59.549	113			
a. E-Marketing Adoption						
b. Dependent Variable: Future Effect on Marketing Performance						

To test the null hypothesis that the population partial regression coefficient for the variables is equal to zero, t-statistic and its observed significance level were used. The results are shown in table 9-37.

Table 9-37: Results of Regression Coefficients^a

<i>Model</i>		Unstandardied Coefficients	Standardised Coefficients	T-value	Sig.
		β	<i>Beta</i>		
	(Constant)	1.688		4.315	.000
	E-Marketing Adoption	.631	.517	6.396	.000

As can be seen from the results in table 9-37, the researcher can safely reject the null hypotheses that the coefficients for E-Marketing adoption ($B = 0.517$, $t = 6.396$, $p < 0.001$) is 0. Based on the previous discussion, the hypothesis is accepted.

Moreover, a one-sample t-test was conducted to determine whether the observed means of future performance indicators are significantly different from the mid-point of the scale (3.00). The one-sample statistics are illustrated in table 9-38 and the results of the one sample t-test are illustrated in table 9-39.

Table 9-38: One-sample statistics for future performance indicators

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
New Sales	114	4.3070	.75407	.07063
New Customers	114	4.3333	.74865	.07012
Increased Profits	114	4.2719	.79026	.07401
Good Customer Relationships	114	4.2018	.85373	.07996
Reduction of sales costs	114	3.9561	1.11618	.10454
Faster discovery of customer needs	114	4.0263	.96359	.09025
Greater customisation of products	114	3.9912	1.03476	.09691
New markets	114	4.1754	.84399	.07905
Fast communication with customers	114	4.2632	.92222	.08637

Increased customer satisfaction	114	4.1140	.97544	.09136
Developing new products	114	4.0614	1.00692	.09431
Faster adaptability of customer needs	114	4.1667	.93994	.08803
Providing better service quality	114	4.1930	.85058	.07966
Increased market share	114	4.0965	.89214	.08356
Brand equity	114	3.8421	1.14890	.10760

Table 9-39: One sample t-test results of statistical significance of future performance indicators

	<i>Test Value = 3</i>					
	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>Mean Difference</i>	<i>95% Confidence Interval of the Difference</i>	
					<i>Lower</i>	<i>Upper</i>
New Sales	18.506	113	.000	1.30702	1.1671	1.4469
New Customers	19.016	113	.000	1.33333	1.1944	1.4722
Increased Profits	17.185	113	.000	1.27193	1.1253	1.4186
Good Customer Relationships	15.030	113	.000	1.20175	1.0433	1.3602
Reduction of sales costs	9.146	113	.000	.95614	.7490	1.1633
Faster discovery of customer needs	11.372	113	.000	1.02632	.8475	1.2051
Greater customisation of products	10.228	113	.000	.99123	.7992	1.1832
New markets	14.870	113	.000	1.17544	1.0188	1.3320
Fast communication with customers	14.624	113	.000	1.26316	1.0920	1.4343
Increased customer satisfaction	12.194	113	.000	1.11404	.9330	1.2950
Developing new products	11.255	113	.000	1.06140	.8746	1.2482
Faster adaptability of customer needs	13.253	113	.000	1.16667	.9923	1.3411
Providing better service quality	14.975	113	.000	1.19298	1.0352	1.3508
Increased market share	13.123	113	.000	1.09649	.9310	1.2620

Brand equity	7.826	113	.000	.84211	.6289	1.0553
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As can be seen in table 9-39, the results are found to be very significantly different from the mid-point 3.00 ($p < 0.001$ for all the future performance indicators). This confirms that all the future performance indicators for E-Marketing are in the positive side. Consequently, this research can safely accept the hypothesis that future marketing performance is dependent up on the adoption of E-Marketing by small businesses. Based on the previous discussion the two hypotheses related to the impact of E-Marketing adoption by SBEs on the marketing performance of these enterprises (hypotheses H6A and H6B) are accepted. Table 9-40 summaries this result.

Table 9-40: Summary of the results of the hypotheses related to the impact of E-Marketing adoption by SBEs on marketing performance

<i>Hypotheses</i>	<i>Results</i>
H6A –E-Marketing adoption by SBEs have a positive impact on the current marketing performance of the SBE.	<i>Accepted</i>
H6B – E-Marketing adoption by SBEs have a positive impact on the expected future marketing performance of the SBE.	<i>Accepted</i>

9.6 Chapter summary:-

This chapter is concerned with the second stage of the data analysis process which is related to analysing the data collected from the research sample depending on inferential statistics. The chapter reports on the inferential statistics that had been used to enable the researcher to come to conclusions that expand beyond the immediate data. These inferential statistics are used to test the research hypotheses by using the Statistical Package for Social Science (SPSS - version 16). The main aim of this analysis is to validate the research framework derived from the literature and the exploratory studies. Within the chapter the procedures and findings of Cronbach Alpha, item-to-total correlation, multiple regression analysis, simple regression analysis, one-sample t-test, path analysis and hypotheses testing which were used for analytic purposes were described and discussed in details.

Firstly, the chapter illustrates the purification and calculation processes of the measuring instruments and the results of this data purification process. Cronbach Alpha and item-to-total correlation are calculated and used as indicators of the validity and reliability of the scale measurements. It was found that all the research variables had an acceptable item-to-total correlation values ranging from 0.314 to 0.919 as well as a highly acceptable reliability coefficient (Cronbach's Alpha) ranged from 0.728 to 0.924. This shows that the values for item-to-total correlation and Cronbach's Alpha are significant and higher than the reliability acceptable levels suggested by researchers within the field. In other words, the research measures are satisfactory acceptable for conducting further data analysis through inferential statistics to test the research hypothesis.

The results of the data analysis by inferential statistics has been framed and structured into three main parts. Each part was devoted to cover one of the main research questions related to the study (sections 9.3.1 – 9.3.3). The first part was concerned with investigating the different factors affecting E-Marketing adoption by UK SBEs. Within this part, TAM and IDT related factors, internal factors and external factors were investigated to determine its impact on E-Marketing adoption by small businesses. Within this part some hypotheses are proposed and tested by regression analysis and structure equation modelling. The second part is concerned with the different forms, tools and levels of E-Marketing implementation by UK SBEs. Here the hypotheses are proposed and tested by using regression analysis and one sample T-Test. Finally, the third part is concerned with the impact of E-Marketing adoption by UK SBEs on its marketing performance. Again the hypotheses are proposed and tested by using regression analysis and one sample T-Test.

Within the E-Marketing adoption stage the statistical analyses is conducted in four stages to expand the TAM and IDT models at different levels by adding more internal and external factors to the models to achieve a better understanding of the adoption of E-Marketing by SBEs. After examining the TAM and IDT model within the context of SBEs in the first stage, the second stage examined the primary model (TAM and IDT) after extending it by adding some SBE internal factors. In the third stage, the

secondary framework resulting from the second stage (TAM and IDT extended by internal factors) was examined after extending it by adding some SBE external factors to investigate the impact of adding these factors on E-Marketing adoption. Finally and due to the different results generated from the examination of the first three frameworks, a fourth framework was constructed to show the different direct and indirect relationships among TAM and IDT related factors and the SBE internal and external factors. The results of the first three frameworks indicated that TAM and IDT related factors are consistently strong predictors for E-Marketing adoption. However, some of the additional factors that appeared to influence the adoption by the literature and the two exploratory studies were not all significant (such as available resources, type of products, international orientation, SBE size, competitive pressures and governmental influence). Meanwhile, the literature review revealed that these additional factors are once found to influence the adoption of new technologies (like E-Marketing). Thus, there is a good reason to examine the direct and indirect relationships of all these concerned factors. Consequently, a fourth framework was introduced for investigation depending on structure equation modelling (SEM) using path analysis.

The findings of the analysis indicated that all the three factors included in the first framework (TAM and IDT related factors) have a positive impact on E-Marketing adoption and can explain the variation in this adoption in a good way. Moreover, the second framework (primary framework) illustrate that not all the factors included in the framework have an impact on E-Marketing adoption. Out of nine factors included in the framework only five factors were found to have an impact on E-Marketing adoption (owner skills, perceived relative advantage, perceived compatibility, perceived ease of use and organisational culture). Furthermore, the third framework (secondary framework) confirmed these findings since not all the factors included in the framework have been found to have an impact on E-Marketing adoption. Out of twelve factors included in the framework only five factors were found to have an impact on E-Marketing adoption (owner skills, perceived relative advantage, perceived compatibility, perceived ease of use and cultural orientation towards E-Marketing by the SBE customers).

It was also found that the three frameworks have different levels of explanation for the variation in E-Marketing adoption by UK SBEs, as can be seen in the value of the adjusted R^2 generated from these frameworks. The third (secondary) framework (TAM, IDT, internal and external factors) would appear to have the highest influence and the smallest standard error of the estimate followed by the second (primary) framework (TAM, IDT and internal factors) then the first framework. Moreover, the first framework (TAM and IDT factors) was the lowest in the level of explanation and has the highest standard error of the estimate. These findings support the arguments of this research to expand the TAM and IDT models which will increase their ability to predict the adoption of E-Marketing by UK SBEs.

The finding of the path analysis illustrated that SBE internal factors as well as the TAM and IDT related factors have a significant positive impact on E-Marketing adoption. However, it was found that SBE external factors have shown no impact on E-Marketing adoption by SBEs. The findings stress the great role of the small business internal factors, ease of use, relative advantage and compatibility in the adoption of E-Marketing and have some important implications for the marketing activities within SBEs.

The analysis of the E-Marketing implementation stage illustrated that when implementing E-Marketing SBEs depend on more than one tool of E-Marketing tools and that Internet Marketing and E-Mail Marketing are the most commonly used E-Marketing tools by UK SBEs. It was also found that B2B and B2C are the most commonly used E-Marketing forms by SBEs when implementing E-Marketing. Moreover, it was found that the UK SBEs implement E-Marketing in different implementation levels.

With regard to the impact of E-Marketing adoption on marketing performance of SBEs, it was found that E-Marketing adoption by SBEs have a great positive impact on the current and future marketing performance of the UK SBEs. Table 9-41 summaries the results of the research hypotheses testing.

Table 9-41: Summary of the results of the research hypotheses testing

<i>Hypotheses</i>	<i>Results</i>
1-A Adopting E-Marketing by the SBEs is dependent on the owner skills and support.	<i>Accepted</i>
1-B Adopting E-Marketing by the SBEs is dependent on the available resources of the SBE	<i>Accepted</i>
1-C Adopting E-Marketing by the SBEs is dependent on the SBE organisational culture.	<i>Accepted</i>
1-D Adopting E-Marketing by the SBEs is dependent on the type of products produced by the SBE.	<i>Rejected</i>
1-E Adopting E-Marketing by the SBEs is dependent on the international orientation of the SBE	<i>Rejected</i>
1-F Adopting E-Marketing by the SBEs is dependent on the SBE size	<i>Accepted</i>
2-A Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived ease of use	<i>Accepted</i>
2-B Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived relative advantage (usefulness).	<i>Accepted</i>
2-C Adopting E-Marketing by the SBEs is dependent on E-Marketing perceived compatibility	<i>Accepted</i>
3-A There is a positive relationship between market trends and competitive pressures and E-Marketing adoption by the SBEs.	<i>Rejected</i>
3-B There is a positive relationship between government influence and E-Marketing adoption by the SBEs.	<i>Rejected</i>
3-C There is a positive relationship between cultural orientation towards E-Marketing by the SBE customers and E-Marketing adoption by the SBEs.	<i>Accepted</i>
1-G Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing adoption by the SBE.	<i>Accepted</i>
4-A Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived ease of use.	<i>Accepted</i>
4-B Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived relative advantage (usefulness).	<i>Accepted</i>
4-C Owner skills, available resources of the SBE, SBE organisational culture, SBE type of products, international orientation of the SBE and SBE size have a positive impact on E-Marketing perceived compatibility.	<i>Accepted</i>
3-E Competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers have a positive impact on E-Marketing adoption by the SBE.	<i>Rejected</i>
5-A E-Marketing perceived ease of use is dependent on competitive pressures, government influence and cultural orientation towards E-	<i>Rejected</i>

Marketing by the SBE customers.	
5-B E-Marketing perceived relative advantage (usefulness) is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.	<i>Rejected</i>
5-C E-Marketing perceived compatibility is dependent on competitive pressures, government influence and cultural orientation towards E-Marketing by the SBE customers.	<i>Rejected</i>
6-A When implementing E-Marketing SBEs depends on more than one form of E-Marketing forms.	<i>Rejected</i>
6-B When implementing E-Marketing SBEs depend on more than one tool of E-Marketing tools.	<i>Accepted</i>
6-C SBEs implement E-Marketing in different implementation levels	<i>Accepted</i>
6-D Internet marketing and E-Mail marketing are the most commonly used E-Marketing tools by SBEs when implementing E-Marketing.	<i>Accepted</i>
6-E B2B and B2C are the most commonly used E-Marketing forms by SBEs when implementing E-Marketing.	<i>Accepted</i>
7-A E-Marketing adoption by SBEs has a positive impact on the current marketing performance of the SBE.	<i>Accepted</i>
7-B E-Marketing adoption by SBEs has a positive impact on the expected future marketing performance of the SBE.	<i>Accepted</i>

It is considered that these research findings provide better understanding of E-Marketing adoption and its impact on SBEs marketing performance. The interpretations of these findings with reference to the relevant literature are discussed in more detail in the following chapter (chapter 10).