CHAPTER 5

RESULTS AND FINDINGS

5.1 Introduction

This research intends to prove that a relationship exist between the dependent variable and each of the independents variables. It attempts to prove that there is a positive relationship between costs, human capital, quality, innovativeness, flexibility (which forms the independent variables) and operational efficiencies (dependent variable). Therefore the more an organization is able to exploit and tap into their human capital resource, increase performance quality, innovativeness and flexibility, the higher the operational efficiencies which are derived. Meanwhile the relationship between cost and operational efficiency that translates into a simple fact whereby the more an organization is able to reduce cost, the more efficient it becomes. Risks have been introduced as a moderator to gauge the extent of its impact of the above relationships. This research attempts to prove that despite the positive (and/or negative) relationships between the dependent variable and independent variables, failure to control and manage risks effectively will substantially impact the operational efficiencies which are derived from strategic outsourcing initiatives.

The findings are presented in the following sections using various tools and methods of the SPSS and Microsoft Excel.

5.2 Statistics of Respondents

150 questionnaires were loaded onto SPSS to churn out the descriptive analyses based on the demographics questions no.1 to no.13 in the questionnaire. Some of the key demographic characteristics which may have a potential to impact/influence the findings are illustrated below.

Table 6: Individual Demographics

	Breakdown	Total Respondents	Percentage
Age Category	18-24	26	17%
	25-34	70	47%
	35-44	36	24%
	45-54	15	10%
	55-64	3	2%
Nationality	Malaysian	111	74%
	Non-Malaysians	39	26%
Education Level	Secondary/O' Level	5	3%
	STPM / A- Levels	14	9%
	Certificate / Diploma	23	15%
	Degree	89	59%
	Masters / PHD	15	10%
	Professional Qualification	4	3%
Working Experience	5 years and below	29	19%
	6 - 10 years	63	42%
	11 - 20 years	35	23%
	21 - 30 years	18	12%
	31 years and above	5	3%

5.2.1 Distribution of Respondents by Age

46.7% of the respondents are aged between 25-34 followed by 24% of the age group of 35-44 and subsequently 17.3% aged 18-24. This shows that there is a good representation of several generations of workforce which would provide the basis for a sound judgment, views and/or responses. This survey would have the perspectives of the experienced, middle aged and also the relatively young workforce that would ensure diversity.

5.2.2 Distribution of Respondents by Nationality

Majority of the respondents were locally employed Malaysian in various organizations involved in outsourcing either as a Client or Vendor. There are also respondents who are non-Malaysian based in the United Kingdom (UK) and they are all employees of organizations who are the Clients. These respondents were included to provide a holistic view from different perspective to the operational efficiencies derived from outsourcing.

5.2.3 Distribution of Respondents by Education Level

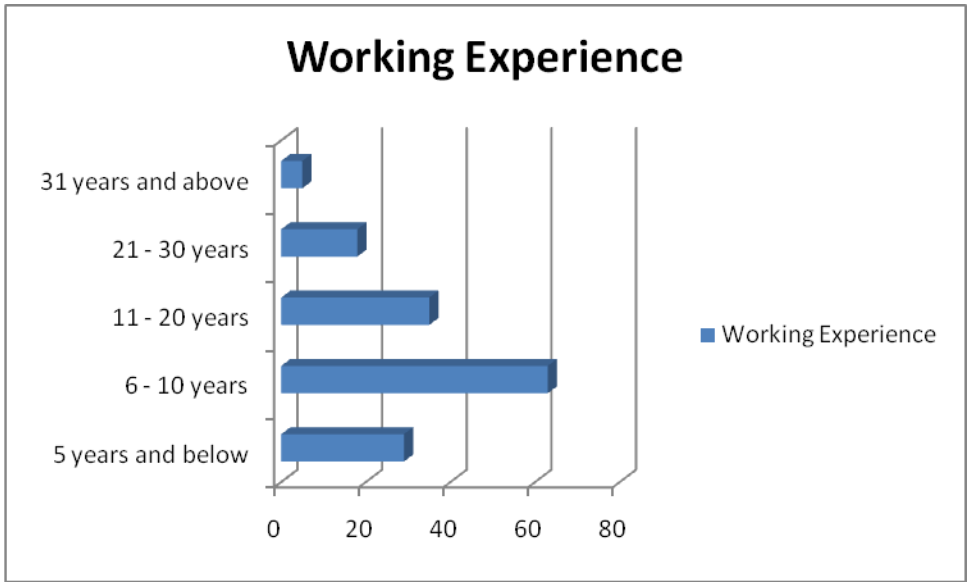
59% of the respondents are Degree holders followed by 15% of Diploma holders and 10% who holds a Masters or PHD degree. The rest of the categories had relatively small number of representatives. This indicates that the majority of the respondents has tertiary education level and is believed to be able to provide a critical review and opinion to the

survey questions as they would be generally well informed on the principles and critical issues surrounding outsourcing.

5.2.4 Distribution of Respondents by Working Experience

Majority of the respondents (42%) have between 6 to 10 years of working experience. 23% of the respondents fall within the 11 to 20 years category while another 19% have less than 5 years of working experience. This shows that more than half (65%) of the respondent population are fairly experienced and thus would be exposed to various performance and operational elements in the industry. However it is acknowledged that the experience may stem from various other industries apart from shared services (outsourcing).

Graph 1: Distribution of Respondents by Working Experience



The breakdown of the industry related demographics are depicted in the table below .

Table 7: Industry Related Demographics

	Breakdown	Total Respondents	Percentage
Type of Company	Public Sector	10	7%
	Small Medium Enterprise (SME)	9	6%
	Public Listed Companies	15	10%
	Multi National Corporation	116	77%
Mgmt Role	First Line Management	52	35%
	Middle Management	56	37%
	Senior Management	8	5%
	Non-Management	34	23%
Industry	Banking	74	49%
	Retail	14	9%
	Education	4	3%
	Information Technology	28	19%
	Hospitality	4	3%
	Health	3	2%
	Others	23	15%
Department	Human Resource	26	17%
	Information Technology	20	13%
	Operations	72	48%
	Finance	16	11%
	Projects and Planning	16	11%
Business	Vendor / Service Provider	74	49%
	Client	76	51%

5.2.5 Distribution of Respondents by Type of Company

In analyzing the type of companies which the respondents are employed, it was found that a huge population is from Multi National Corporations (MNC). This is probably due to the fact that most large organizations who are involved in offshore outsourcing practices are generally MNCs who are capable to compete globally. The involvement of

public listed companies or the Small Medium Enterprises (SMEs) in offshore practices are relatively minute.

5.2.6 Distribution of Respondents by Management Roles

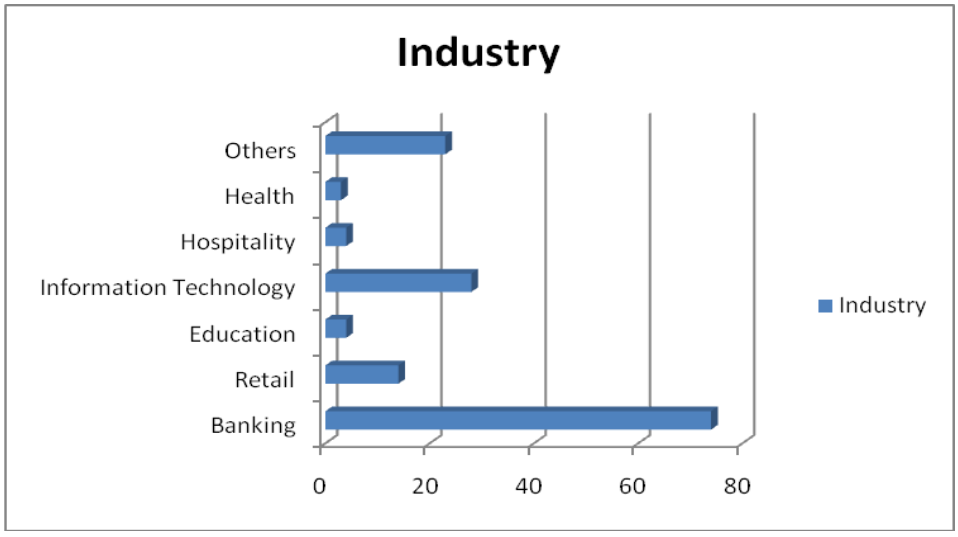
77% of the respondents are part of the management team in their respective organization while the remaining 23% are non-management representatives. Middle management team tops the list with 37% followed closely by first line managers with 35% while only 5% of the respondents account for the senior management team. Since this study involves aspects such as cost efficiency, risk control and human capital management, it would be advantages to have majority of the respondent population from the management team who would be privy to various confidential information related to these areas. However the perspective of the non-management respondents is also equally important to gauge their views on the quality, flexibility and innovation aspects as these primarily involve individuals at the processing level. Therefore the spread of the respondents are advantages for this study.

5.2.7 Distribution of Respondents by Industry

In terms of the spread of respondent population according to industry, it was found that a major proportion of them are from the Banking industry with 49% followed by Information Technology with 19% while 15% of respondents are from the Manufacturing (6%) and Insurance (9%) industries (classified under ‘others’ in the questionnaires). This

is probably due to the fact that most international banks and Information Technology (IT) companies are the ones heavily involved in offshore practices. Hence it is not surprising that 68% of the total respondents are from these 2 industries.

Graph 2: Distribution of Respondents by Industry



5.2.8 Distribution of Respondents by Departments

Since this research has various questions on 6 different dimensions consisting of cost, quality, human capital, flexibility, innovation and risk management, it is therefore essential to obtain a good representation from various departments in organizations for a balanced and accurate view. Upon analyzing the statistics, it was found that 48% of the respondents are from Operations, 17% are Human Resource personnel, 13% are from the IT department while Finance as well as Projects and Planning had 11% respondents each. It is a good representation from most of the departments.

5.2.9 Distribution of Respondents by Client/Vendor

The breakdown of total respondents based on organizations representing Clients and Vendors shows an equal representation from both ends with 51% of Clients followed closely by Vendors with 49%. It is very crucial to have samples from both the Clients and Vendor in order to obtain a holistic and accurate response.

5.3 Analysis of Measures

5.3.1 Normality Analysis

When the initial test was conducted, the kurtosis value for the dependent variable (operational efficiency), one independent variable (cost) and the moderating variable (risk) was above +3. Twenty-five (25) questionnaires had a high number of outliers prompting for the removal of these questionnaires from the overall study. Therefore in order to normalize the data for suitability of further tests, the natural logarithm method was applied and the data was normalized.

Table 8: Normality Test

Results	Operational Efficiencies	Human Capital	Costs	Quality	Innovation	Flexibility	Risk
Mean	50.6842	48.2447	45.7795	46.1603	49.5393	49.3431	37.3901
Maximum	55	55	55	55	60	60	46
Minimum	39	22	31	18	24	24	31

Standard Deviation	**3.16330**	**7.14934**	**5.02659**	**6.71362**	**6.47496**	**6.43894**	**2.28099**
Skewness	**-1.506**	**-1.609**	**-0.687**	**-1.663**	**-1.827**	**-1.693**	**0.739**

Skewness measures the symmetrical aspects of the data while kurtosis indicates the peak of the distribution. Since the acceptable value for skewness is between the range of +2 to -2 while kurtosis should be in the range of +3 to -3, based on the results depicted in table 8, the data is now normalized and suitable for further testing.

5.3.2 Reliability Analysis

Cronbach's alpha was used to determine the reliability of all the individual scales. The convergent validity and discriminant validity of the measures was verified by deriving the correlations between the items on various scales.

As Cronbach's alpha can be interpreted as correlation coefficient, it normally ranges in value between 0 and 1. However, it is common in exploratory research to have a reliability coefficient of 0.60 while some may require a cut-off at 0.70 or higher to retain an item in an 'adequate' scale. Some researchers believe that a reliability coefficient of 0.80 is required for a 'good scale' (Nunnally, 1967, pg.14). They advocate that any alpha coefficient which is below 0.70 should be dropped from subsequent analysis due to its low reliability and therefore limited use in regression analyses. For the purpose of this study, a reliability coefficient of 0.60 will be used.

Table 9a: Reliability Analysis

(Before removing four (4) questions from the Risk factor)

Factor	1 Human Capital	2 Costs	3 Quality	4 Innovation	5 Flexibility	6 Risk
Cronbach's Alpha	0.673	0.695	0.736	0.661	0.808	0.172

Table 9b: Reliability Analysis

(After removing four (4) questions from the Risk factor)

Factor	1 Human Capital	2 Costs	3 Quality	4 Innovation	5 Flexibility	6 Risk
Cronbach's Alpha	0.673	0.695	0.736	0.661	0.808	**0.933**

Factor 1 (Human Capital dimension) consists of a set of 10 items (questions 31 to 40 in the questionnaire). These items measure the competitive edge and the benefits derived from human capital aspects of outsourcing to ensure that the operational efficiencies are derived and sustained. Cronbach's alpha of 0.673 indicates that the data is reliable.

Factor 2 (Cost dimension) consists of a set of 10 items (questions 11 to 20 in the questionnaire). These items primarily measure the cost efficiency factor in ensuring that the operational efficiencies from outsourcing practices are derived and sustained. Cronbach's alpha of 0.695 indicates that the data is reliable.

Factor 3 (Quality dimension) consists of a set of 10 items (questions 21 to 30 in the questionnaire). These items measure the quality of organizational performance as the contributing factor in ensuring that the operational efficiencies from outsourcing practices

are derived and sustained. Cronbach's alpha of 0.736 indicates that the data is good in terms of reliability.

Factor 4 (Innovation dimension) consists of a set of 10 items (questions 51 to 60 in the questionnaire). These items measure the capability of an organization to be flexible in process and procedure related aspects to derive and sustain the operational efficiencies from outsourcing practices. Cronbach's alpha of 0.661 indicates that the data is reliable.

Factor 5 (Flexibility dimension) consists of a set of 10 items (questions 41 to 50 in the questionnaire). These items measure the flexibility and adaptability aspects of an organization that embarks on outsourcing and subsequently its contribution in ensuring that the operational efficiencies from outsourcing practices are derived and sustained. Cronbach's alpha of 0.808 indicates that the data is good in terms of reliability.

Factor 6 (Risk dimension) consists of a set of 10 items (questions 61 to 70 in the questionnaire). These items are intended to measure the degree of risk for organizations involved in outsourcing practices. The questions relate to common risk involved in outsourcing practices as well as the ability of an organization to control and manage the risks and thus resulting in a lower degree of risks. The Cronbach's alpha for factor 6 was 0.172 indicating a lower reliability of the data. Further test was conducted to analyse and identify the items which proved to be highly unreliable and it was found that questions 61, 63, 66 and 68 had a negative reliability score. The new Cronbach's alpha value when the four (4) items were deleted showed 0.933 which is a reliable score. Although the four (4)

questions that had low reliability are an important aspect of the risk factor, they were removed from the overall factor to ensure the reliability of the data. The four (4) questions are listed below.

Q61. There is sufficient control over process technologies and work Procedures (for either Vendor or Client)

Q63. A sufficient Business Continuity Plan (BCP) is in place by the Service Provider in the event of geographical/ governmental/ people/ system risks

Q66. There is no apparent lack of commitment and/or engagement from my/our company over the projects undertaken

Q68. The customer's data was dealt with proper security measures in place by all employees and there were no instances of loss of customer confidentiality

5.4 Testing of hypotheses

5.4.1 Pearson's correlation coefficient

In order to test the hypotheses, two (2) tests were conducted, with the first one being Pearson product-moment correlation. It is an appropriate measure of correlation as it describes the relationship between two (2) continuous variables through the direction, strength and significance of the bivariate relationship. It is the most common measure of

linear relationship and has a range of possible values between -1 to +1. The numeric value indicates the strength of the relationship while the (–) or (+) sign indicate if there is a direct or inverse relationship. The significance level (or p-value) is the probability of obtaining results and should be less than 0.05 at 95% confidence level for the null hypotheses to be rejected and alternate hypotheses accepted.

Table 10: Pearson's Product Moment Correlation Coefficient

Factors / Variables	**Pearson's Correlation (r value)**	**Significance**
1 - Human Capital	0.673	0.000
2 – Costs	0.695	0.000
3 – Quality	0.736	0.000
4 - Innovation	0.661	0.000
5 - Flexibility	0.808	0.000
6 – Risk	0.933	0.000

Factor 1 (Human Capital) shows a correlation value which falls within the range of +1 and -1 while the significance is less than 0.05 at 95% confidence level ($r = 0.673$, $p < 0.05$). Therefore it is safe to conclude that there is a high positive relationship between human capital factor and the operational efficiencies derived from outsourcing. Moreover the significance value of 0.000 indicates that human capital benefit does indeed have a significant impact on the overall operational efficiencies.

Factor 2 (Costs) shows a correlation value which fall within the range of +1 and -1 while the significance is less than 0.05 at 95% confidence level ($r = 0.695$, $p < 0.05$). Therefore it is safe to conclude that there is a high positive relationship between the cost factor and the operational efficiencies derived from outsourcing. Moreover the significance value of 0.000 indicates that cost efficiency / benefit do indeed have a significant impact on the overall operational efficiencies.

Factor 3 (Quality) shows a correlation value which fall within the range of +1 and -1 while the significance is less than 0.05 at 95% confidence level ($r = 0.736$, $p < 0.05$). Therefore it is safe to conclude that there is a high positive relationship between the quality factor and the operational efficiencies derived from outsourcing. Moreover the significance value of 0.000 indicates that quality related benefits (which include quality performance and conformance) do indeed have a significant impact on the overall operational efficiencies.

Factor 4 (Innovation) shows a correlation value which fall within the range of +1 and -1 while the significance is less than 0.05 at 95% confidence level ($r = 0.661$, $p < 0.05$). Therefore it is safe to conclude that there is a high positive relationship between the innovation factor and the operational efficiencies derived from outsourcing. Moreover the significance value of 0.000 indicates that benefits derived from innovation do indeed have a significant impact on the overall operational efficiencies.

Factor 5 (Flexibility) shows a correlation value which fall within the range of +1 and -1 while the significance is less than 0.05 at 95% confidence level ($r = 0.808$, $p < 0.05$). Therefore it is safe to conclude that there is a very high positive relationship between the flexibility factor and the operational efficiencies derived from outsourcing as it is apparent that flexibility highly correlates with operational efficiencies compared to any other factors. Moreover the significance value of 0.000 indicates that benefits derived from flexibility undoubtedly have a significant impact on the overall operational efficiencies.

Factor 6 (Risk) shows a correlation value which fall within the range of +1 and -1 while the significance is less than 0.05 at 95% confidence level ($r = 0.172$, $p < 0.05$). Therefore it is safe to conclude that there is a positive relationship between the risk factor and the operational efficiencies derived from outsourcing. However the relationship is relatively weak compared to the rest of the factors. The significance value of 0.000 indicates that benefits derived from risk undoubtedly have a significant impact on the overall operational efficiencies. The weak relationship could be attributed to the fact that the relationship between risk and operational efficiencies is very subjective as it depends on the degree of control imposed by the respective organizations and the way risk is managed internally. This may have caused variations in the response from the sample population. Moreover this study intends to investigate the risk factor as a moderator which influences the relationship between the dependent variable and each independent variable. The direct relationship between risk and operational efficiencies will not be the

focus of this study. Therefore the weak relationship does not impact the overall conceptual framework and will serve more as additional information only.

5.4.2 Multiple regression analysis (hierarchical and standard)

The second test conducted to validate the hypotheses was the multiple regression analysis where the result of the regression is an equation which represents the relationship of one dependent variable and several independent variables (including the moderating variable). Multiple regression analysis is an extension to the bivariate correlation. It allows for investigation of the effect of 2 or more independent variables simultaneously. This test is crucial in this research as it intends to investigate the effect of the moderating variable on the overall operational efficiencies as well as the relationship between each of the independent variables and the dependent variable. In order to test significance of the moderator, a hierarchical multiple regression analysis was conducted, whereby it allows for the variables to be input in a hierarchical order. Therefore the test was first conducted on each of the independent variable and the dependent variable before the moderator was introduced into each relationship where the test was again conducted to see if there are any significant changes in the initial relationship.

In the hierarchical regression analysis, the r value, r square, F-ratio and the significant F change value is examined. The tables below depict the results of the analyses.

Table 11: Model Summary 1

Factors / Variables	R	R Square	Adjusted R Square	Sig. F Change	Standardized Coefficient (Beta)
1a - Human Capital	0.673	0.452	0.452	0.000	0.673
1b - Human Capital + Risk	0.684	0.467	0.467	0.000	0.664

a. Predictors: (Constant), IV_HC
b. Predictors: (Constant), IV_HC, IV_Risk
c. Dependent Variable: Operational efficiencies

Model summary 1 shows that human capital factor (independent variable) has a high direct positive relationship with operational efficiencies (dependent variable) at r = 0.673. The R square value indicates that 45% of the variance in the operational efficiencies is contributed by the human capital factor with $p<0.05$ indicating a significant relationship. Subsequently the moderating variable was introduced into the equation which brings the r value to 0.684 and where 46.7% of the variance in the operational efficiency is contributed by the human capital factor and the presence of risk. The significance is still high as $p < 0.05$. The beta value of 0.664 with the introduction of the moderator shows that risk has an impact on human capital.

This shows that risk plays a significant role in influencing the relationship between the human capital benefits and overall operational efficiency. Therefore it is safe to conclude that although organizations are able to leverage on the human capital benefits which highly influences the capability of deriving and sustaining operational efficiencies, the presence of risk (either high or low) will alter the relationship which eventually would impact the overall efficiencies gained by organizations (either higher or lower).

Table 12: Model Summary 2

Factors / Variables	R	R Square	Adjusted R Square	Sig. F Change	Standardized Coefficient (Beta)
2a – Costs	0.695	0.438	0.438	0.000	0.695
2b - Costs + Risk	0.712	0.506	0.506	0.000	0.691

a. Predictors: (Constant), IV_Costs
b. Predictors: (Constant), IV_Costs, IV_Risk
c. Dependent Variable: Operational efficiencies

Model summary 2 shows that the costs factor (independent variable) has a high direct positive relationship with operational efficiencies (dependent variable) at r = 0.695. The R square value indicates that 43.8% of the variance in the operational efficiencies is contributed by the costs factor with $p<0.05$ indicating a significant relationship. Subsequently the moderating variable was introduced into the equation which increases the r value to 0.712 and where 50.6% of the variance in the operational efficiency is contributed by the cost factor and the presence of risk. The significance is still high as the $p < 0.05$. The beta value has reduced from 0.695 to 0.691 when the moderating variable was introduced. Therefore it is safe to conclude that risk has an impact on the cost factor.

This shows that risk plays a significant role in influencing the relationship between the cost efficiency / benefits and overall operational efficiency. Therefore it is safe to conclude that although organizations are able to leverage on cost efficiency / benefits which highly influences the capability of deriving and sustaining operational efficiencies, the presence of risk (either high or low) will significantly alter the relationship which eventually would greatly impact the overall efficiencies gained by organizations (either higher or lower).

Table 13: Model Summary 3

Factors / Variables	R	R Square	Adjusted R Square	Sig. F Change	Standardized Coefficient (Beta)
3a – Quality	0.736	0.541	0.541	0.000	0.736
3b - Quality + Risk	0.747	0.559	0.559	0.000	0.729

a. Predictors: (Constant), IV_Quality
b. Predictors: (Constant), IV_Quality, IV_Risk
c. Dependent Variable: Operational efficiencies

Model summary 3 shows that the quality factor (independent variable) has a high direct positive relationship with operational efficiencies (dependent variable) at r = 0.736. The R square value indicates that 54% of the variance in the operational efficiencies is contributed by the quality factor with $p<0.05$ indicating a significant relationship. Subsequently the moderating variable was introduced into the equation which increases the r value to 0.747 and where 56% of the variance in the operational efficiency is contributed by the quality factor and the presence of risk. The significance is still high as the $p < 0.05$. The beta value of 0.729, with the introduction of the moderating variable shows that it has an impact on quality.

This shows that risk plays a significant role in influencing the relationship between the quality related benefits (both performance and conformance) and overall operational efficiency. Therefore it is safe to conclude that although organizations are able to leverage on quality related benefits which highly influences the capability of deriving and sustaining operational efficiencies, the presence of risk (either high or low) will significantly alter the relationship which eventually would greatly impact the overall efficiencies gained by organizations (either higher or lower).

Table 14: Model Summary 4

Factors / Variables	R	R Square	Adjusted R Square	Sig. F Change	Standardized Coefficient (Beta)
4a - Innovation	0.661	0.437	0.437	0.000	0.661
4b - Innovation + Risk	0.694	0.482	0.482	0.000	0.674

a. Predictors: (Constant), IV_Innovation
b. Predictors: (Constant), IV_Innovation, IV_Risk
c. Dependent Variable: Operational efficiencies

Model summary 4 shows that the innovation factor (independent variable) has a direct positive relationship with operational efficiencies (dependent variable) at r = 0.661. The R square value indicates that 43.7% of the variance in the operational efficiencies is contributed by the innovation factor with $p<0.05$ indicating a significant relationship. Subsequently the moderating variable was introduced into the equation which increases the r value to 0.694 and where 48% of the variance in the operational efficiency is contributed by the innovation factor and the presence of risk. The significance is still high as the $p < 0.05$. The beta value shows an increase from 0.661 to 0.674 when the moderating variable was introduced. This shows that risk has no impact on innovation.

Hence while we can conclude that there is a significant relationship between innovation and overall operational efficiency, risk does not have an impact on innovation. Therefore it is safe to conclude that although organizations can leverage on innovation to derive and sustain operational efficiencies but the presence of risk (either high or low) will not have any impact to determine overall efficiencies gained by organizations. An organization can have high risk and yet still be able to capitalize on innovativeness for sustainability.

Table 15: Model Summary 5

Factors / Variables	R	R Square	Adjusted R Square	Sig. F Change	Standardized Coefficient (Beta)
5a - Flexibility	0.808	0.653	0.653	0.000	0.808
5b - Flexibility + Risk	0.814	0.662	0.662	0.000	0.799

a. Predictors: (Constant), IV_Flexibility
b. Predictors: (Constant), IV_Flexibility, IV_Risk
c. Dependent Variable: Operational efficiencies

Model summary 5 shows that the flexibility factor (independent variable) has a high direct positive relationship with operational efficiencies (dependent variable) at r = 0.808. The R square value indicates that 65% of the variance in the operational efficiencies is contributed by the flexibility factor with $p<0.05$ indicating a significant relationship. Subsequently the moderating variable was introduced into the equation which increases the r value to 0.814 and where 66% of the variance in the operational efficiency is contributed by the flexibility factor and the presence of risk. The significance is still high as the $p < 0.05$. The reduction in the beta value to 0.799 when the moderating variable was introduced shows that risk has an impact on flexibility.

This shows that risk plays a significant role in influencing the relationship between the flexibility and overall operational efficiency. Therefore it is safe to conclude that although organizations are able to leverage on flexibility which highly influences the capability of deriving and sustaining operational efficiencies, the presence of risk (either high or low) will significantly alter the relationship which eventually would greatly impact the overall efficiencies gained by organizations (either higher or lower).

Subsequently to further substantiate the effect of the moderating variable and concur the findings from the hierarchical multiple regression, a standard regression analysis was performed. The results of the beta value are as depicted below.

Table 16: Model Summary 6

Factors / Variables	Standardized Coefficient (Beta) (a)	Standardized Coefficient (Beta) IV + Risk (b)
1 - Human Capital	0.102	0.089
2 – Costs	0.244	0.221
3 – Quality	0.186	0.184
4 - Innovation	0.035	0.117
5 - Flexibility	0.692	0.607

a. Predictors: (Constant), IV_HC, IV_FIN, IV_QTY, IV_INNO, IV_FLEX, IV_RISK
b. Dependent Variable: Operational efficiencies

The first standard regression test was conducted on the independent variables as a group (column a) before subsequently adding the risk factor where the analysis was conducted again to establish the difference in the beta value (column b). Similar to the findings from the hierarchical multiple regression, it was noted that the beta value of the independent variables showed reduction when the risk factor was introduced into the equation with the exception to one independent variable, innovation, which showed a slight increase in the value.

Therefore, it is safe to conclude that both the multiple regression analyses (hierarchical and standard regression) showed similar results to concur that apart from innovation, there is significant relationship between human capital, cost, quality, flexibility and overall operational efficiency where risk plays a significant role in influencing the relationships. In short, the presence of risk (either high or low) alters the overall operational efficiencies derived from leveraging on human capital, costs and quality benefits as well as the level of flexibility adopted by organizations.

Innovation on the other hand is not impacted by the presence of risk and therefore organizations can leverage on innovation to derive and sustain operational efficiencies but the presence of risk (either high or low) will not have any impact to determine overall efficiencies gained by organizations. An organization can have high risk and yet still be able to capitalize on innovativeness for sustainability.

Figure 6: Linear Regression Plot

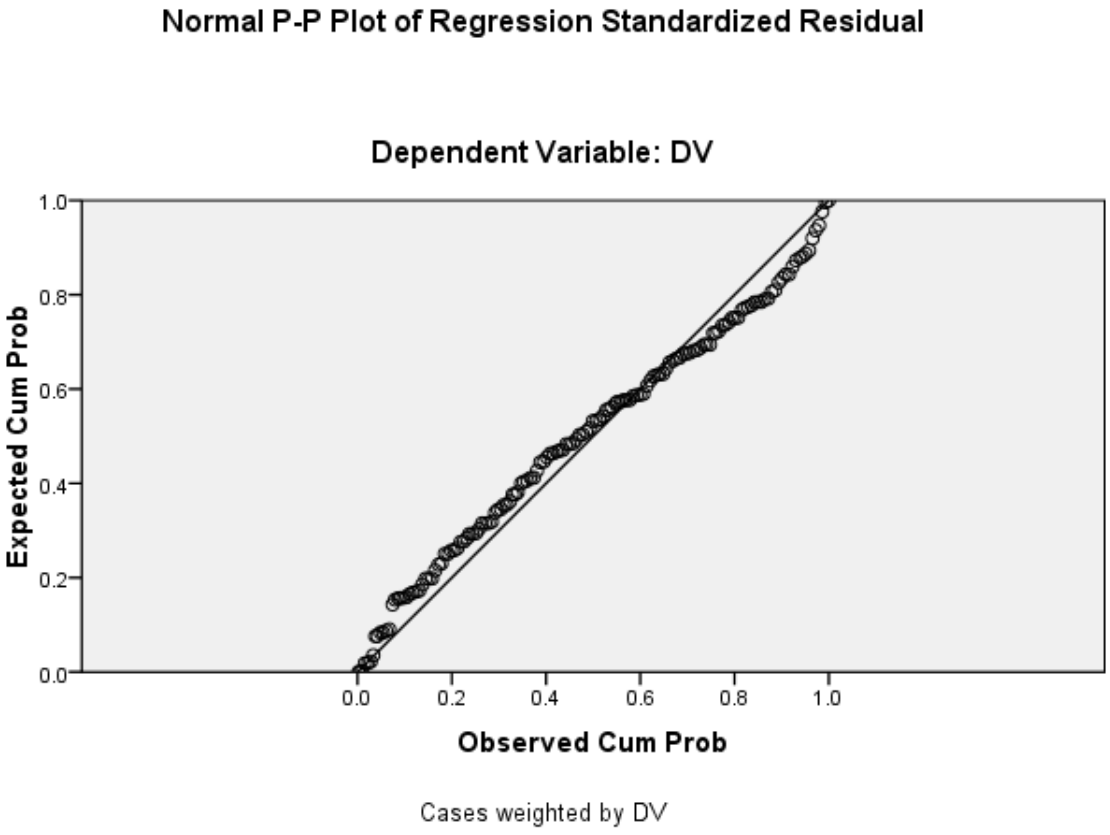


Figure 6 above indicates the normal plot of regression standardized residuals for the dependent variable which indicates that there is a relatively normal distribution. The data also reflects that the independent variables have high influences on the dependent variable (operational efficiencies).

5.4.3 Summary of Hypotheses

Table 17: Results of the Hypotheses

Hypotheses	Factors	Supported/ Unsupported
H1 (a)	There is a positive relationship between human capital and operational efficiencies derived from offshore outsourcing	Supported
H1(b)	The relationship between human capital and operational efficiencies is moderated by risk	Supported
H2 (a)	There is a positive relationship between cost and operational efficiencies derived from offshore outsourcing	Supported
H2 (b)	The relationship between cost and operational efficiencies is moderated by risk	Supported
H3 (a)	There is a positive relationship between quality and operational efficiencies derived from offshore outsourcing	Supported
H3 (b)	The relationship between quality and operational efficiencies is moderated by risk	Supported
H4 (a)	There is a positive relationship between innovativeness and operational efficiencies derived from offshore	Supported

	outsourcing	
H4 (b)	The relationship between innovativeness and operational efficiencies is moderated by risk	**Not supported**
H5 (a)	There is a positive relationship between flexibility and operational efficiencies derived from offshore outsourcing	Supported
H5 (b)	The relationship between flexibility and operational efficiencies is moderated by risk	Supported

Based on the various tests which were conducted to test the hypotheses, determine the reliability and validity of the data as well as to gauge the relationship between each of the independent variables and the dependent variable, it is therefore safe to conclude that all the hypotheses have been accepted, except one, as depicted in the table above. These hypotheses were supported with the exception to one hypothesis (4b) and the null hypotheses were rejected based on the positive correlation between the independent variables and the dependent variable as well as the significance level of each of the independent variables in influencing the dependent variable. Hypothesis 4(b) is not supported as the multiple regression analysis showed that risk does not have any moderating impact between innovation and operational efficiency.