

4. RESEARCH RESULT

This chapter presents the results of the statistical analysis. Basic descriptive of the samples was first presented to provide readers with an overview of the respondents. Next, the measures analysis and testing of hypothesis were presented.

4.1 Descriptive Analysis

Table 3 summarized the number of questionnaires distributed to and collected from three different industries: manufacturing, finance and government sectors.

Industry Type	No. of questionnaires distributed	No. of Respondents	Respond Rate
Manufacturing	160	82	51.3%
Government	180	42	23.3%
Finance	130	46	35.38%
Total	470	170	36.17%

Table III : Summary of Respondents

A total of 470 questionnaires were distributed and 170 questionnaires were returned fully completed. For Government sector, University of Malaya (UM) was used as a sole base. The low respond rate could be due to UM's staffs were busy when the questionnaires were in the month of August with the graduation

ceremony. After numerous phone calls and visits follow-up I managed to get 42 responds. Only 130 questionnaires were distributed to Finance sector due to limited number of finance companies certified with ISO 9000 series. Only Information Technology Department of Perwira Affin Bank and Bank Islam are certified with ISO 9000. The respond from manufacturing is quiet high and I believe this is due to greater staff' awareness of ISO 9000 in manufacturing sector as this certification is widely used by manufacturing industry. Given the time constraints and scope of the study, the respond rate of 36.17% could be considered satisfactory.

The frequencies test was run to see the trend of demographic factors. The result is summarized in the following table.

Demographic characteristics	Percentages
<i>Gender</i>	
Male	59.4
Female	40.6
<i>Industries</i>	
Manufacturing	48.2
Finance	27.1
Government	24.7
<i>Total Yearly Income</i>	
Less than RM24,000	26.5
RM24,000 to RM48,000	62.9
More than RM48,000	10.6
<i>Years of service</i>	
Less than 2 yrs	14.7
2 – 4 yrs	27.1
More than 4 yrs	58.2
<i>Level of Education</i>	
SPM / STPM	20.0
Diploma	27.1
Degree	45.9
Master Degree	3.5
PHD	3.5

Note: n=170

Table IV

59.4% of the respondents were male compared to 40.6% female. The educational level of respondents was equally distributed to degree holder and non-degree holder. 47.1 % of the respondents non-degree holder (high school or diploma holder) while 52.9% were degree holder and above. Degree holder is the main highest respondents for degree holder and above category with percentage of 45.9%. Most of the respondents have worked for more than 4 years (58.2%)

and most of them fall into middle income category with annual income of more than RM24,000 up to RM48,000.

4.2 Reliability Test

Before testing the basic hypothesis of the research, the instrument had to be first tested for its reliability and its validity. As Bryman and Cramer (1994) mentioned: It is generally agreed that when a mean of measuring a concept is proposed, the measurement must be both reliable and valid. A measurement is called reliable when it gives the same results, applied to different persons or under different circumstances. Cronbach Standardized Alpha (α) is the most commonly used to measure the reliability, so does this study. The closer the alpha to one, the highest the internal consistency of dimension while generally values higher than 0.6 is considered satisfactory for basics research (Peter, 1979).

Reliability tests were performed on all of the variables before and after the implementation of ISO 9000. The result of the reliability test is summarized in table V below. The results show that acceptable high level of α before and after implementation for all variables were obtained.

Variables	Question Numbers	α Before ISO	α After ISO
Job Satisfaction	1,2,3,4,5,6,7 & 8	.674	.753
Motivation	9,10,11,12,13,14,15, 16,17,18,& 19	.836	.816
Organizational Commitment	23,24,25,26,27 & 28	.676	.666

Table V : Result of Reliability Test

4.3 Paired Sample t-Test

Paired sample t-Test were carried out to test whether there is significant different in sample means before and after implementation which will be used as measurement to test the hypothesis. A confidence level of 95% was used for all the t-Test performed in this study. Table VI and VII showed the result of the t-Test.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	JSA (Job Satisfaction After ISO)	19.9882	170	3.40203	.26092
	JSB (Job Satisfaction Before ISO)	18.6118	170	3.02101	.23170
Pair 2	MOTA (Motivation after ISO)	46.5941	170	5.74765	.44082
	MOTB (Motivation Before ISO)	42.7941	170	6.40257	.49105
Pair 3	ORGCOMMA (Organizational Commitment After ISO)	20.5235	170	3.64099	.27925
	ORGCOMMB (Organizational Commitment Before ISO)	19.2235	170	3.53135	.27084

Table VI : Paired Samples Statistics

Paired Samples Test

		Paired Differences					t	df	S
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	JSA - JSB	1.37647	3.09027	.23701	.90858	1.84436	5.808	169	
Pair 2	MOTA - MOTB	3.80000	4.60846	.35345	3.10225	4.49775	10.751	169	
Pair 3	ORGCO MMA - ORGCO MMB	1.30000	2.56709	.19689	.91133	1.68867	6.603	169	

Table VII : Paired Samples Test Result

The organizations performance differences before and after implementation of ISO 9000 were tested for each variables. The null hypothesis that this performance difference is equal to zero was rejected in 95% confidence interval. Performance after certification was found to be significantly greater in all areas being understudied.

4.4 Test of Hypothesis using Paired Sample t-Test

Paired sample t-test was administered to see the effect of ISO 9000 implementation.

4.4.1 Job Satisfaction

Hypothesis for Job Satisfaction was constructed as :

H₁ : ISO 9000 system implementation will improve job satisfaction of employees.

The paired sample t-test result in table VII shows there is significant different in means after the implementation. The means score had increased from 18.6118 to 19.988 after the implementation with t value of 5.08 with significant value of 0.00. Hence, H_1 is supported.

4.4.2 Internal Motivation

The hypothesis for internal motivation was constructed as:

H₂: ISO 9000 System implementation will not improve employees' internal motivation.

Paired sample t-test result showed there is significant improvement in internal motivation after certification with t value of 10.751 and significant value of 0.000. This category has achieved the highest t-value of 10.751 compared to job satisfaction and organizational commitment. The mean scored had increased from 42.79 to 46.59. A perfect significant value was achieved. Thus, H_2 is not supported.

4.4.3 Organizational Commitment

The hypothesis for Organizational Commitment was constructed as:

H₃: ISO 9000 System implementation will not improve employees' organizational commitment

The result of t-test showed there is significant improvement in relation to organizational commitment with the implementation. Hence, the H_3 was not supported.

4.5 Relationship Data

One-way Analysis of Variance (ANOVA) was administered to see any significant relationship between job satisfaction, internal motivation and organizational commitment with selective demographic factors namely industry type, years of working, income and educational level.

4.5.1 Job Satisfaction

Q1 : Is there any significant different in job satisfaction as an impact of implementation of ISO 9000 across industry?

One-way ANOVA result showed there were different in means score between industries however they were not significant.

Q2 : Is there any significant different in job satisfaction with implementation of ISO 9000 with regard to years of service?

Similar to industry factor, the ANOVA test showed there were different in means score however they were not significant.

Q3 : Is there any significant different in job satisfaction as an impact of implementation of ISO 9000 with regard to level of income?

The ANOVA result showed there is significant different in job satisfaction across income level. Respondents with income of below RM24,000 tend to be more satisfied with their job compared to respondents from other income groups. This may be due to the nature of ISO itself which emphasizes on procedures and documentations that are more applicable to lower level of management.

Q4. : Is there any significant different in job satisfaction as an impact of implementation of ISO 9000 with regard to educational level?

The ANOVA result revealed there is no significant different in term of job satisfaction across educational level.

4.5.2 Internal Motivation

Q1. : Is there any significant different in internal motivation as an impact of implementation of ISO 9000 across industry?

ANOVA analysis showed there is statistically significant different in term of internal motivation between manufacturing industry, finance industry and government sector. Government sector appeared to be the least motivated sector in this study. However, this significant different had already existed before the implementation. The significant level had reduced form .02 before implementation to .03 after the implementation between finance and government sector and reduced from .02 to .083 for manufacturing and government sector. Though government sector was

already less motivated, it is proven that the implementation of ISO 9000 had in a way helped government staff to improve their motivation.

Q2. : Is there any significant different in internal motivation as an impact of implementation of ISO 9000 with regard to years of working?

The ANOVA test showed there is no significant different in internal motivation resulted from years of working.

Q3. : Is there any significant different in internal motivation as an impact of implementation of ISO 9000 with regard to level of income?

The ANOVA test showed there is no significant different in internal motivation resulted from level of income.

Q4 : Is there any significant different in internal motivation as an impact of implementation of ISO 9000 with regard to educational level?

The ANOVA test showed there is no significant different in internal motivation resulted from educational level.

4.5.3 Organizational Commitment

Q1. : Is there any significant different in organizational commitment as an impact of implementation of ISO 9000 across industry?

ANOVA analysis showed there is statistically significant different in means after the implementation between industries. Government sector

appeared to be the most committed to the organization than the other two industries. Respondents from government sector are less likely to apply for another job, more proud of their organization and are happier with their current job compared to manufacturing and finance industry. I believe this is due to the working culture and environment in the government sector itself which is known for its stability and comfortness.

Q2. : Is there any significant different in organizational commitment as an impact of implementation of ISO 9000 with regard to level of income?

The result showed there is significant different in term of income level in organizational commitment before the implementation. Income group of more than RM48,000 was significantly more committed to the company than income group of less than RM24,000. However the different persists with the certification.

Q3: Is there any significant different in organizational commitment as an impact of implementation of ISO 9000 with regard to years of working?

The ANOVA test showed there is no significant different in organizational commitment resulted from educational level.

Q4. : Is there any significant different in organizational commitment as an impact of implementation of ISO 9000 with regard to educational level?

The ANOVA test showed there is no significant different in internal motivation resulted from educational level.