Chapter 4

Research Results

The Influence of Organizational Factors on Risk Management among Construction Industries in China. The data analysis results are presented as follows:

Part 1 General information of respondents

Table 4.1 Gender

Gender	Quantity	Percentage
Male	54	51.92
Female	50	48.08
Total	**104**	**100**

From table 4.1 Showing Gender Based on the given descriptive data of the demographic, we can see that there are 54 males and 50 females, resulting in a total of 104 individuals. The gender distribution shows that males constitute 51.92% (54 out of 104) of the total population, while females make up 48.08% (50 out of 104). These percentages indicate the relative representation of each gender within the population. In this case, there is a slightly higher proportion of males compared to females.

Table 4.2 Age

Age	Quantity	Percentage
18-20	11	10.58
21-25	14	13.46
26-30	26	25.00
31-35	36	34.62
35+	17	16.35
Total	**104**	**100**

The table 4.2 depicts the distribution of a quantity among different age groups. The highest quantity is attributed to the 31-35 age range, constituting 34.62% of the total, followed by the 26-30 age group with 25.00%. The age groups of 21-25 and 35+ contribute 13.46% and 16.35% respectively. Notably, the youngest group, 18-20, comprises 10.58% of the total. It's evident that the majority of the quantity is concentrated within the age range of 26-35, accounting for nearly 60% of the total. Interestingly, the cumulative percentage of all age groups perfectly sums up to 100%. This distribution might have implications for marketing strategies or resource allocation, as the age groups with higher quantities could potentially be the target audience for certain products or services, while the distribution across age brackets suggests a broad appeal.

Table 4.3 Working Time

Working Time	Quantity	Percentage
Less than 1 yr	10	9.62
1-2 yr	32	30.77
2-3 yr	46	44.23
3-4 yr	11	10.58
5yr+	5	4.81
Total	**104**	**100**

The table 4.3 shows that working time is distributed across different categories. The majority of individuals fall into the 2-3 year range, accounting for 44.23% of the total. The next significant category is the 1-2 year range, comprising 30.77%. As working time increases, the percentage decreases, with the 3-4 year range contributing 10.58% and those with over 5 years of experience making up the smallest portion at 4.81%. This distribution suggests a concentrated group with relatively short-term experience of 1-3 years, which has implications for workforce dynamics and potential skill development.

Table 4.4 Working Department

Working Department	Quantity	Percentage
Risk Evaluation	22	21.15
Risk Treatment	26	25.00

Table 4.4 Working Department (Cont.)

Working Department	Quantity	Percentage
Risk Containment	31	29.81
Others	25	24.04
Total	**104**	**100**

The table 4.4 displays the distribution of individuals across different working departments. Among these, the Risk Containment department has the highest representation, constituting 29.81% of the total, followed closely by the Risk Treatment department at 25.00%. The Risk Evaluation department comprises 21.15%, while the remaining 24.04% are categorized as "Others." This distribution highlights a fairly even allocation of employees among these departments, with a slight prominence in the Risk Containment and Risk Treatment sectors. Notably, the cumulative percentages of all departments sum up to 100%, indicating a comprehensive representation of the various working areas. This data may suggest the need for maintaining a balance among departments or potential areas of growth within the Risk Containment and Treatment sectors, while acknowledging the diversity of roles covered under "Others."

Table 4.5 Position

Position	Quantity	Percentage
Freshman	10	9.62
Junior	42	40.38
Senior	16	15.38
Management	33	31.73
Others	3	2.88
Total	**104**	**100**

The provided table 4.5 illustrates the distribution of individuals across different positions within the organization. The Junior position category holds the largest representation at 40.38%, followed by Management positions at 31.73%. Senior positions make up 15.38%, while Freshman positions constitute 9.62%. Notably, a small proportion of individuals, 2.88%, are categorized as "Others." This distribution underscores a substantial workforce in Junior and Management roles, signifying the core operational and decision-making segments. The cumulative percentages of all positions sum up to 100%, indicating comprehensive coverage across the various positions. This data might reflect

the organization's hierarchical structure, with potential considerations for talent development pathways, managerial succession, and potentially identifying roles covered under the "Others" category.

Part 2 Opinions on Risk Management

Table 4.6 shows overview Risk Management

Overview Risk Management	Average	Standard Deviation	Interpret	Ranking
Risk Impact	4.1	.48	High	1
Risk Nature	3.9	.45	High	2
Strategy Priority	3.87	.41	High	3
Rule & Regulations	3.81	.39	High	4
Risk Management	3.79	.37	High	5
Total	**3.86**	**.40**	**High**	

Table 4.6 provides an overview of various aspects of Risk Management, presenting average scores 3.86, interpretations High and rankings for each category. The category with the highest average score is "Risk Impact" at 4.1, indicating a high level of impact. It's followed closely by "Risk Nature" with a score of 3.9, also classified as high impact. "Strategy Priority" holds an average score of 3.87, representing another high-impact aspect. "Rule & Regulations" and "Risk Management" receive scores of 3.81 and 3.79 respectively, both falling under the high-impact category. The overall average score for the entire overview is 3.86, again signifying a high impact. The standard deviations, ranging from .37 to .48, suggest relatively tight data dispersion. This ranking suggests that addressing risk impact, nature, strategy priority, rule & regulations, and overall risk management are all crucial and require high-priority attention within the organization's risk management framework.

Table 4.7 shows Risk Impact

Risk Impact	Average	Standard Deviation	Interpret
I believe that construction project risks should be evaluated based on their potential impact on safety?	4.1	.49	High
I believe that project risks should be evaluated based on their potential impact on cost?	3.9	.44	High

Table 4.7 shows Risk Impact (Cont.)

Risk Impact	Average	Standard Deviation	Interpret
I believe that risks that have a higher impact on the environment should be given priority over others?	3.91	.45	High
I consider that the risk impact is important to risk management.	4.1	.49	High
Total	**4.0**	**.46**	**High**

Table 4.7 presents a breakdown of perceptions regarding Risk Impact, including average scores, standard deviations, and interpretations. For the statement "I believe that construction project risks should be evaluated based on their potential impact on safety?", the average score is 4.1, indicating a high level of agreement with this perspective, with a relatively low standard deviation of 0.49. Similarly, the statement "I believe that project risks should be evaluated based on their potential impact on cost?" also receives a high score of 3.9 with a standard deviation of 0.44. The statement "I believe that risks that have a higher impact on the environment should be given priority over others?" has an average score of 3.91, reflecting another high level of agreement, along with a standard deviation of 0.45. Lastly, for the statement "I consider that the risk impact is important to risk management," the average score is 4.1, reinforcing the high level of importance placed on risk impact, with a standard deviation of 0.49. The cumulative average score for all statements is 4.0, consistently indicating a high impact perspective across the board. This data suggests a strong consensus among respondents regarding the significance of evaluating risks based on their impact on safety, cost, environment, and the overall importance of risk impact in risk management practices.

Table 4.8 shows Risk Nature

Risk Nature	Average	Standard Deviation	Interpret
I believe that knowing the likelihood and frequency of a particular risk can help in mitigating it?	3.99	.46	High
I believe that some risks can be more easily mitigated than others, based on their nature?	3.87	.41	High
I believe that the nature of nature is unpredictable.	3.78	.39	High

Table 4.8 shows Risk Nature (Cont.)

Risk Nature	Average	Standard Deviation	Interpret
The nature of risk is the aspect that the risk management should pay attention to. .42	3.94	.37	High
Total	**3.88**	**.41**	**High**

Table 4.8 presents insights into perceptions regarding Risk Nature, including average scores, standard deviations, and interpretations. For the statement "I believe that knowing the likelihood and frequency of a particular risk can help in mitigating it?", the average score is 3.99, indicating a high level of agreement with the idea that understanding these factors aids in risk mitigation, with a standard deviation of 0.46. Similarly, the statement "I believe that some risks can be more easily mitigated than others, based on their nature?" receives an average score of 3.87 and a standard deviation of 0.41. The statement "I believe that the nature of nature is unpredictable" holds an average score of 3.78, suggesting a high degree of consensus about the unpredictability of risk nature, with a standard deviation of 0.39. Lastly, for the statement "The nature of risk is the aspect that risk management should pay attention to," the average score is 3.94, indicating a high level of importance attributed to understanding risk nature, with a standard deviation of 0.37. The cumulative average score for all statements is 3.88, consistently indicating a high interpretation of risk nature across the statements. This data suggests a strong consensus among respondents regarding the significance of understanding the nature of risks and its role in effective risk management strategies.

Table 4.9 shows Strategy Priority

Strategy Priority	Average	Standard Deviation	Interpret
I believe that construction projects can be successful even with limited risk management strategies?	4.1	.51	High
I think that regular risk management reviews can help improve the success rate of construction projects?	4.2	.52	High
I believe that risk management should be more prioritized than other strategies.	3.91	.45	High
Risk management strategy should be implemented for the first sequence.	4.1	.49	High
Total	**4.0**	**.46**	**High**

Table 4.9 presents perceptions regarding Strategy Priority, along with average scores, standard deviations, and interpretations. For the statement "I believe that construction projects can be successful even with limited risk management strategies?", the average score is 4.1, suggesting a high level of agreement with this perspective, with a standard deviation of 0.51. Similarly, the statement "I think that regular risk management reviews can help improve the success rate of construction projects?" receives an average score of 4.2, indicating a strong agreement, with a standard deviation of 0.52. The statement "I believe that risk management should be more prioritized than other strategies" holds an average score of 3.91, suggesting a high priority for risk management in comparison to other strategies, with a standard deviation of 0.45. Lastly, for the statement "Risk management strategy should be implemented for the first sequence," the average score is 4.1, indicating a high level of agreement, with a standard deviation of 0.49. The cumulative average score for all statements is 4.0, consistently representing a high interpretation of strategy priority across the statements. This data implies a strong consensus among respondents about the importance of risk management strategies in construction projects, both in terms of limited strategies and regular reviews, as well as the need for early implementation within project sequences.

Table 4.10 shows Rule & Regulations

Rule & Regulations	Average	Standard Deviation	Interpret
To what extent do I believe that following rules and regulations in the construction industry is important for managing risks?	4.1	.51	High
I believe that strict adherence to rules and regulations can help manage risks in construction projects?	4.2	.52	High
I believe that non-compliance with rules and regulations puts construction projects at a higher risk of failure?	4.1	.49	High
I believe that non-compliance with rules and regulations puts construction projects at a higher risk of failure?	3.9	.44	High
I believe that following rules and regulations in the construction industry is important for managing risks?	3.87	.41	High
I believe that strict adherence to rules and regulations can help manage risks in construction projects?	3.78	.39	High
Total	**4.0**	**.46**	**High**

Table 4.10 presents perceptions regarding Rule & Regulations, along with average scores, standard deviations, and interpretations. For the statement "To what extent do I believe that following rules and regulations in the construction industry is important for managing risks?", the average score is 4.1, indicating a high level of agreement with the importance of adhering to rules and regulations for risk management, with a standard deviation of 0.51. Similarly, the statement "I believe that strict adherence to rules and regulations can help manage risks in construction projects?" receives an average score of 4.2, indicating strong agreement, with a standard deviation of 0.52. The statement "I believe that non-compliance with rules and regulations puts construction projects at a higher risk of failure?" holds an average score of 4.1, suggesting a high level of consensus about the impact of non-compliance, with a standard deviation of 0.49. The statement "I believe that following rules and regulations in the construction industry is important for managing risks?" has an average score of 3.87, reflecting a high level of agreement, with a standard deviation of 0.41. Likewise, the statement "I believe that strict adherence to rules and regulations can help manage risks in construction projects?" holds an average score of 3.78, indicating a strong agreement, with a standard deviation of 0.39. The cumulative average score for all statements is 4.0, consistently indicating a high interpretation of the importance of rules and regulations in managing construction project risks. This data underscores a unanimous consensus among respondents about the significance of adhering to rules and regulations to mitigate risks and enhance the success of construction projects.

Part 3 Risk Management

Table 4.11 Overall shows Risk Management

Risk Management	Average	Standard Deviation	Interpret
I think risk identification is an important factor of construction project risk management.	3.78	.39	High
I think risk analysis It identifies the nature of the risk that will affect the business or the trend of the risk that may occur.	4.1	.51	High
Risk Mitigation Plan is reduction internal control system or strategy is an important factor in the outcome of risk management.	4.2	.52	High

Table 4.11 Overall shows Risk Management (Cont.)

Risk Management	Average	Standard Deviation	Interpret
I think the risk monitoring of a construction project should be assessed based on the potential impact on safety?	4.2	.52	High
Total	**4.1**	**.49**	**High**

Table 4.11 provides insights into perceptions regarding Risk Management, along with average scores, standard deviations, and interpretations. The statement "I think risk identification is an important factor of construction project risk management" holds an average score of 3.78, indicating a high level of agreement with the significance of risk identification in risk management, with a standard deviation of 0.39. Similarly, the statement "I think risk analysis identifies the nature of the risk that will affect the business or the trend of the risk that may occur" receives an average score of 4.1, signifying strong agreement, with a standard deviation of 0.51. The statement "Risk Mitigation Plan is reduction internal control system or strategy is an important factor in the outcome of risk management" holds an average score of 4.2, suggesting high agreement, with a standard deviation of 0.52. Lastly, the statement "I think the risk monitoring of a construction project should be assessed based on the potential impact on safety?" has an average score of 4.2, reflecting a strong consensus about the importance of assessing risk monitoring based on safety impact, with a standard deviation of 0.52. The cumulative average score for all statements is 4.1, consistently indicating a high interpretation of various aspects of risk management. This data emphasizes unanimous agreement among respondents about the importance of risk identification, analysis, mitigation plans, and monitoring within construction project risk management practices.

Part 4 Hypothesis test Results

Table 4.12 show multiple linear regression data

Variables	R^2	a constant	B	β	t	P
Risk Impact	.833	.701	.24	0.466	.31	.001
Risk Nature			.26	0.473	.35	.000
Strategy Priority			.24	0.465	.30	.001
Rule & Regulations			.20	.441	.33	.001

The multiple linear regression analysis presented in Table 4.12 reveals compelling insights into the relationships between the dependent variable "risk management" and the independent variables: "Risk Impact," "Risk Nature," "Strategy Priority," and "Rule & Regulations." The R^2 value of 0.833 signifies that approximately 83.3% of the variance in the dependent variable can be explained by the linear combination of these four independent variables. This high R^2 suggests a strong fit of the model to the data. The constant term (a) of 0.701 represents the estimated mean value of the dependent variable when all independent variables are zero. Examining the coefficients (b) and their significance, the independent variable "Risk Impact" demonstrates a coefficient of 0.24. This indicates that, for a unit increase in risk impact, the predicted value of the dependent variable (risk management) increases by 0.24 units. The coefficient is statistically significant (p-value = 0.001), implying that risk impact significantly affects risk management. Likewise, the independent variable "Risk Nature" carries a coefficient of 0.26, suggesting that a unit increase in risk nature leads to a 0.26 unit increase in the predicted value of risk management. This coefficient is highly significant (p-value < 0.001), indicating the considerable impact of risk nature on risk management practices. The independent variable "Strategy Priority" possesses a coefficient of 0.24, indicating that an increase in strategy priority corresponds to a 0.24 unit increase in the predicted risk management value. This coefficient is statistically significant (p-value = 0.001), highlighting the influential role of strategy priority in risk management decisions. Lastly, the "Rule & Regulations" independent variable showcases a coefficient of 0.20, signifying that a unit increase in adherence to rules and regulations is associated with a 0.20 unit increase in the predicted risk management value. This coefficient is statistically significant (p-value = 0.001), reinforcing the importance of regulatory compliance in risk management.

In summary, the multiple linear regression outcomes from Table 4.12 underscore the impactful roles of risk impact, risk nature, strategy priority, and rule adherence in shaping risk management practices. With a high R^2 value and statistically significant coefficients, this model provides valuable insights for organizations seeking to enhance their risk management strategies based on these influential factors.

Table 4.13 show multiple linear regression results

Predictor	P	Stand Estimate
Risk Impact	<.001	0.181
Risk Nature	<.000	0.274
Strategy Priority	<.001	0.133
Rule & Regulations	<.001	0.132
Dependent Variable: Risk Management		
95% Confidence Interval		

The table 4.13 presents the hypothesis test results for several predictors in relation to the dependent variable, "Risk Management." The statistical analysis indicates significant relationships between the predictors and the dependent variable, as evidenced by extremely low p-values (<0.001) for each predictor. The estimated standard coefficients for the predictors are also provided, indicating the strength and direction of their impact on the dependent variable. Specifically, "Risk Impact" has a standardized estimate of 0.181, "Risk Nature" has an estimate of 0.274, "Strategy Priority" has an estimate of 0.133, and "Rule & Regulations" has an estimate of 0.132. The 95% confidence interval is not explicitly shown in the provided snippet, but it would be crucial for understanding the precision of these estimates and the range within which the true population parameters likely fall.

Table 4.14 show hypothesis testing results

Hypothesis	P	Results
H1. Rules and regulations has a significant influence on risk management	<.001	Supported
H2. Risk impact has a significant influence on risk management	<.001	Supported
H3. Risk nature has a significant influence on risk management	<.000	Supported
H4. Strategy priority has a significant influence on risk management	<.001	Supported

Table 4.14 The presented hypotheses were subjected to hypothesis testing, and the results overwhelmingly support the relationships proposed in each hypothesis. The p-values for all four hypotheses are remarkably low, with values less than 0.001, indicating strong statistical significance. These results provide substantial evidence to assert that each predictor indeed has a significant influence on the dependent variable, "Risk Management." Specifically, "Rules and regulations" (H1) were found to have a significant impact, as were "Risk impact" (H2), "Risk nature" (H3), and "Strategy priority" (H4). The data thus strongly supports the notion that these factors play a crucial role in shaping risk management practices within the context being studied.

Table 4.15 show hypothesis testing of independents variables

Model	R	R Square	Adjusted R Square	Std. The error in the Estimate
1	0.930	0.833	0.901	0.132

Table 4.15 show hypothesis testing independent variables: Risk Impact; Risk; Nature; Strategy Priority; Rule & Regulations influence on risk management.

The R-squared score of 0.833 indicates that approximately 83.3% of the variability in the dependent variable, risk management, can be explained by the four independent variables: Risk Impact, Risk Nature, Strategy Priority, and Rule & Regulations.

In other words, these four independent variables collectively have a strong association with the variation in risk management. The R-squared value ranges from 0 to 1, where 1 indicates that the independent variables can completely explain the variability in the dependent variable. In this case, an R-squared value of 0.833 suggests that the model is relatively effective in capturing the relationship between the chosen independent variables and risk management.