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| **RESEARCH ARTICLE**

Student's Understanding of "Innovation in Crisis Management" for Business: Empirical Evidence from Bangladesh

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| **ABSTRACT**

A sound understanding of "Innovation in crisis management" could assist in tackling the crisis through Innovation. It will be easier for a business executive if he or she possesses such sound understanding as part of their study at the bachelor level. This study provides a survey result of the current Bangladesh students focusing on their understanding of "Innovation in Crisis Management" through an online survey, while this study aims to measure their understanding through several quiz questionnaires. This quiz-like questionnaire has two parts; the first part deals with the technical understanding, and the remaining part deals with the perceptive understanding of "In-novation in Crisis Management" for business. Unfortunately, this survey has found that few students have a sound understanding of this issue. Along with the survey result, this article also attempts to address the poor understanding among the students through robust regression analysis. This study suggests that more contextual teaching with a focus on case studies as well as required field visits might improve the understanding of this issue. The study result presented in this article could be replicable in the context of other countries. Methodologically, this study follows a survey-based descriptive and inferential analysis.

| **KEYWORDS**

Crisis management, Innovation, Innovation in crisis management

1. Introduction

A crisis is critical to deal with as it does not happen now and then at all. But the preparedness for the crisis is necessary as it is usual to happen though less frequently. And here comes the point of crisis management. From the organizational perspective, a crisis is a situation when the high-priority goals of the respective organization are under threat(Hermann, 1972). During a crisis, the organizational stakeholders, including the managers, perceive the entire situation to be highly salient, unexpected, and potentially disruptive(Bundy et al., 2017). In line with this scenario, the resolution of the crisis becomes an emergency(Milburn et al., 1983). From this point of the emergency solution, there arrives the task of crisis management as the ongoing process for the resolution of the crisis. Crisis management is thus a systematic attempt to avert the crisis (Pearson & Clair, 1998). Several approaches for crisis management are currently available, and they include the strategic approach(Koronis & Ponis, 2018), the multifaced approach(Hickman & Crandall, 1997), relational perspectives(Coombs, 2000), the constructionist approach(Hearit & Courtright, 2003), the knowledge management approach(Wang & Belardo, 2005), etc. Of them all, Innovation in crisis management is the less discussed one, as very little literature regarding this issue is available. Rather, this process is comparatively difficult and also complex(Fonio et al., 2023). Of this complex nature and difficulty, the usage of this concept for the business is also limited as very few studies are available for Innovation in crisis management, particularly for the business organization.

The crisis in the business currently operating within Bangladesh is cumbersome. In this point, the ranking of Bangladesh in the context of doing business provides a piece of evidence. In this index, Bangladesh ranks 168th among the total 190 nations of the world(World Bank Group, 2020). That is why preparedness for a crisis is important here as it is frequent here, and it can be assumed

through the poor performance in the doing business index, as mentioned before. That is why the only survival or the survival of the business with at least a constant profit margin is crucial if the preparedness for the crisis does not exist within the organization at all. This study assumes that this preparedness should be from when a prospective business student is on the pathway of his or her graduation. The more informed graduates are expected to cope with crisis-induced scenarios in a better way. Based on this assumption, this study seeks to understand the current understanding of crisis management for business among the future business graduates of Bangladesh. At this point, Innovation in crisis management for business is chosen as it is expected to be the next-level approach for the crisis management of a business organization. This study expands its inquiry from the survey result-induced understanding of the students understanding to the prospective determinants underlining their understanding through inferential analysis. In this inferential analysis, the income structures, the academic performance, the involvement with extra-curricular activities, and their self-perceived perception of their level of understanding of this concept are assumed to be the determinants of their understanding. In line with these determinants, this study has chosen two layers of quiz-like questions, and they are trial guidance methodology and the normative understanding of the concept of Innovation in crisis management. Each layer possesses five questions resulting total questions to be ten, and each one is equally weighted as their response formulates their scores on understanding.

2. Materials and Methods

This study is a primary data-based quantitative study. The sample size for this study is more than 400, and the lower bar for the sample size has been calculated to be 385. This lower limit of the sample size has been calculated at a 95% confidence interval, 5% margin of error, and 50% population proportion, while we assume the population size is unknown. During the data collection process, this study collects responses from more than 385, and the final sample size becomes 406 after the data cleaning process. The respondents of this survey were solely university students who are currently enrolled in the business program in one of the pre-selected institutions. These pre-selected universities are Dhaka University, Jahangirnagar University, North South University, and East West University. Thus, the selection criteria for the respondents were to be business students, to be enrolled in one of those pre-selected institutions, and to have completed at least three years in that respective graduation program. The survey was completely voluntary, and they were not entertained with any incentive for their participation in this study. They participated in this study with oral consent before filling out the online survey. The responses have been collected through a centrally administrated Google form as the study participants have already built their general acquaintance with the Google form over the years for different purposes.

The survey questions form three different parts, and they are general information and two layers of the " Innovation in crisis management " related questionnaires, including the perceptive knowledge and the core fundamental understanding of this issue. The latter is measured through five different questions on trial guidance methodology (TGM).

Table 1: concept related questionnaire in the survey

	SL.	Question Detailing	Option	Right Answer
Trial guidance material	Question 1	Preparation, guidance, and executions are phases for	a. Trial Guidance b. Innovation steps c. Risk management	a. Trial Guidance
	Question 2	What consists of step zero for trail guidance?	a. Gaps b. Trial context c. Both	c. Both
	Question 3	What can be the three main performance measurement dimensions for trial guidance methodology?	a. Trial dimension b. Crisis management dimension c. Solution dimension d. All of these	d. All of these
	Question 4	"All successful trials can be executed perfectly."	a. True b. False	b. False
	Question 5	"The trials end with stages."	a. True b. False	b. False
Perc epti	Question 6	No innovation can be possible within the available technical infrastructure.	a. True b. False	b. False

Question 7	An innovation is feasible if the required technical infrastructure can be affordable.	a. True b. False	a. True
Question 8	No innovative solution is possible without any technical infrastructure at no means	a. True b. False	b. False
Question 9	Human resource training is a part of the investment in technical infrastructure.	a. True b. False	a. True
Question 10	Technical infrastructure can come for any good during a crisis.	a. True b. False	a. True

All of these questions are quiz-like for the easygoing respondents. The trial guidance methods entertain five questions, where two deal with indicating whether the given statement is true or false. These two given statements are "All successful trials can be executed perfectly" and "The trials end with stages", while both of these two statements are false basically. Later other three remaining questions are "Preparation, guidance, and executions are phases for ---", "What consists of step zero for trial guidance?" and "What can be the three main performance measurement dimensions for trial guidance methodology?". The correct answers for these three questions are, respectively, "Trial guidance", "Both", and "All of these". The potion of the preceptive understanding contains five statements, and the respondents were asked to identify whether they are true or false. These statements are "No innovation can be possible within the available technical infrastructure.", "An innovation is feasible if the required technical infrastructure can be affordable.", "No innovative solution is possible without any technical infrastructure by no means.", "Human resource training is a part of the investment in technical infrastructure.", and "Technical infrastructure can come for any good during the crisis." Basically, these statements are respectively "False", "True", "False", "True", and "True". These five questions are formulated based on "Innovation in Crisis Management", Edited by Chiara Fonio, Adam Widera and Tomasz Zwęgliński(Fonio et al., 2023). Later, the scores in trial guidance methodology, preceptive understanding and the average of these two scores are regressed independently through a number of independent variables, including their academic track record, family income group, involvement in extra-curricular activities, hobbies and their self perception of the concept of the Innovation in the crisis management.

3. Results
3.1 Descriptive Statistics
The respondents of this study got enrolled on their bachelor's degree program at best in 2018 and at least in 2020. These enrollment years show evidence that they are in the university at least for their years, and they have their GPAs for three consecutive years. They are from four different universities, and these universities are Dhaka University, East West University, Jahangirnagar University, and North South University. The majority of the respondents from Dhaka University were enrolled in the respective university in 2018, and this percentage is 64.40%, while the respective enrollment year of 2019 is 35.96%. A similar scenario is relevant for Jahangirnagar University as the respective percentage becomes 68.61 and 31.39. Here, these two universities are government fund endowed entities.

Table 2: Enrollment year and the university background of the respondents.

Enrolled year	University Name				
	Dhaka University	East West University	Jahangirnagar University	North South University	Total
2018	73	33	94	29	229
	64.04%	45.83%	68.61%	34.94%	56.40%
2019	41	38	43	52	174
	35.96%	52.78%	31.39%	62.65%	42.86%
2020	0	1	0	2	3
	0.00%	1.39%	0.00%	2.41%	0.74%
Total	114	72	137	83	406
	100.00%	100.00%	100.00%	100.00%	100.00%

The scenario is a little different for the cases of East West University and North South University. The respective percentages for East West University are 45.83 and 52.78, while these are 34.94 and 62.65 for North South University. These two universities are not government fund endowed universities like Dhaka University and Jahangirnagar University.

The academic track record of the respondents is quite high, and they have maintained a good track record from a secondary school certificate (SSC) that is equivalent to O-level certification to a bachelor's degree. Here their bachelor's degree requires almost four years of formal tutoring, but unfortunately, this might end with more years due to session jam. The average grade point average (GPA) for SSC is 4.86, and this score requires almost 70 percent marks in this examination on average. The standard deviation is .252, and it denotes the actual values could differ by positive .252 and negative 2.52 on average. The minimum score is 3.61, while the maximum score is 5, which requires 80 percent or more marks in each course. A similar scenario is prevalent for the higher school certificate (HSC) examination, which is equivalent to the O-level exam. In this examination, the average GPA is almost similar to the SSC examination and which is 4.862, while the minimum score is 4 and the maximum is 5. At this point, the minimum is higher, and the average score is also higher slightly. The same steady performance is found for academic performance in the bachelor's degree. Here, for the case of simplicity, this study ignores semester systems and asks for the average results obtained each year, and this simplification has made the unification of the results of the selected four universities. The average cumulative GPA for 1st year, 2nd year, and 3rd year fluctuate from 3.4 to 3.55, where the standard deviation is little. These scores require obtaining almost more than seventy percent scores. The cumulative CGPA for the last three years is almost 3.50 on average, while the standard deviation is also little. Here, none has been able to secure the perfect CGPA of 4 continuously for the last four years.

Table 3: Academic background, hobbies and extra-curricular activities

Type	Variable	Obs	Mean	Std. Dev.	Min	Max
Academic information	SSC	406	4.862	.252	3.61	5
	HSC	406	4.884	.216	4	5
	year1	406	3.443	.326	2.35	4
	Year2	406	3.495	.317	2.58	4
	Year3	406	3.555	.28	2.56	4
	bachelor	406	3.497	.28	2.843	3.993
Hobbies and others	Number of hobbies	406	4.197	2.228	1	10
	Daily time spent on hobbies	406	1.88	1.956	.5	20
	Weekly time spent on extra-curricular activities	405	3.958	3.207	0	20

Every respondent possesses at least one hobby, with an average of almost five hobbies. They spend almost 2 hours per day on their hobbies while the minimum spent hours is just thirty minutes while some claims they spend more than twenty hours on their hobbies. Such claims might not be rightly meaningful and can be interpreted as they concentrate mostly on hobbies rather than other practical things. The average spent weekly hours for extra-curricular activities is almost zero hours, while these spent hours can range from almost three to twenty hours. The minimum value is zero, as some might not be associated with any extra-curricular activities.

From the Bangladesh context, they belong to affluent income background as 91.60% belong to the income group of more than twenty thousand BDT while almost half (41.48%) of these families earn more than 50000 BDT on average. Just only 8.40% of the respondents' families earn less than 20000 BDT.

Table 4: Financial information

Family income	%	Monthly pocket money	%	To have a personal income source	%
Less than 20000 BDT	*8.40*	*Less than 3000 BDT*	*14.57*	*No*	*47.90*
More than 20000 BDT but less than 50000 BDT	*50.12*	*More than 10000 BDT*	*18.02*	*Yes*	*52.10*
More than 50000 BDT	*41.48*	*More than 3000 BDT but less than 10000 BDT*	*67.41*		
Total	*100.00*	*Total*	*100.00*	*Total*	*100.00*

But the scenario is partly different for the case of the monthly pocket money. 14.57% of the respondents spend less than 3000 BDT, while just 18.02% of them spend more than 10000 BDT. The majority of these respondents (67.41%) earn more than 3000 BDT but less than 10000 BDT. More than half of them possess a personal source of income though they are enrolled in the universities as a full-time student.

They perceive that they are quite familiar with the concept of Innovation in crisis management. 97.53% claim that they are familiar with this concept, and their familiarity is mostly as a part of the curriculum introduced by the faculty members and as a part of their interest. These two options simultaneously cover 36.05 and 46.67 percent.

Table 5: Familiarity with the concept

Familiarity with the concept of the Innovation for crisis management concept	Percent
No	2.47
Yes	97.53
Total	100.00
The process of being familiar	**Percent**
As a part of the curriculum introduced by the faculty members	36.05
As a part of my interest	46.67
Others	17.28
Total	100.00
Perception of understanding Innovation for crisis management concept	**Percent**
A great deal	40.25
Just familiar with the concept	16.05
Medium	43.70
Total	100.00

A significant portion of the students perceive they understand this crisis a great deal, and they count 40.25% of the entire respondents. In addition to this, 43.70% perceive they are familiar with this concept to some extent, what is called medium understanding. On the contrary of this, just 16.05% of the respondents perceive that they are just familiar with this concept only.

But their confidence does not get reflected in their quiz scores which have been used to measure their understanding of Innovation in crisis management. As stated before, they have been provided with two types of questionnaires, and they include trial guidance methodology and the perceptive understanding of this concept. For the portion of the trial guidance methodology, the respective right answers for questions 1, 2, 3, 4 and five were simultaneously 52.71%, 26.6%, 33%, 12.07%, 22.91%, 29.46%, and they consist of just 29.54%.

Table 6: The understanding of Trial guidance methodology

Answer given	Question 1	Question 2	Question 3	Question 4	Question 5	Average
Wrong Answer	47.29%	73.4%	67%	87.93%	77.09%	70.54%
Right Answer	52.71%	26.6%	33%	12.07%	22.91%	29.46%
Total	100%	100%	100%	100%	100%	100%

On the contrary of this, a comparatively better scenario is found for the perceptive understanding portion. Here, the right answers proportion are simultaneously 23.65%, 68.47%, 31.03%, 72.17% 77.34%, and they consist of just 54.53%.

Table 7: The understanding of Trial guidance methodology

Answer given	Question 6	Question 7	Question 8	Question 9	Question 10	Average
Wrong Answer	76.35%	31.53%	68.97%	27.83%	22.66%	45.47%
Right Answer	23.65%	68.47%	31.03%	72.17%	77.34%	54.53%
Total	100%	100%	100%	100%	100%	

Table 8: The percentile scores

Score (%)	Trial Guidance Methodology (%)	Perceptive Understanding (%)
0	25.12	1.97
20	35.71	7.64
40	17.98	18.72
60	11.82	60.84
80	6.65	9.11
100	2.71	1.72
Total	100.00	100.00

The majority of the respondents performed poorly in the trial guidance methodology, as just 2.71% were able to answer all of the questions correctly, while almost fifty percent scored less than twenty percent. The case is better to some extent for the portion of the perceptive understanding. For instance, 60.84% of respondents scored 60%, while just 1.72% obtained the perfect score in this section.

3.2 Inferential Statistics

In this portion, this study runs three different regressions while the independent variables remain the same. But they consider the dependent variables simultaneously, the score in the trial guidance methodology, perceptive understanding, and the overall score as the average of the abovementioned two scores.

We find that prob > F is 0.000, which denotes that the linear functional form is fine for carrying forward with the result. After the functional form, there comes the issue of Heteroskedasticity and multi-collinearity. Heteroskedasticity can be understood through Breusch-Pagan / Cook-Weisberg test for heteroskedasticity. The test for heteroskedasticity shows the presence of heteroskedasticity in this dataset. We find the probability of the chi-square statistic is less than 0.05. Thus the null hypothesis can be rejected with the 5% level of significance, while the null hypothesis is there is a constant variance in the dataset. The heteroskedasticity can itself demonstrate the case of the hypothesis. The possible remedy of this estimation technique is to run a robust regression keeping other things similar. Thus, the robust regression takes as it is represented in the robust regression table. That is why this study finally reports only the respective regression results in a robust style by running three robust regression results.

The score in trial guidance methodology can be explained with the 99% confidence interval through GPA in the bachelor's degree, to have the personal source of income, be just familiar with the concept, and to be familiar with this concept by other ways expect self-learning, and as a part of the teaching curriculum. If the condition of the 99% confidence interval is relaxed, some more variables are found to be relaxed at the 95% confidence interval. These variables include the number of hobbies, daily time spent on extra-curricular activities, being a student of East West University, having a monthly family income of more than 50000 BDT, having pocket money of more than 3000 BDT but less than 10000 BDT, familiarity with the concept and this familiarity as a part of their academic learning.

Table 9: Regression results for score in trial guidance methodology

Score in Trial guidance methodology	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
SSC	-1.97	5.435	-0.36	.717	-12.655	8.716	
HSC	-7.763	6.504	-1.19	.233	-20.551	5.026	
Bachelor	17.458	5.769	3.03	.003	6.115	28.8	***
Number of hobbies	1.666	.688	2.42	.016	.313	3.018	**
Daily hours spent on hobbies	1.28	1.009	1.27	.205	-.703	3.263	
Daily time spent on extra-curricular	1.445	.561	2.58	.01	.342	2.548	**
University Name	0	.	.	.	.	.	
East West University	7.722	3.653	2.11	.035	.539	14.905	**

Jahangirnagar University	-1.291	2.488	-0.52	.604	-6.182	3.6	
North South University	2.291	3.782	0.61	.545	-5.145	9.727	
Membership in extra-curricular clubs	-.971	3.728	-0.26	.795	-8.3	6.359	
Family income	0	.	.	.	.	.	
More than 20000 BDT	-5.225	5.271	-0.99	.322	-15.588	5.139	
More than 50000 BDT	-12.646	5.82	-2.17	.03	-24.09	-1.203	**
Monthly pocket money	0	.	.	.	.	.	
More than 10000 BDT	-2.2	5.046	-0.44	.663	-12.121	7.722	
More than 3000 BDT but less than 10000 BDT	-8.932	4.095	-2.18	.03	-16.983	-.88	**
To have any source of personal income or not	0	.	.	.	.	.	
Yes	15.82	3.357	4.71	0	9.219	22.42	***
Familiarity with the concept	0	.	.	.	.	.	
Yes	14.286	6.331	2.26	.025	1.839	26.734	**
The process of being familiar with the concept	0	.	.	.	.	.	
As a part of the curriculum	7.388	3.523	2.10	.037	.461	14.316	**
Others	17.53	4.158	4.22	0	9.355	25.705	***
The familiarity with the concept	0	.	.	.	.	.	
Just familiar with the concept	**12.23**	**4.125**	**2.96**	**.003**	**4.119**	**20.34**	*******
Medium	5.054	3.441	1.47	.143	-1.713	11.82	
Constant	-17.349	44.956	-0.39	.7	-105.739	71.041	

Mean dependent var	29.531	SD dependent var	26.195
R-squared	0.392	Number of obs	405
F-test	15.728	Prob > F	0.000
Akaike crit. (AIC)	3633.952	Bayesian crit. (BIC)	3718.033
*** p<.01, ** p<.05, * p<.1			

Like the trail guidance methodology, the score in the perceptive understanding could be explained. At this point, no variable qualifies at the 99% confidence interval at all. But daily time spent in extracurricular activities and membership in extra-curricular activities has got significant at a 95% confidence interval, while familiarity with the concept has shown to be relevant at a 95% confidence interval.

Table 10: Regression results for score in the perceptive understanding

Score in the perceptive understanding	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
SSC	-2.524	3.923	-0.64	.52	-10.238	5.19	
HSC	-4.822	5.798	-0.83	.406	-16.221	6.578	
Bachelor	3.79	4.656	0.81	.416	-5.363	12.944	
Number of hobbies	-.633	.548	-1.15	.249	-1.71	.445	
Daily hours spent on hobbies	-.285	.574	-0.50	.62	-1.414	.844	
Daily time spent on extra-curricular	1.218	.476	2.56	.011	.283	2.154	**
University Name	0	.	.	.	.	.	
East West University	2.615	3.291	0.79	.427	-3.855	9.084	
Jahangirnagar University	-2.8	2.156	-1.30	.195	-7.039	1.439	
North South University	1.087	2.987	0.36	.716	-4.786	6.96	
Membership in extra-curricular clubs	-8.029	3.584	-2.24	.026	-15.076	-.981	**
Family income	0	.	.	.	.	.	
More than 20000 BDT	4.655	4.652	1.00	.318	-4.492	13.801	
More than 50000 BDT	3.765	5.251	0.72	.474	-6.56	14.089	
Monthly pocket money	0	.	.	.	.	.	
More than 10000 BDT	-6.369	4.385	-1.45	.147	-14.991	2.253	
More than 3000 BDT	-3.652	4.02	-0.91	.364	-11.557	4.253	
To have any source of personal income or not	0	.	.	.	.	.	
Yes	2.957	2.366	1.25	.212	-1.695	7.608	
Familiarity with the concept	0	.	.	.	.	.	
Yes	8.412	4.851	1.73	.084	-1.126	17.95	*
The process of being familiar with the concept	0	.	.	.	.	.	
As a part of the curriculum	.211	3.131	0.07	.946	-5.945	6.368	
Others	3.695	3.204	1.15	.249	-2.604	9.994	
The familiarity with the concept	0	.	.	.	.	.	
Just familiar with the concept	-1.715	2.995	-0.57	.567	-7.603	4.172	
Medium	-.687	2.865	-0.24	.811	-6.32	4.946	
Constant	79.956	35.134	2.28	.023	10.877	149.035	**

Mean dependent var	54.667		SD dependent var	17.212
R-squared	0.096		Number of obs	405
F-test	2.566		Prob > F	0.000
Akaike crit. (AIC)	3454.204		Bayesian crit. (BIC)	3538.286
*** p<.01, ** p<.05, * p<.1				

Like the other two regressions, the regression where the average of these two ones as the total scores are dependent can be addressed with several determinants with different significant levels of 99%, 95%, and 90% confidence interval. The CGPA at the bachelor level. Daily time spent on extra-curricular activities, pocket money of more than 3000 BDT and less than 10000 BDT,

having any source of personal income, to be familiar with the concept through other means except as a part of the extra-curricular or as a part of the course work are found to be significant at the 99% confidence interval.

Table 11: Regression results for score in total score

Total score	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
SSC	-2.247	3.051	-0.74	.462	-8.245	3.751	
HSC	-6.292	3.694	-1.70	.089	-13.555	.971	*
Bachelor	10.624	3.608	2.94	.003	3.529	17.719	***
Number of hobbies	.517	.458	1.13	.26	-.384	1.417	
Daily hours spent on hobbies	.497	.391	1.27	.204	-.271	1.265	
Daily time spent on extra-curricular	1.332	.342	3.89	0	.658	2.005	***
University Name	0	.	.	.	.	.	
East West University	5.168	2.568	2.01	.045	.12	10.216	**
Jahangirnagar University	-2.045	1.853	-1.10	.27	-5.688	1.598	
North South University	1.689	2.552	0.66	.509	-3.329	6.707	
Membership in extra-curricular clubs	-4.5	2.375	-1.89	.059	-9.169	.169	*
Family income	0	.	.	.	.	.	
More than 20000 BDT	-.285	3.085	-0.09	.926	-6.35	5.78	
More than 50000 BDT	-4.441	3.612	-1.23	.22	-11.544	2.662	
Monthly pocket money	0	.	.	.	.	.	
More than 10000 BDT	-4.284	3.097	-1.38	.167	-10.373	1.805	
More than 3000 BDT but less than 10000 BDT	-6.292	2.372	-2.65	.008	-10.957	-1.628	***
To have any source of personal income or not	0	.	.	.	.	.	
Yes	9.388	1.829	5.13	0	5.793	12.984	***
Familiarity with the concept	0	.	.	.	.	.	
Yes	11.349	4.824	2.35	.019	1.864	20.834	**
The process of being familiar with the concept	0	.	.	.	.	.	
As a part of the curriculum	3.8	2.152	1.77	.078	-.432	8.032	*
Others	10.613	2.624	4.04	0	5.453	15.772	***
The familiarity with the concept	0	.	.	.	.	.	

Just familiar with the concept	5.257	2.499	2.10	.036	.344	10.17	**
Medium	2.183	2.014	1.08	.279	-1.776	6.142	
Constant	31.304	25.219	1.24	.215	-18.281	80.888	

Mean dependent var	42.099	SD dependent var	16.792	
R-squared	0.315	Number of obs	405	
F-test	8.827	Prob > F	0.000	
Akaike crit. (AIC)	3322.076	Bayesian crit. (BIC)	3406.157	
*** p<.01, ** p<.05, * p<.1				

4. Results and Discussion

The respondent of this study is from four universities in Bangladesh with at least three years of enrollment in the universities, and these four universities are Dhaka University, Jahangirnagar University, North South University, and East West University. Their academic track record from the SSC to the bachelor's degree is quite good as they mostly secure 70% scores in that examination. Every respondent possesses at least one hobby and spends at least 30 minutes per day on that one. A large portion of them is involved with extracurricular activities largely. 91.60% of the respondent's family income is more than 20000 BDT, while almost half of them have a personal source of income. In line with these socio-economic realities, they possess that they are concerned with the concept of Innovation in crisis management. 97.53% of the respondents claim that they are familiar with this concept. But this better socio-economic scenario, as well as their claim of understanding the concept, does not get matched with the quiz scores at all. For instance, only 2.72 percent of the respondents were capable of obtaining full scores in the Trial Guidance methodology section, while only 1.71 percent of them scored perfectly in the perceptive understanding section. This scene establishes the understanding of Innovation in crisis management despite their better socio-economic scenario accompanied by the better academic track record and their self-claim on understanding the concept.

Later, the inferential analysis can not end with any concrete findings at all. For each of the regressions where the respective dependent variables are the respective scores in trial guidance methodology, perceptive understanding and the overall scores, this study finds several different significant independent variables at different significant levels.

Table 11: Regression results summary

	Sig Score in the perceptive understanding	Sig Score in Trial guidance methodology	Sig Total score
SSC			
HSC			*
Bachelor		***	***
Number of hobbies		**	
Daily hours spent on hobbies			
Daily time spent on extra-curricular	**	**	***
University Name			
East West University		**	**
Jahangirnagar University			
North South University			
Membership in extra-curricular clubs	**		*
Family income			
More than 20000 BDT			
More than 50000 BDT		**	
Monthly pocket money			
More than 10000 BDT			
More than 3000 BDT		**	***
To have any source of personal income or not			
Yes		***	***
Familiarity with the concept			
Yes	*	**	**
The process of being familiar with the concept			
As a part of the curriculum		**	*
Others		***	***

The familiarity with the concept			
Just familiar with the concept		***	**
Medium			
Constant	**		

*** p<.01, ** p<.05, * p<.1

But they do not make any common set of determinants at all. This study is inconclusive in the sense that the common set of determinants can not be obtained with this study at all.

As their understanding is poor while their academic track record is good enough, their understanding could be better if this concept is addressed in the curriculum more rigorously. This sort of addressing could be the interim solution to have a more solid understanding of this concept.

5. Conclusion

A crisis is frequent for businesses in Bangladesh as the performance in doing business is poor compared to the rest of the world. That is why preparedness is necessary, and this preparedness should start at a possible early age and which could be while earning a bachelor's degree. This study shows that the understanding of the concept is very poor while they have a good academic track record, belong better income group, and also they claim they are quite familiar with this concept. As the academic track record is good, addressing this concept more rigorously as part of the extra curriculum can resolve the situation mostly.

This study has some serious limitations, too, as it takes responses only from four universities and might not be able to represent all students across the nation. Later, the quiz questionnaires were chosen randomly from the works of "Innovation in Crisis Management", Edited by Chiara Fonio, Adam Widera and Tomasz Zwęgliński(Fonio et al., 2023) and assumed that these five quiz questions could be a good proxy of understanding how much they are familiar with the concept of the Innovation in crisis management. But the alteration in the sample size and the quiz-like questions could be the future study scopes with the identical study aim.

Conflicts of Interest: The authors declare no conflict of interest.
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