

New Normal in the Construction Industry a Covid-19 Effect

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ABSTRACT: Construction is one of the oldest and major industries in the world that makes substantial contribution to the national economy and provides employment to a great number of individuals. In the early part of year 2020, COVID-19 pandemic arises that has turned into a worldwide catastrophe, evolving at high speed and scale. The impacts on the construction industry have been sudden and wide-ranging. This outbreak changes the usual daily activity and ‘The New Normal’ is introduced. Construction companies are moving forward, with strict regulations that end up as the new normal for the industry. This study explored the adaption to this new normal in Nueva Ecija, Philippines and seeks out if there’s a relationship between adaption to new safety protocols and the category also the number of workers in a company. Survey was done for data collection. SPSS 25 software was used for data analysis. Result reveals that although the percentage of adaption to new normal is great, still there are areas that needs improvement. In addition, the company’s category and the number manpower does indeed has correlation on the adaption to new normal. This study is essential to ensure responsible, healthy, safe operations, and serve as protection of workers.

KEYWORDS: COVID -19, Construction Industry, New Normal, Pandemic

I. INTRODUCTION

Construction is one of the oldest and one of the major industries in the world that makes a substantial contribution to the national economy and provides employment to a great number of individuals.

In the early part of the year 2020, the COVID-19 pandemic arises that has turned into a worldwide catastrophe, evolving at high speed and scale. No industry is immune to this crisis. The impacts on the construction industry have been sudden and wide-ranging. This outbreak changes the usual daily activity of people and what we know now as ‘The New Normal’. Construction companies are moving forward now, with strict regulations enforced by the government and local authorities, to ensure responsible, healthy, and safe operations under COVID-19 and safeguard the survival of the business as well as the protection of workers. These new regulatory standards end up sticking around as the new normal for the industry.

The study explored the new normal in the construction industry in the province of Nueva Ecija. Furthermore, the study seeks out if there is a significant relationship between the adaption of new safety protocols and the category of the company also the number of workers.

II. OBJECTIVES

A. General Objective

The objective of this study is to explore the new normal in the construction industry in the province of Nueva Ecija.

B. Specific Objective

1. Determine the percentage of construction companies that adapt the safety protocols implemented by the Construction Industry Authority of the Philippines in terms of material deliveries, manpower, machinery, and money.
2. Determine if there is a significant relationship in the adaption of safety protocols and the category of the construction company (Quadruple A, Triple A, Double A, etc.).
3. Determine if there is a significant relationship between the adaption of safety protocols and the number of their manpower.

III. METHODOLOY

Figure 3.1 shows the cycle of the research study. The inputs are the Socio Demographic of a Company and the Safety Protocols and Guidelines. The data are collected and tabulated. For the relationship, data are analysed by Pearson’s Correlation using SPSS and the output determines the percentage of construction companies adapting the new normal, the significant relationship in the adaption of safety protocols and the category of the construction company significant relationship in the adaption of safety protocols and the number of their manpower.

“New Normal in the Construction Industry a Covid-19 Effect”

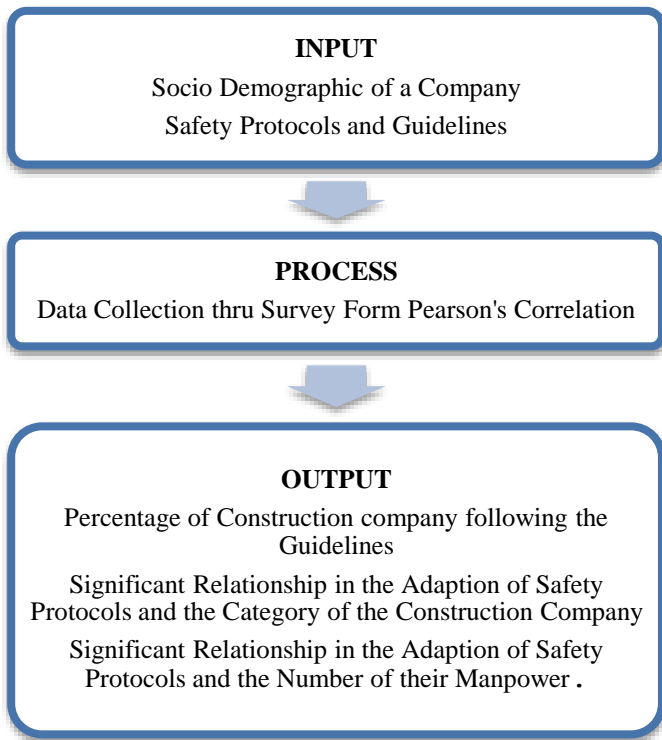


Figure 3-1. Research Flow

respondents are generally from Triple A to DTI Registered only there are no Quadruple A company registered at Nueva Ecija.

Table IV-1. Shows the Demographic of the Respondents.

		Description	No.	Percentage
Number of Respondent		District 1	5	16.67%
		District 2	7	23.33%
		District 3	13	43.33%
		District 4	5	16.67%
Respondents Company Designation		Project Manager	8	26.67%
		Project Engineer	9	30.00%
		Safety Engineer	1	3.33%
		Site Engineer	10	33.33%
		Office Engineer	2	6.67%
Respondent Company's Category		Triple A	7	23.33%
		Double A	4	13.33%
		Single A	3	10.00%
		B	7	23.33%
		C	2	6.67%
		D	2	6.67%
		E/Trade	1	3.33%
		DTI registerer only	4	13.33%
Number of Manpower		1-30	5	16.67%
		31 - 60	8	26.67%
		61 - 90	6	20.00%
		91 - 120	2	6.67%
		121 - 150	5	16.67%
		> 150	4	13.33%
Number of years Experience		5 -10 years	22	73.33%
		11 - 15 years	6	20.00%
		> 15 years	2	6.67%

IV. RESULTS AND DISCUSSION

The data fetched from the survey is from the respondents across the province of Nueva Ecija. It was analyzed using descriptive statistics. Figure 4-1 presents the distribution of these respondents based on their district. The highest number of participants is from District 3 with 43.33%, followed by District 2 with 23.33%, District 4 and District 1 with 16.67%.

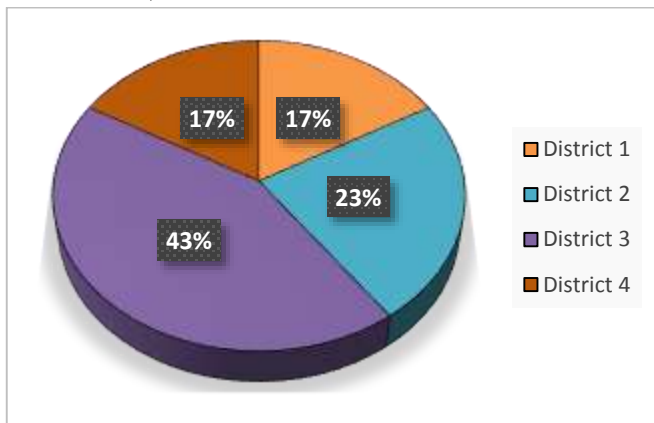


Figure 4-1. Respondents Location

The distribution of respondents in Table IV-1 shows that the participants are skilled professionals considering their designation in their company. Over 90% of the participants are, directly working at site projects as such their responses regarding the study context are deemed essential and valid. Moreover, their company’s category and the number of manpower are of the study interest. The respondents are highly experienced in the industry, with over 70% of them having more than 5 to 10 years of industry experience. On the other hand, the

A reliability test is conducted to discover an internal consistency of the items and the scale used. In this way, Cronbach's alpha is used for examining the reliability, and relates with George and Mallery's (2003) adequacy. Any coefficient of Cronbach’s alpha that is greater than 0.6 is considered acceptable. The Cronbach’s alpha result of the 47 significant variables of this study (presented in Table IV-2) demonstrates a true and acceptable reliability of the inter-item and the scale of measurement.

Table IV-2. Reliability Alpha Value

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.931	.930	47

Presented in Table IV-3, it was evident from participant’s responses that over 95% of construction companies in Nueva

“New Normal in the Construction Industry a Covid-19 Effect”

Ecija already adapt the new normal guided by the safety protocol released by the Construction Industry Authority of the Philippines (CIAP).

The adaption to new normal is further subdivided into four (4) factors which are the

1. Material deliveries,
2. Manpower,
3. Machinery and
4. Money.

About 99% of contractors already adapt the new normal in terms of Money, followed by machinery with 97%, then manpower with 94%, and lastly the material deliveries, which is only 93%.

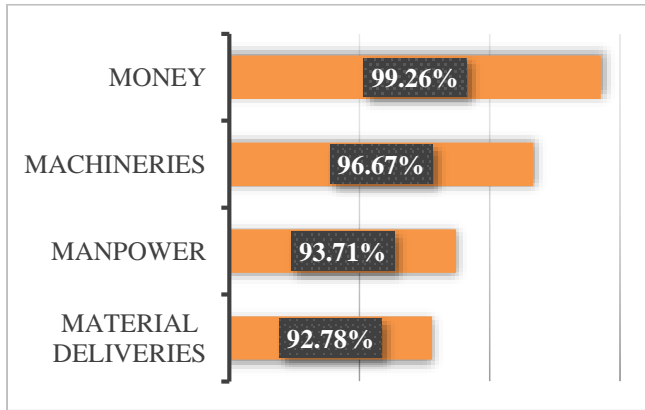


Figure 4-2 Percentage of Adaption to New Normal Based on Four Factors

Furthermore, based on the participants’ responses, test scores are grouped per company’s category as presented in figure 4-3 for the purpose of analysing if there is a significant relationship in the company’s category and adaption to safety protocols using Pearson’ Correlation.

Table IV-3. Participants Responses

	Options	Frequencies	Percentage
Material Deliveries	Yes	167	92.78%
	No	13	7.22%
Manpower Awareness and Communication	Yes	471	98.13%
	No	9	1.88%
Clearing and Return to Work	Yes	171	95.00%
	No	9	5.00%
Monitoring	Yes	85	94.44%
	No	5	5.56%
Proper Work Attire	Yes	58	96.67%
	No	2	3.33%
Social Distancing and Precautionary Measures	Yes	244	90.37%
	No	26	9.63%
Site Operations / Construction Work Site	Yes	279	93.00%
	No	21	7.00%

Additional Guidelines for Vertical and Horizontal Projects	Yes	106	88.33%
	No	14	11.67%
Machinery	Yes	261	96.67%
	No	9	3.33%
Money	Yes	268	99.26%
	No	2	0.74%
OVER ALL RESULT	Yes	2110	95.05%
	No	110	4.95%

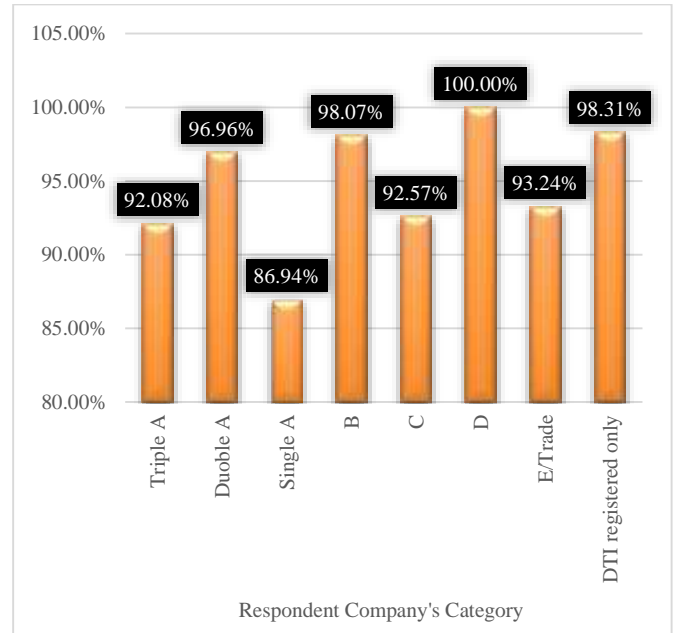


Figure 4-3 Percentage of Adaption to New Normal Based on Company’s Category.

This statistical test ranges from -1 to +1, where a result of -1 means that there is a negative correlation and a result of +1 means that there is a positive correlation. The correlation between two variables can be determined by the formula:

$$r = \frac{\sum X_i Y_i - (\sum X_i)(Y_i)}{\sqrt{(\sum X_i^2 - (X_i)^2)(\sum Y_i^2 - (Y_i)^2)}}$$

Table IV-4 Result of Pearson’s Correlation Test on Company’s

Correlations			
		Contractors_ Category	Test_Scores
Contractors_Category	Pearson Correlation	1	.979**
	Sig. (2-tailed)		.000
	N	8	8
Test_Scores	Pearson Correlation	.979**	1
	Sig. (2-tailed)	.000	
	N	8	8

** Correlation is significant at the 0.01 level (2-tailed).

Category and Test Scores in Adaptability of Safety Protocols Using SPSS.

Based on the results of the study, the company’s category has a very strong and positive relation to the adaption of safety protocol $r = .979$, $p < .01$.

In addition, based on the participants’ responses, test scores are grouped per company’s number of manpower as presented in figure 4.4 for the purpose of analysing if there is a significant relationship with the company’s number of manpower and adaption to safety protocols using Pearson’ Correlation.

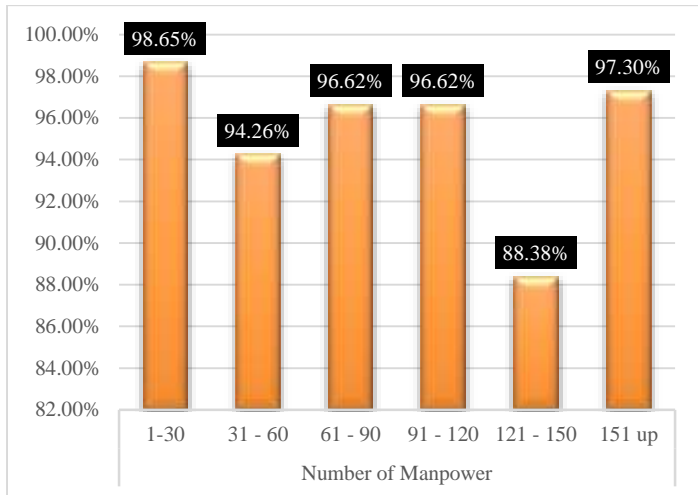


Figure 4-4 – Percentage of Adaption to New Normal Based on Company’s Number of Manpower.

Table IV-5 Result of Pearson’s Correlation Test on Company’s Number of Manpower and Test Scores in Adaptability of Safety Protocols Using SPSS.

Correlations			
		No. of Manpower	Test_Score
No. of Manpower	Pearson Correlation	1	.995**
	Sig. (2-tailed)		.000
	N	6	6
Test_Score	Pearson Correlation	.995**	1
	Sig. (2-tailed)	.000	
	N	6	6

** . Correlation is significant at the 0.01 level (2-tailed).

Based on the results of the study, the company’s number of manpower has a very strong and positive relation to the adaption of safety protocol $r = .995$, $p < .01$.

CONCLUSION

Till date the whole world is suffering from COVID-19. Construction industry must keep moving forward with the new normal guided by the strict regulations enforced by the government and local authorities, to ensure responsible, healthy and safe operations for construction-related operations under COVID-19 and safeguard the survival of business as well as the protection of workers. In this study it shows that 95% of the construction companies in the province of Nueva Ecija already adapt the new normal which is beneficial to the manpower, the

construction companies, the society and the government since it shows that safety protocols are adhered and this may prevent the spread of COVID-19 in the province. However, results discovered that there are still areas needs to be improved in adapting the new normal especially in dealing with material deliveries. By testing the adaption of new normal in Nueva Ecija, this study established that the category of the company as well as the number of the manpower does indeed have a significant relation on the adaption of new safety protocols. Large companies (Triple A to Single A) even small companies (B to DTI Registered Only) are able to adapt. Furthermore, the companies with smaller number of workers are able to follow the guidelines more since there are lesser manpower to monitor. Though, a 100% compliance is still needed for a safer workplace.

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