



Future Market Research of a Roofing Company: A More Competitive and Fast-Growing Construction Industry in the Philippines

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Abstract: This study aims to help a specific roofing company to help market their product and identify what industry should they focus. Differences in production and location are taken into consideration. Choosing the right marketing strategy will make the company more profitable. A marketing plan is a business's operational document for outreach and advertising to generate leads and reach its target market. Marketing refers to the activities of a company associated with buying and selling a product or service. It includes advertising, selling and delivering products to people. Research has shown that construction materials and equipment may constitute >70% for a typical construction project. As the construction industry in the Philippines grew bigger, suppliers of construction materials have been busy marketing their products to prominent contractors in the industry. These suppliers should have an effective marketing strategy for them to be relevant. Roofing companies belong to this group of suppliers. Like most construction trades, roofers rely mostly on reputation. They must build their reputations through reliable, proven marketing techniques and projects completed should exceed client's expectation. They should continually adjust their strategy to take advantage of emerging opportunities or looming threats. In this time of fast-growing construction industry, roofers will have an opportunity to increase their profit by providing quality products and services and use of improved marketing strategy.

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INTRODUCTION

The booming industry of construction is evident today. A lot of high-rise buildings can be seen being constructed, highways being repaired, subdivisions being developed and factories being renovated. According to the

PSA^[1], the construction industry grew by 21.3% in the fourth quarter of 2018, faster than the 4.3% growth recorded in the previous year. The total value of constructions reported at P104.8 billion went up by 45.4% compared with the registered amount of P72.1 billion in the third quarter of 2017. It was said that the growth was

driven by increases in both public and private construction. Research also noted that the Philippine construction industry is projected to steadily expand over the next decade, gradually expanding at an average real rate of 9.8% in the decade between 2017 and 2026. New developments are also expected in the areas of Bonifacio Global City, Pasig, Quezon City and the reclaimed areas in Muntinlupa.

Statement of the problem: This study will help determine future market concentration reference of a roofing company in the more competitive and fast-growing construction industry in the Philippines. Specifically, the research will answer the following:

- How many closed projects are completed in 2018 with regards to customer type, project location, projects contracted with labor and customer relationship?
- Do these projects meet the company's expectation with regards to profitability?
- What is the impact of the roofing company's historical data on its future market research concentration in order to reach its expected profitability?

Hypothesis: The null hypothesis tested is: roofing company's historical data of customer type, project location, projects with labor and/or projects under general contractor cannot be their future market concentration reference.

Literature review: Construction is the process of constructing a building or infrastructure. Construction as an industry comprises six to nine percent of the gross domestic product of developed countries. Construction starts with planning, design and financing; it continues until the project is built until ready for use. Favorable government policies and a growing, increasingly urbanized population have created fertile ground for the expansion of the Philippine's construction sector in recent years. Driven by major investments in transport networks, residential complexes and social housing, the construction industry grew at an average annual rate of 12% from 2012-2016. The annual growth rate more than halved in 2017, falling from 12.1-5.3% but as of the first quarter of 2018 growth was registered at 9.3% year-on-year. A confluence of economic forces has also bolstered real estate demand in recent years with an influx of outsourcing firms, rising incomes, cash-laden investors and the liberalization of key sectors all playing a part^[2]. Research has shown that construction materials and equipment may constitute >70% for a typical construction project. Material management is important in a construction company. Material management can be

defined as a process that coordinates planning, assessing the requirement, sourcing, purchasing, transporting, storing and controlling of materials, minimizing the wastage and optimizing the profitability by reducing cost of material. Materials represent a major expense in construction, so, minimizing procurement costs improves opportunities for reducing the overall project costs. Poor materials management can result in increased costs during construction^[3].

A roof is a structure forming the upper covering of a building or other shelter. Its primary purpose is generally to provide protection from the elements but it may also contribute to safety, security, privacy, insulation and so on. Roofs can be constructed from a wide variety of materials and in a wide variety of shapes depending on the requirements they have to satisfy, the local climate, the availability of materials and skills, the span to be covered^[4]. Roofers must study the market, align their marketing plan to their strengths and implement tactics to carry out the strategy. Marketing plans can be as detailed or as simple as you can create but a basic marketing plan answers only a few key questions that establish what your company is currently doing successfully to market: your future goals for marketing performance how your current customers relate to your company and how you can attract more customers. Your marketing plan can be as simple as a one-page outline listing key points or it can be many pages that include timelines, benchmarks, branding guidelines and design guidelines and budget^[5].

All star construction and roofing is a roofing contractor based in Texas. They specialize in residential and commercial roofing. The owner had tried all kinds of lead generation services before including telemarketing, HomeAdvisor door knocking and direct mail but never got a return on his investment. The owner hired a marketing consultant that created Google ad words campaigns residential and commercial with two separate landing pages with dynamic text replacement^[6].

Industry leader GAF and data collection experts at BNP market research conducted a survey designed to identify: sales volumes for the past year; projected sales for 2018 and the next three years; trends among different roofing product categories; improvements in technology and key challenges facing the industry as the economic recovery continues. In addition, we asked about the unprecedented volatility of the 2017 storm season, safety and OSHA inspections, professional certification efforts and related workforce issues. The 70% or more of respondents said they anticipated sales volumes to increase in 2017, again in 2018 and over the next 3 years, both residential and commercial. The survey data confirm prior indications that the roofing industry is strong, vibrant and full of promise in many markets across the country^[7].

Table 1: Conceptual framework

Input	Process	Output
Customer type:		
Agricultural	Observation	Recommendation: Focus should be on the projects that appeared most in terms of the given attributes. Should also take into consideration if the project is profitable or not
Commercial		
Contractor		
Industrial		
Institutional		
Residential		
Location	Statistical	
NCR	analysis:	
Luzon	Frequency distribution	
Visayas	and percentage	
Mindanao	Ranking	
With Labor?	Weighted mean	
Yes	WEKA	
No		
Customer relationship?		
Direct		
Indirect		
Profitable?		
True		
False		

Synthesis: The researchers view the related literature being an essential part of the research study. With the concepts, principles, theories and generalizations embodied in these materials, intricacies are uncovered and the previously gray areas with regard to the work became clear. The research materials gathered gave the researchers a clear grasp and better understanding of the said topic and provided a firm basis as to how the data be prepared and analyzed. Accordingly, through the reviews made by the researchers, they were able to select the method to be utilized, the ideal research setting or venues.

Proper materials monitoring and quality products will help a construction company decrease the overall costs. They can use a contractor to do all the construction work for them including purchasing of materials. This will provide ease to the construction company^[9].

It is to be said that many roofing companies in the US use internet ads to promote their products and conducts a survey to identify the issues and trends impacting the overall business climate that drives some contractors to succeed in the roofing and construction industry. It is expected that the roofing industry in the US will increase their sales.

In the Philippines, though limited data were available, the researchers believed that the data from PSA indicates that there will be an increase of sales for roofing companies as roof is a vital part of construction regardless of the customer type^[8].

Conceptual framework: The conceptual framework discussed the flow of how the study would be taken. The study used the systems approach. The system is composed of three frames. The first frame consists of the input which went through the process and resulted as the output.

The input contains the attributes in this study. It is composed of the customer type, location and projects with labor and if the project is under a contractor. The second frame contains the methods that will be used to analyze the historical data. It is done by conducting observations and the use of statistical tools for analysis such as frequency and percentage distribution, ranking and WEKA. The third frame contains the output of the study. It includes the recommendation for the business in terms of what type of customer type they put their focus (Table 1).

MATERIALS AND METHODS

This study made use of the descriptive research method in eliciting data for analysis. It consists of a set of gathered data or information analyzed, summarized and interpreted along certain lines of thought for the pursuit of a specific purpose of study.

This method involves collection of data in order to test hypothesis or to answer questions concerning the current status of the subject of the study. Although, this research is highly accurate, it does not gather the causes behind a situation and it is mainly done when a researcher wants to gain a better understanding of a topic.

As used in this research, gathered and treated are historical data from a certain roofing company. Data includes customer type, project location, projects contracted with labor and customer relationship.

Statistical treatment of data: The data gathered in this study were organized and classified based on the research design and the problems formulated. The data were ordered, tallied and tabulated to facilitate the presentation and interpretation of results using the following statistical tools.

Frequency distribution and percentage: The percentage and frequency distributions were used to classify the attributes according to the historical data such as customer type, project location, projects contracted with labor and projects under contractors.

On the other hand, the percentage of that item is computed by dividing it with the total sample number of instances from the historical data. The formula used in the application of this technique is:

$$\% = (f/n) \times 100$$

Where:

% = Percentage

f = Frequency

n = Number of instances

Ranking: This was used to arrange the degree of the number of times an instance appeared on the given data. Also, this was used for a comparative purpose and for sharing the importance of items analyzed.

Weka: Weka is used to classify, cluster and to visualize the data being used.

Weighted mean: Another statistical technique used in the study is the weighted mean. It was used basically to determine the average instances of different attributes. In computing the weighted mean, the formula used is:

$$X = \sum fx/n$$

Where:

X = Weighted mean

$\sum fx$ = The sum of all the products of f and x; f being the frequency of the responses and x as the weight factor

n = Total number of instances

RESULTS AND DISCUSSION

The findings based on the statistical treatment of data are herein presented in tabular form with a descriptive account of the results of the historical data. More so, these are presented according to the order of the problems earlier formulated in the previous chapter.

To further enhance the understanding of this investigation, the data were grouped, statistically treated and summarized in the form of tables.

Table 2 shows that most of the completed projects are from the industrial type of clients having 61.40% of the population. This is followed by commercial type with a frequency of 75 or 16.93% of the total. Residential type of clients ranked third or 11.74% of the population. Agricultural and institutional are at the fourth and fifth place, respectively.

Table 3 demonstrates that Luzon ranked first with a frequency of 208 or 46.95% of the completed projects. National Capital Region has a frequency of 190 or with 42.89% of the population. Visayas and Mindanao are on the third and fourth place having 5.87 and 4.29%, respectively.

Table 4 expresses that most of the completed projects in 2018 are without a labor contract with 65.01% while projects with labor contract ranked second with 34.99% of the total.

Table 5 shows that the completed projects composed of 299 direct customers and 144 indirect customers (sales with contractors or resellers) or 67.49 and 32.51%, respectively.

Table 2: Distribution of completed projects as to customer type

Customer types	Frequency	Percentage	Ranks
Agricultural	27	6.09	4
Commercial	75	16.93	2
Industrial	272	61.40	1
Institutional	17	3.84	5
Residential	52	11.74	3
Total	443	100.00	

Table 3: Distribution of completed projects as to location

Project location	Frequency	Percentage	Ranks
National Capital Region (NCR)	190	42.89	2
Luzon	208	46.95	1
Visayas	26	5.87	3
Mindanao	19	4.29	4
Total	443	100.00	

Table 4: Distribution of completed projects as to inclusion of labor

Labor contract	Frequency	Percentage	Ranks
Yes	155	34.99	2
No	288	65.01	1
Total	443	100.00	

Table 5: Distribution of completed projects as to customer relationship

Customer relationship	Frequency	Percentage	Ranks
Direct	196	44.24	2
Indirect	247	55.76	1
Total	443	100.00	

Table 6: Presents the frequency, percentage and rank distribution of the completed projects as to profitability

Profitability	Frequency	Percentage	Ranks
True	381	86.00	1
False	62	14.00	2
Total	443	100.00	

Table 7: Profitability rate as to customer type

Customer types	Weight	Profitability rate as per customer types (%)	Weighted profitability rate (%)
Agricultural	0.0609	88.89	5.41
Commercial	0.1693	82.67	14.00
Industrial	0.6140	90.07	55.30
Institutional	.0384	58.82	2.26
Residential	0.1174	76.92	9.03
Total	1.0000		86.00

Table 6 illustrates that most of the projects had met the company's expected profit with a frequency of 381 or 86.00% while only 62 projects did not meet the expected profit with 14.00% of the total project.

Eighty-six percent of the total completed projects is profitable. Industrial type of customer contributed the most with the weight of 55.30% of total profitability. This is followed by commercial, residential, agricultural and institutional with a weighted rate of 14.00, 9.03, 5.41 and 2.26%, respectively (Table 7 and 8).

For project location profitability rate, Luzon and NCR have the highest contribution having weighted profitability rate of 39.05 and 37.47%, respectively. Visayas and Mindanao have only a profitability rate of 5.64 and 3.84%, respectively.

Table 8: Profitability rate as to project location

Project location	Weight	Profitability rate as per location (%)	Weighted profitability rate (%)
NCR	0.4289	87.37	37.47
Luzon	0.4695	83.17	39.05
Visayas	0.0587	96.15	5.64
Mindanao	.0429	89.47	3.84
Total	1.0000		86.00

Table 9: Profitability rate as to inclusion of labor

Labor contract	Weight	Profitability rate as per inclusion of labor (%)	Weighted profitability rate (%)
Yes	0.3499	83.23	29.12
No	0.6501	87.50	56.88
Total	1.0000		86.00

Table 10: Profitability rate as to customer relationship

Customer relationship	Weight	Profitability rate as per customer relationship (%)	Weighted profitability rate (%)
Direct	0.4424	83.67	37.02
Indirect	0.5576	87.85	48.98
Total	1.0000		86.00

Table 9 shows that most of the projects have no labor contract as well as it contributes greater profit compared to projects with the labor contract. This confirms by the computed weighted profitability rate of 56.88% for “no” and 29.12% for “yes”.

Table 10 displays that most of the profitable projects are under indirect customer relationship. It has weighted profitability rate of 48.98% while direct customer relationship has 37.02%.

Weka data mining tool visualization: Most of the projects are concentrated in the area of an industrial type of customers and with indirect customer relationship. Most of the projects met the expected profitability set by the company but most of the unprofitable projects are also in the area of the said attributes (Fig. 1).

Most of the completed projects in 2018 are in Luzon and in NCR with indirect customer relationship. It is visible that there are very few unprofitable projects distributed in Visayas and Mindanao (Fig. 2).

Indirect customer relationship with no labor contract is concentrated in the third graph. Profitable and unprofitable projects are just as the same with a direct and indirect customer relationship with regards to labor contract inclusion (Fig. 3).

Project location with regards to projects with labor contract is distributed mostly on the upper area of the graph or in the area of NCR and Luzon and with no labor contract (Fig. 4). The next graph shows the project location and customer type and its relationship to

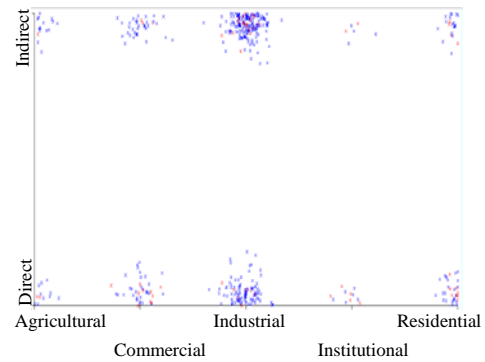


Fig. 1: Customer type and customer relationship and its profitability

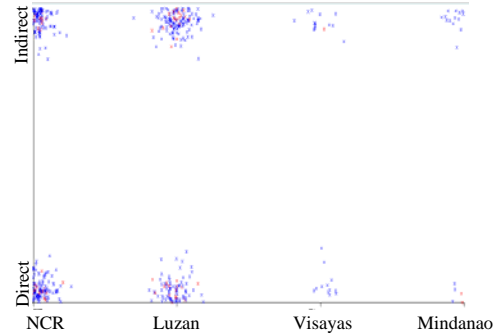


Fig. 2: Project location and customer relationship and its profitability

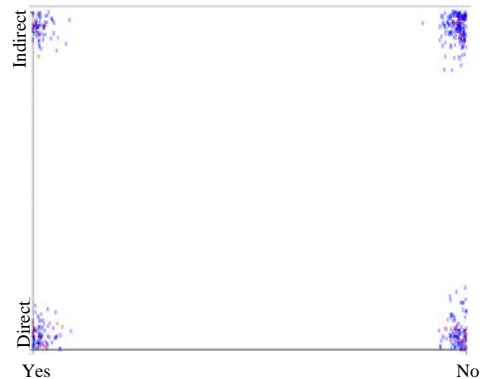


Fig. 3: Labor contract inclusion and customer relationship and its profitability

profitability (Fig. 5). Most of the projects were in Luzon area, under industrial type of customer as well as with the unprofitable project (Fig. 6).

Lastly, inclusion of labor contract and customer type are shown on the graph below. Majority of the projects without labor contract are under industrial type of customer. Unprofitable projects are distributed for under the five types of customer, likewise with inclusion of labor contract.

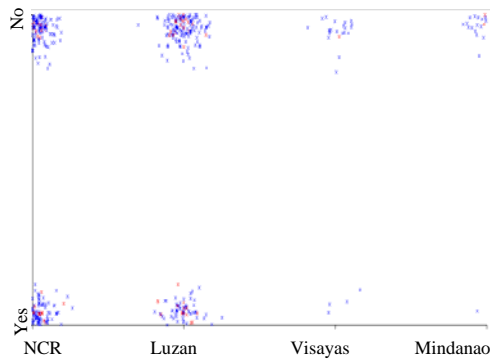


Fig. 4: Project location and labor contract inclusion and its profitability

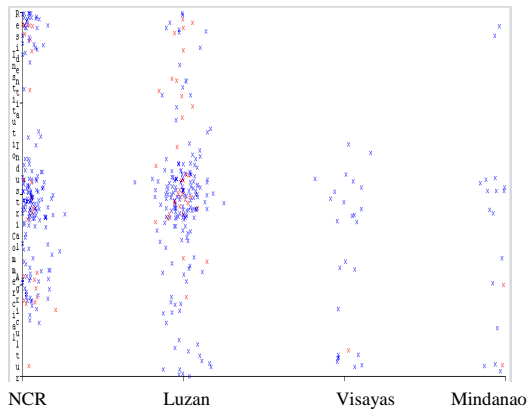


Fig. 5: Project location and customer type and its profitability

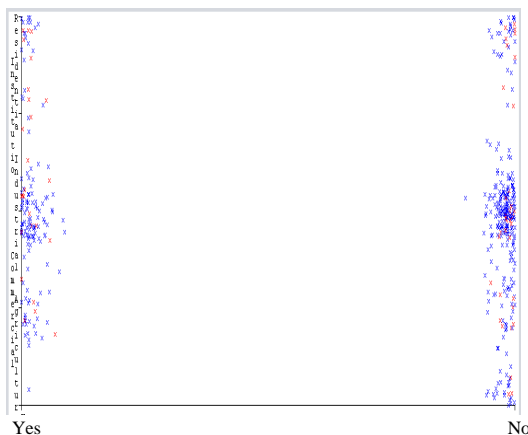


Fig. 6: Labor contract inclusion and customer type and its profitability

CONCLUSION

The summary integrated the highlights of the important result of the investigation. The conclusion is an

abstraction from the summary of the findings and it is tied to the questions investigated. The research seeks to determine the customer type, project location, inclusion of labor contract, customer relationship and profitability of completed projects in 2018 of a roofing company in Quezon city.

This study made use of a descriptive research method which is designed for the researchers to gather information about present existing conditions needed in the chosen field of study. Statistical analysis was administered by using frequency, percentage and ranking to process the data collected with the purpose of coming out with the assessment. Historical data of a specific roofing company in Quezon city were used for the research.

Statement of the problem: This study entitled “Future Market Research Concentration of a Roofing Company in the More Competitive and Fast-Growing Construction Industry in the Philippines” aimed to comprehend the number of completed projects in 2018 with regards to customer type, project location, labor contract, customer relationship and its profitability. Specifically, the research endeavored to answer the following:

- How many projects are completed in 2018 with regards to customer type, project location, projects contracted with labor and customer relationship?
- Do these projects meet the company’s expectation with regards to profitability?
- Is there a relationship between the roofing company’s historical data to the expected profitability?

Summary of findings: The study has five instances for the customer type of completed projects. This includes agricultural, commercial, institutional, industrial and residential. The study showed that most of the population is under industrial type having a frequency of 272 or 61.40% of the total. For the project location which includes NCR, Luzon, Visayas and Mindanao, mostly are in the area of Luzon with a frequency of 208 or 46.95% of the completed projects in 2018. Additionally, most numbers of projects composed of no labor contract with a frequency of 288 or 65.01% of the total. Lastly, majority of the roofing sales were made with indirect customer (sales under a contractor or reseller) with a frequency of 247 out of 443 or 55.76%.

Profitability of the completed projects is computed as 86.00%. Industrial type of customer and projects located in Luzon area have the greatest contribution for their corresponding attributes. They have 55.30 and 39.05% contribution for the total profitability rate. Projects without labor contract has higher weighted profitability rate which is 56.88%. Finally, under customer relationship, indirect has the greater weight for profitability rate, than direct customer relationship with a weighted rate of 48.98%.

The study reveals that a roofing company in Quezon city has most numbers of projects completed in 2018 under industrial type of customer having a rate of 61.40%. It is reasonable since the said roofing company is fabricating insulated panels which are commonly used for warehouses and sometimes for cold storage. But then, this product can still be used for other customer needs (e.g., commercial buildings, residential houses, institutions and schools and poultry farms or agricultural structures).

Most of the completed projects are located in Luzon area. Since, most of the industrial plants are located, here, the company captured more market in the said area with a rate of 46.95% of their total completed projects in 2018.

For inclusion of labor contract, most projects have no labor contract. This is composed of many projects as per sales contract but with smaller value compared to projects with labor. Most projects with labor are large projects with complete package (delivery of materials and installation).

Majority of customer relationship is under indirect type. This includes sales with contractors and resellers. Since most customers are industrial, generally these are plants and warehouses and are large projects, contractors are commonly present in this task. Also, lot of smaller contractors and developers purchased products from the company.

RECOMMENDATIONS

In light of the foregoing conclusions, the researchers come up with the following recommendations: the management may conduct continuous research on the development and improvement of their marketing plan. They have to maintain good marketing skills and improve the product quality to capture most of the market in the industry. Historical data may be considered in constructing marketing plan and be the basis where should the company concentrate in its potential market^[9].

The roofing company is specializing in fabricating and installation of insulated panels for plants and warehouses as well as cold storage. The company must focus on marketing the products in Luzon area and also in National Capital Region. These places have more customers under industrial, commercial and residential type. Marketing the products in other areas can still be considered just make sure of the right and proper analysis

and valuation of the potential projects. Both options for inclusion of labor contract and customer relationship is better to consider since either option has met the company's expected profitability.

All of the project categories are good to consider as most of it met the company's standard profit. Special cases happened for the unprofitable projects such as bad weather, machine malfunction and other fortuitous events which rarely occurred. These internal factors can be easily solved. External factors such as industry competitors, foreign exchange rate, political issues, government regulations and others must also consider in order to fully understand the market. Hence, success in the industry can be achieved.

REFERENCES

01. PSA., 2018. Gross value and gross value added in construction. Philippine Statistics Authority, Quezon City, Philippines.
02. Oxford Business Group, 2018. The report: Philippines 2018. Oxford Business Group, London, England.
03. Ortiz, O., J.C. Pasqualino, G. Diez and F. Castells, 2010. The environmental impact of the construction phase: An application to composite walls from a life cycle perspective. *Resour. Conserv. Recycl.*, 54: 832-840.
04. Designing Buildings Wiki, 2019. Share your construction industry knowledge. Designing Buildings Ltd., UK.
05. Duff, V., 2019. A single-page marketing plan. *Azcentral.Com.*, The Arizona Republic, Phoenix, Arizona.
06. Roofing Marketing Pros, 2019. How to get 60 roofing leads a month. Roofing Marketing Pros, Miami, Florida.
07. Roofing Contractor, 2018. Roofing contractor's state of the industry report and survey 2018. Roofing Contractor Inc, Washington.
08. Philippine Statistics Authority, 2018. Construction statistics from approved building permits: Third quarter 2018 (preliminary results). Philippine Statistics Authority, Quezon City, Philippines.
09. Ruzzier, M.K., M. Ruzzier and R. Hisrich, 2014. Marketing Plan. In: *Marketing for Entrepreneurs and SMEs*, Ruzzier, M.K., M. Ruzzier and R. Hisrich (Eds.). Edward Elgar Publishing, Cheltenham, England, pp: 37-45.