



# A comparative study of Competitive Advantages for Mass Production Corporations Under Market Oversupply Evidence from the Egyptian Cement Industry

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# A comparative study of Competitive Advantages for Mass Production Corporations Under Market Oversupply Evidence from the Egyptian Cement Industry

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#### **Abstract**

The study investigated the competitive advantages of a manufacturing corporation having mass production under market oversupply. Based on a comparative study; the population of the study is the staff of marketing and sales departments at Egyptian cement manufacturing corporations under the midst of a marketing crisis with oversupply of 43.4% of production capacity in 2021; that after new manufacturing corporations entered the market since 2018. The study used a survey within the main three players in cement manufacturing (Italcementi Group, Lafarge Cement, and Arabian Cement) based on six corporations (Suez Cement, Helwan Cement, Toruh Cement, Egyptian Cement Company, ASEC Cement, and Arabian Cement) based on thirty-two individuals in the first half of 2022 according to the descriptive analytical method (DAM). The inferential analysis showed that the sample companies were different in their marketing practices and competitive advantages. Finally, a set of recommendations were made for the Egyptian Cement Manufacturing Corporation, stakeholders, and future research.

**Key words:** Competitive advantages – Oversupply - Cement industry – Egypt

JEL Classifications: M31, L61, O12

#### 1. Introduction

The Egyptian economy has witnessed many transformations in the business environment over the last 5 decades as the Egyptian government tended to an open economy. The privatization program has attracted the attention of national and foreign investors. The beginnings were in 1994 when it witnessed a quick start (Sfakianakis, 2004). Within the framework of the privatization program during the 1990s, the cement industry witnessed the sale of six manufacturing corporation, from the public sector, all of which were profitable corporates. The only losing corporate was "National Cement Corporate", which was retained. The privatization

of the cement sector motivated them to monopolize a great part of the cement industry in Egypt since about 80 % of the total domestic production was under their control. That is because of foreign corporates' tendency to sell to other parties. The owners of the sold corporates formed a producers' association to control the cement industry sector. So, they were able to completely control prices.

Choosing the appropriate price strategy is one of the most challenging choices cement's corporations must make on a global scale under mass production, since there are innumerable pricing schemes, each of which is suitable under certain circumstances. This is one of the marketing practices of the Egyptian cement sector. The study seeks to investigate these practices with an analysis of creating a competitive advantage for cement manufacturing corporates, in addition to investigating the extent of unethical marketing practices in the Egyptian business environment. The following sections are included in the study: a critical literature review to determine the research gap and formulate both the problem and hypotheses; the study design and testing hypotheses; and finally, the conclusion and recommendations.

#### 2. Theoretical framework and Literature Review

#### 2.1 Theoretical Framework

#### 2.1.1 Competitive Advantages

A corporation's target environment or market context often consists of long-term connections with identifiable customers, suppliers, and other equivalents, as opposed to an anonymous market; In most industrial markets, it is crucial for a corporation to be viewed as an appealing supplier/partner. This includes trust-building actions such as achieving agreed-upon quality and delivery standards and forming social and personal relationships with customer counterparts (Anderson, Hakansson and Johanson, 1994). Based on the business network perspective, it is suggested that corporation may provide access to vital resources/capabilities beyond the corporation's boundaries, which may in certain instances be more valuable than domestically created resources, given that contact in corporation involves the coordination of actions and resources, this may have an impact on the corporation performance (Strandskov, 2006).

#### 2.2 Literature Review

A literature review was conducted to identify the variables under investigation regarding marketing practices; there have been numerous studies that dealt with marketing practices, both in the service and production sectors. According to Lim, et. al, (2019), and Chou, et.al, (2020), there is a growing level of competitiveness in the present corporate environment that necessitates the adoption of a modern marketing idea as one of the foundations of corporate success. Consumers and businesses can develop a long-term, mutually beneficial connection based on trust and mutual respect by building a relationship of mutual loyalty. It is important to adhere to ethical principles while defining the marketing mix for commercial establishments, especially in oligopolistic markets like the cement industry, as noted by Balsara, (2019), who emphasizes the need for ethical marketing techniques. Now let's talk Egyptian. Osman, et.al, (2016) indicated that there is a relationship and impact between the elements of the marketing mix on the perceived image of customers. Figueiredo and Castro (2019) and Martin and Burpee (2022) concluded that there is marketing deception in its various dimensions in some Egyptian business establishments (tourism and travel offices), which negatively affects customer loyalty. On the other hand, ElMelegy and Albuloushi (2021) found a correlation between deceptive marketing practices such as product misrepresentation, false advertising, false pricing, and deception in the physical environment and spontaneous consumer purchasing behavior as demonstrated by mobile phone service customers in Egypt. According to Bulgurcu and Nakiboglu (2018) and Mariani and Wamba, (2020), information technology and knowledge have an effect on Jordanian commercial banks' marketing strategies.

Osman (2017) found that cement manufacturing corporates in Kenya benefited from marketing research approaches. Hossain, et. al. (2020) found that MNCs have increased rivalry among Bangladeshi cement firms. According to Kumar (2019) and Bandyopadhyay and Ray (2019), marketing strategies for Indian cement facilities have an important role to play in light of the federal government's focus on projects and programs that have national implications. Bulgurcu and Nakiboglu (2018) noted that Turkish cement corporates are increasingly relying on logistics service providers as a competitive advantage. The competitiveness of India's cement manufacturing

facilities can be evaluated using a variety of measures, according to Dave et al. (2019). Distributive channels are critical to the competitiveness of Kenyan cement industry facilities, according to Parola, et.al (2018). This is in line with Ardito, et.al, (2018) findings on the impact of supply chain integration on Indonesian cement industry facilities' competitiveness.

Lu Qiu, et.al. (2019) examined the impact of green product innovation and competitive advantage in China's manufacturing field. It found that green products are related to dynamic ability and competitive advantage in an interactive relationship. The corporation's ability to reconfigure resources, integrate resources, and perceive the surrounding environment plays a mediating role between competitive advantage and the products offered by the cooperate. It found no effect on the cooperates' vision for the environment or green product innovation. (Zahra and Das, 1993) discussed the impact of manufacturing resources on competitive advantage and the way cooperates benefit from manufacturing strategies to support business competitiveness. Using an innovative method of thinking about manufacturing development strategies, it concluded that corporations should develop their strategies to maximize the benefits of their resources. It recommended that corporations improve their reputations by adopting social responsibilities commensurate with the products they provide to the community. This method enhances the competitiveness of cooperates, especially in the field of developing green dynamic capabilities.

Rugraff (2012) examined the competitive advantages, focusing on auto manufacturers and the global value chains. It analyzed the way the various links combine to represent a source of competitive advantage. It argues that the competitive advantage of industrial cooperates depends on the outputs of cooperation between suppliers and the scope of the cooperate's activities. It concluded that, in light of globalization, manufacturers should develop market linkages within the framework of value chains to enhance the respiratory advantage and balance the cost. Kaviani and Abbasi (2014) compared corporate operations strategies and their role in enhancing the relationship between manufacturing operations and the competitive advantages of the products they offer. It developed an approach to enhance the effectiveness of the competitive advantages of cement manufacturing cooperates by analyzing the links between their sources. Nyasimi, Gitau (2016) evaluated the strategic responses, and the ability of cement cooperates

to enhance their competitive capabilities in the field of manufacturing industries and their relationship to their level of sustainability. As a result of the turbulent competitive environment, cooperates must develop innovative tools and methods to enhance their ability to acquire, research and develop.

#### 2.2 Cement Markets Analysis

The Egyptian Cement Manufacturing Corporations used primary raw materials include limestone, clay, gypsum, pyrite, iron slag, and raw coal for fuel. Except for a small amount, most of the limestone is produced and utilized by the Corporates. Long-term contracts are utilized to obtain clay from domestic vendors. Pyrite and gypsum are provided by authorized domestic and international companies. fuel coal suppliers through long-term or short-term contracts. the Major Sale Markets are Cement and Clinker: the domestic market is The Arab Republic of Egypt, and the market is usually divided into geographical regions including Cairo, Delta, Canal, Sinai and Upper Egypt and the overseas market includes African countries, especially Common Market for Eastern and Southern Africa (COMESA)

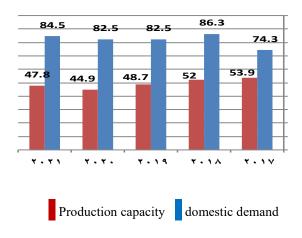
According to the Egyptian Cement Industry Division, small and medium-sized housing projects are the main forces of demand for cement in Egypt. The contribution of these projects ranges from 70 to 90% of the total demand for cement in Egypt, compared to the 10-25% for national projects and first-class housing projects. In 2017, there was a decline in demand for cement due to flotation, The huge national projects launched during that period did not solve the demand for cement. Demand growth needs an economic stimulus. For cement demand to return to its usual growth, the industry needs a recovery in the Egyptian economy and an increase in the incomes of individuals, which will allow for continued growth in construction, especially in small and medium-sized housing projects. From 2018; the increase in production capacity led to a gap between supply and demand. Despite the weak demand growth, the production capacity of the industry gradually increased from about 53 million tons per year in 2010 to about 84.5 million tons per year in 2021. This created a gap between supply and demand as the increase in production capacity did not show a similar growth in demand for cement. Despite the increase in power supply, operating rates have declined sharply, reaching 56.6% in 2021 compared to 91% in 2010 (according to the Ministry of Trade and Industry).

#### 3. Study Problem

Cement is one of the most essential materials, its price fluctuations have a profound impact on the economy as a whole. In the majority of the world, the cement business is an oligopoly market, which indicates that there is not a significant amount of rivalry, although there are tactics among market participants. Cement is a complement to any building activity in an economy; hence, cement is an essential product that is tied to the country's growth, despite the substantial social costs associated with its production. The cement market in Egypt is considered an oligopoly since a small number of firms control the industry. These businesses can influence the market's pricing and quality. Customers in the cement market are not brand loyal since all producers offer identical products, thus customers will always go to the cheaper brand. The competition in such market is based on the prices, cost efficiency and choosing the right distribution channels (Salman and El Adaway, 2018)

To determine the problem of the study and familiarity with its dimensions and to identify the most important features of the practical reality in the Egyptian cement manufacturing corporates, an exploratory study was conducted through personal interviews in Arabic with a sample of managers and heads of departments in the Egyptian cement corporates, consisting of 7 individuals. To obtain indicators about marketing practices, and competitive advantages in the current situation in the cement market, according to the current changes. The interviews yielded the following indicators: Opinions agreed on the impact of the intensity of competition in the Egyptian cement market and the increase in product supply over market demand. which raises questions about the mechanisms for achieving competitive advantages in Egyptian cement manufacturing corporates. On the other hand, opinions agreed on the rise in cement prices, and the reason for this was the high cost of production, which raises questions about the extent of the applicability of business ethics to Egyptian cement manufacturing corporates. There is also a dearth of research to analyses the Egyptian cement market.

Some say many unethical practices in the cement industry sector such as the formation of a producers' union. However, despite this coordination, the cement industry witnessed a diversity in the competition pattern between business establishments since the price competition is the dominant one, compared to the non-price competition in another, (47.8) million tones as domestic cement demand within (84.5) million tones as domestic cement supply based on the production capacity in 2021.



Source: Cement Division, Building Materials Chamber of the Federation of Egyptian Industries

Figure (1) Production capacity VS domestic demand for cement

The current study seeks to analyses the competitive advantages and marketing ethical practices of manufacturing corporates in the cement industry; this was done through a survey study of the Egyptian business environment as an emerging market. Therefore, the study has the following questions:

- What are the marketing practices of the Egyptian cement industry?
- What are the unethical marketing practices of the Egyptian cement industry?

# 4. Study hypotheses

According to the study problem, the null hypothesis can be formulated as follows:

- H<sub>1</sub>: There isn't a significant difference between the product management practices of the establishments operating in the Egyptian cement industry.
- H<sub>2</sub>: There isn't a significant difference between how the different businesses in the Egyptian cement industry in setting prices.
- H<sub>3</sub>: there isn't a significant difference between how the different corporates in the Egyptian cement industry set their promotion.
- H<sub>4</sub>: There isn't a significant difference between how the different corporates in the Egyptian cement industry do business when it comes to distribution
- H<sub>5</sub>: There isn't a significant difference in the competitive advantages between the Egyptian cement manufacturing corporates.
- H<sub>6</sub>: There isn't a significant difference in the marketing ethics between the Egyptian cement manufacturing corporates.

# 5. Study Design

The study used the descriptive analytical method (DAM). Data were collected from sample members (marketing and sales departments in Egyptian cement manufacturing corporates). DAM was done by measuring members' trends and determining whether the hypotheses were accepted or rejected. The study relied on a set of primary data which were necessary for the study's hypotheses. A main objective was evaluating the marketing practices of Egyptian cement production corporates from the point of view of workers in sales and marketing departments. To achieve this objective the survey was distributed on this study sample.

#### 6. Study Sample:

According to the Egyptian Cement Industry Division, there are 18 operating companies in Egypt; according to the distribution of capacity in Egypt, state-owned capacity has 10 production lines vs. private-owned capacity has 37 production lines.

The study population included members of marketing and sales departments in cement manufacturing corporations in Egypt. According to Salman and El Adaway (2018), The main three players are Italcementi group {it is owning Suez, Helwan and Toruh cement}, Lafarge {it is owning Egyptian Cement Company, ASEC cement} and Arabian Cement Company. Therefore, these six corporates are targeted as a basis for the study sample. Table (1) shows survey details of study sample.

Table (1): Survey distributed on the study sample

Item	_	he marketing as of cement rations
	No.	%
Distributed	36	100%
Received	35	97,2%
Valid lists for analysis	32	88,8%

The study did not investigate with consumer, due to the nature of the industry in addition to their lack of loyalty towards cement brands. This explains the small sample size, so the study adopts non-parametric statistical methods for hypothesis tests

According to collected data; 97.2% of employees in marketing departments responded. Some employees were unable to answer some of the survey questions, therefore incomplete lists were omitted. 88.8% of lists could be used for statistical analysis.

#### 7. Reliability test

Cronbach's alpha was used to validate the adequacy of the sample. The study verified hypotheses through confirmatory factor analysis and structural equation modelling. The Cronbach's alpha coefficient of the received questionnaires was 0.7935. Thus, the study found stability indicators of the statistical tests' results.

#### 8. Descriptive Analysis

Table (2) provides a descriptive statistical measure for sample opinions on product management practices.

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Table (2): Product management practices descriptive statistical parameters

No.	Statement	Mean	Standard deviation	Variation coefficient
١	The corporate seeks to modernize production methods to keep pace with everything new in the cement industry.	٤,١٢٥	•,२०११	0,159976
2	The corporate follows a diversification strategy in marketing cement products appropriately to the needs of customers of different segments (corporate, individual customer).	۲,۸۱۲٥	١,٠٦٠٧	0,377138
3	The corporate provides an updated directory of the products (Portland cement, white cement, ready-mix concrete,) that it provides.		٠,٨٥٦١	0,276715
4	The corporate reviews the performance of its suppliers to maintain the target quality level.	٣,٨٧٥	٠,٨٣٢٨	0,214916
٥	The corporate periodically reviews the performance of products in the market to identify products that do not achieve the target benefit and remove them from the product assortment.		٠,٤٢	0,087842
٦			٠,٢٩٦١	0,060351
	Product Management Practices	٣,٩٣٢٣	٠,٤٩١٦	0,125016

**Source:** Statistical Package for the Social Sciences - SPSS

Table (2) showed an agreement towards product management practices in the Egyptian cement industry corporations with a Mean (3.93), and an agreement rate of (91.1%) between sample members.

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Table (3) provides a descriptive statistical measure for sample opinions on promotion practices.

Table (\*): Promotional practices descriptive statistical parameters

N o.	Statement	Mean	Standard deviation	Variation coefficien
7	Periodic marketing campaigns are conducted to introduce the corporate, its products and achievements, whether at the level of production or social responsibility	۲,٤٦٨٧٥	1,7.7140	٠,٦٥٠٥٨
8	The corporate uses an appropriate advertising strategy through television, newspapers, and billboards.	٣,٤٠٦٢٥	1,712217	•,٣٥٦٥٢
9	The corporate uses personal selling to build a base of long-term relationships with clients.	٤,٩٦٨٧٥	.,177777	٠,٠٣٥٥٨
10	The corporate has a public relations section to introduce the corporate and its products, and news of activities and events to be accessible to the outside public	٤,٣٧٥	1,.99100	.,۲٥١٣٩
11	The corporate is interested in using modern methods to promote it through its official website, and social media such as Facebook.	٤,٢١٨٧٥	٠,٤٢٠٠١٣	٠,٠٩٩٥٦
12	The corporate uses the customer loyalty program, which is based on providing material incentives to the customer "such as cash discounts, benefiting from larger repayment periods, increasing quotas," or moral incentives: "such as personal honors, gifts, and conference invitations."	7,71170	•,417074	۰,۳٥٦٢
	Promotion practices	٣,٦١٩٧٩	٠,٦٠٤٩٨٩	٠,١٦٧١٣٤

Source: Statistical Package for the Social Sciences - SPSS

Table (3) showed that the study sample agreed on promotional practices with a Mean (3.62), at an agreement rate of 83.29% between sample members.

Table (4) provides a descriptive statistical measure for sample opinions on pricing practices.

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Table (4) Pricing practices descriptive statistical parameters

No.	Statement	Mean	Standard deviation	Variation coefficient
13	The prices of cement products with competitors are always followed up when reviewing the pricing of the corporate's products.	٤,٩٣٧٥	٠,٢٤٥٩٣٥	٠,٠٤٩٨١
14	The corporate adopts product pricing strategy according to new accounting techniques such as target costing.	۲,۲۰	٠,٤٣٩٩٤١	•,190079
15	Special price incentives for distributors are approved according to an announced list for all.	٣,٤٠٦٢٥	1,777275	٠,٣٧١٧٩٤
16	16 There is cooperation between cement manufacturers in determining the prices of their cement products.		۰,٦٥٣٠٠٢	•,19079
17	17 The prices of cement products offered in the market are commensurate with customers, according to their financial capabilities.		•,£٣٩٩٤١	•,٣0190٣
18			٠,٦٦٩٠١٥	•,14779 £
	Pricing practicing	7,170	٠,٢٧٧٥٩٩	٠,٠٨٨٣٢

Source: Statistical Package for the Social Sciences - SPSS

Table (4) showed an agreement on pricing practices with an average of (3,125), at an agreement rate of 91.1% between sample members.

Table (5) provides a descriptive statistical measure for sample opinions on distribution practices.

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Table (5) Distribution practices descriptive statistical parameters

No.	Statement	Mean	standard deviation	Variation coefficient
19	The corporate selects a specific number of distribution channels for the distribution of its products.	1,770	٠,٧٩٣١١٦	٠,٤٨٨٠٧١
20	The corporate avoids adopting multi-channel distribution strategy in delivering its products to customers.	1,£7,470	٠,٦٢١٣٦	٠,٤٢٣٠٥٤
21	The corporate is concerned with the procedures for supervision and control over its distribution channels.	٣,١٨٧٥	1,275101	٠,٤٤٦٧٩٥
22	The corporate applies the policy of direct and indirect distribution in marketing its products.		•,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	٠,٢٣٦٧٠٢
23	The corporate selects its distribution channels on the basis of its objectives and available resources.		٠,٥٠٤٠١٦	٠,١٢٤٠٦٦
24	The corporate provides its products or services through specialized exhibitions affiliated to it in some regions.		.,080.71	٠,٤٤٥٠٥٧٨
	Distribution practices	7,08170	٠,٣٢٠٨٣٤	٠,١٢٦٧٤٩

Source: Statistical Package for the Social Sciences - SPSS

Table (5) shows an agreement on the distribution practices with a Mean of (2.53) and an agreement rate of 87.34% among the study sample.

Table (6) shows a descriptive analysis for the sample's attitudes toward the Egyptian cement industry competitive advantage.

Table (6) Competitive advantage descriptive statistics parameters

No.	Statement	Mean	Standard Deviation	Variation coefficient
25	The prices of the corporate's cement products are very suitable for the level of outstanding quality it offers.	3. 9375	0.564401	0.14334
26	The corporate is interested in setting a diversified pricing policy for all products, commensurate with all customers and purchasing power in the market.	1.28125	0.634206	0.49499
27	The corporate is interested in reviewing new products from other facilities in the market, especially in terms of quality.	3.59375	0.614837	0.171085
28	The corporate is interested in constantly updating the quality level, whether production or operating methods, by obtaining many accredited international certificates, such as:  (ISO 9001, ISO 14001, ISO 22000 & OHSAS 18001, ISO 27001)	4.75	0.439941	0.09262
29	Suggestions and complaints from customers about the corporate's distribution and delivery system are of interest and real study from the corporate.	3.8125	0.820602	0.21524
30	·		0.79248	0.20958
	The comparative advantage	3.526042	0.274709	0.07791

Source: Statistical Package for the Social Sciences - SPSS

Table (6) showed that there is a clear approval for acquiring competitive advantage factors with an average of (3,526), and an agreement rate of 92% among the study sample.

Table (7) shows a descriptive analysis of the sample attitude towards marketing ethics in the Egyptian cement industry corporations.

Table (7) Marketing ethics descriptive statistics parameters (Egyptian cement corporations)

No.	Statement	Mean	Standard deviation	Variation coefficient
٣١	The Corporate does not change the actual product quality level or performance achieved in use.	3.59375	0.837021	0.23291
٣٢	The fake pricing policy is not used in the corporate.	4.71875	0.456803	0.096806
77	The credibility of the corporate in providing information about it, its products and community services is real without exaggeration or falsification.	3.999	1.016001	0.254064
٣٤	The corporate seeks to allow the distribution of its products to everyone without discrimination based on the area of distribution, or the quantity of purchase.		0.859013	0.205137
_	Marketing ethics	4.12475	0.386256	0.093643

Source: Statistical Package for the Social Sciences - SPSS

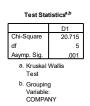
Table (7) showed an approval for marketing ethics practices in Egyptian cement industry facilities, with an average of (4.12), and an agreement rate of 90.6% among the study sample.

# 9. Hypothesis test

# 9.1 Product Management Practice Test

Using the Wallis Kruskal for estimating the difference between the mean of more than two uncorrelated samples, the outputs are shown in Figure (2):

	Ranks			
	COMPANY	N	Mean Rank	
D1	1.00	4	11.25	
	2.00	6	13.17	
	3.00	5	13.20	
	4.00	9	28.00	
	5.00	4	10.63	
	6.00	4	10.88	
	Total	32		



Source: Statistical Package for the Social Sciences output

Figure (2): Product management practice test outputs

Figure (2) shows that the calculated (Chi-square) coefficient is estimated at 20,715. In comparison with the tabular value of (5) as a degree of autonomy, it is clear that there is a difference in product management practices between the Egyptian cement manufacturing corporates, from the point of view of the members of the two departments (marketing and sales) at a significance level of (1%). Thus, the study can accept the alternative hypothesis confirming that "There is a significant difference between the product management practices of the establishments operating in the Egyptian cement industry".

# 9.2 Pricing Practices Test

Using the Wallis Kruskal for estimating the difference between the mean for more than two uncorrelated samples, the outputs are shown in Figure (3):

	Rank	ks				
	COMPANY	N	Mean Rank	۱ (	Test Stat	D2
D2	1.00	4	20.63	1 1	Chi-Square	26.25
	2.00	6	12.50		df	
	3.00	5	9.90		Asymp. Sig.	.00
	4.00	9	27.50	١ ٠	a. Kruskal l	N allie
	5.00	4	15.88		Test	v v anno
	6.00	4	2.50		b. Grouping	~
	Total	32			Variable	
					COMPA	

Source: Statistical Package for the Social Sciences output

Figure (3): Pricing practices test outputs

Figure (3) shows that the calculated (Chi-square) coefficient is estimated at (26,257). In comparison with the tabular value of (5) as a degree of autonomy, it is clear that there is a difference in pricing practices between the Egyptian cement manufacturing corporates, from the point of view of the two marketing departments and sales, at a significance level (1%). Therefore, the study can accept the alternative hypothesis to confirm that "There is a significant difference between how the different businesses in the Egyptian cement industry in setting prices".

#### 9.3 Promotion Practices Test

Using Wallis Kruskal for estimating the difference between the mean of more than two uncorrelated samples, the outputs are shown in Figure (4);

	Ranks				
	COMPANY	N	Mean Rank		
D3	1.00	4	12.00		
	2.00	6	18.50		
	3.00	5	5.00		
	4.00	9	25.89		
	5.00	4	10.75		
	6.00	4	17.00		
	Total	32			

Test Statistics <sup>a,b</sup>			
	D3		
Chi-Square	21.021		
df	5		
Asymp. Sig.	.001		
a. Kruskal Wallis Test			
b. Grouping Variable: COMPANY			

Source: Statistical Package for the Social Sciences output

Figure (4) Promotion practices test outputs

Figure (4), it appears that the calculated (Chi-square) coefficient is estimated at (21,021), and in comparison, with the tabular value of (5) as a degree of autonomy, it is clear that there is a difference in the promotion practices between the Egyptian cement manufacturing corporates, from the prospective of members of the two marketing departments and sales are at a significant level (1%). Thus, the study can accept the alternative hypothesis that "there is a significant difference between how the different corporates in the Egyptian cement industry set their Promotion".

#### 9.4 Distribution Practices Test

Using the Wallis Kruskal to estimate the difference between the mean of more than two uncorrelated samples, the clear outputs are shown in Figure (5):

 Ranks

 COMPANY
 N
 Mean Rank

 D4
 1.00
 4
 10.25

 2.00
 6
 16.42

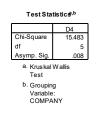
 3.00
 5
 13.60

 4.00
 9
 25.94

 5.00
 4
 12.00

 6.00
 4
 9.75

 Total
 32



Source: Statistical Package for the Social Sciences output

Figure (5): Distribution practices test outputs

Figure (5), It appears that the calculated (Chi-square) coefficient is estimated at (15,483), and in comparison, with the tabular value of (5) as a degree of autonomy, it is clear that there is a difference in the practices of distribution between the Egyptian cement manufacturing corporates, according to the members of the two marketing departments and sales are at a significant level (1%). So, the study can accept the alternative hypothesis that "There are significant differences between how the different corporates in the Egyptian cement industry do business when it comes to distribution".

# 9.5 Competitive Advantage Test

Using the Wallis Kruskal to estimate the difference between the mean of more than two uncorrelated samples, the outputs are shown in Figure No. 6:

	Rani	ks		
	COMPANY	N	Mean Rank	Test Statistics <sup>a,b</sup>
D5	1.00	4	11.50	D5
	2.00	6	19.67	Chi-Square 18.047
	3.00	5	15.30	df 5
	4.00	9	25.28	Asymp. Sig003
	5.00	4	8.50	Kruskal Wallis
	6.00	4	6.50	Test
	Total	32		b. Grouping
				Variable:
				COMPANY

Source: Statistical Package for the Social Sciences output

Figure 6: Competitive advantage test outputs

From Figure (6), it appears that the calculated (Chi-square) coefficient is estimated at (18,047), and in comparison, with the tabular value of (5) as a degree of autonomy, it appears that there is a difference in the competitive advantage between the Egyptian cement manufacturing corporates, from the point of view of the members of the two departments of marketing and sales, at a significance level (1%). Thus, the study can accept the alternative hypothesis that "There is a significant difference in the competitive advantages between the Egyptian cement manufacturing corporates".

# 9.6 Marketing Ethics Test

Using Wallis Kruskal to estimate the difference between the mean of more than two uncorrelated samples, the outputs are shown in figure (7);

Ranks				Test Statistics <sup>a,b</sup>
	COMPANY	N	Mean Rank	D6
D6	1.00	4	11.88	Chi-Square 11.885
l	2.00	6	8.50	df 5
l	3.00	5	12.80	Asymp. Sig036
l	4.00	9	22.89	a. Kruskal Wallis
l	5.00	4	20.88	Test
6.0	6.00	4	19.00	b. Grouping Variable:
	Total	32		COMPANY

Source: Statistical Package for the Social Sciences output.

Figure (7): Marketing Ethics Test Outputs

Figure (7), it is shown that the calculated (Chi-square) coefficient is estimated at (11,885) and compared with the tabular value of (5) as a degree of autonomy, it is also clear that there is a difference in following the marketing ethics among the Egyptian cement manufacturing corporates, from the point of view of the members of the marketing and sales departments, at a significance level (5%).

#### 10. Conclusion and Recommendations

Cement manufacturing is one of the Mass Production Industry in international and emerging markets equally. Cement has a significant role in terms of economic and social significance since it is essential for building and enhancing infrastructure. In contrast, this industry is a significant polluter when cement is manufactured. Egypt's cement manufacturers date back to the early 20<sup>th</sup> century. It has been technically refined throughout time. The industry has grown increasingly geographically diverse, with a strong focus on the environment and employee health and safety, according to the development of regulatory rules in the Egyptian business environment in the last twenty years.

There are various types of cement; the main four in Egypt are Portland, white, blended and resistant. Egyptian cement manufacturing corporations have not been experiencing their finest days. More than 1 billion Egyptian pounds has been lost in recent years due to an overabundance of output. In 2021, Egypt's output capacity reached 84.5 million tones, but domestic demand fell to below 48 million tones. As part of a solution to their losses, the Ministry of Trade and Industry has been negotiating with cement producers operating on the local market to limit their production. The cement manufacturers called for extending the government's decision to reduce production for another year. In response, the government, in August 2022,

approved the extension of the decision. The restriction on cement production was imposed by the government in July 2021 to reduce the chronic oversupply that was threatening to wipe out much of the local industry. According to such a step, corporates should have reduced production by at least 10.69% during the last 12 months to reduce the surplus of supply and support prices. Such a decision came into effect in mid-July 2021, as it was scheduled to last for one year. As a result, prices have risen by about 50% since this decision came into effect in July 2021, according to data from the Ministry of Housing. The Competition Protection Agency in Egypt is expected to adjust the production quotas for each corporate to increase the total supply by 8% and adjust production monthly in line with the demand data.

Today, the competitive advantages play an important role in the success of Egyptian cement manufacturing corporations, with intense competition and supply surpluses. This increases the role of marketing and sales departments in these corporations. In addition, there are unethical marketing practices which the study seeks to investigate.

# **10.1 Findings**

- 10.1.1: There is a significant difference between the product management practices between Egyptian cement manufacturing corporations, at a level of significance (1%). One of the indications of this result is the variation in the production mix of the Egyptian cement industry establishments. Portland cement is the main product of these establishments, followed by white cement. In addition to ready-made concrete, with the multiplicity of sub-products in the production mix which varies from one corporate to another. These products are of low relative importance within the production mix provided to the Egyptian market. On the contrary there is a tendency for some cement manufacturers to provide products with added value to the market, especially from foreign-owned facilities, in addition to the three main products mentioned above.
- 10.1.2 There is a significant difference between the pricing practices between Egyptian cement manufacturing corporations, at a level of significance (1%). In this regard, the study provides the following

evidence for the validity of this result. According to historical prices, there is a discrepancy in the prices of Portland cement, which is the main product in this industry, during the period from 2012 to the end of the third quarter of 2020, when prices fluctuated in a range of more than (100%), up from the base level - 2012 prices. The study found a discrepancy in pricing practices between Egyptian cement manufacturing corporations, which can be attributed to the price competition witnessed by the industry, based on the competition of multinational cement corporations. The high quantities supplied by cement, which greatly exceeds the volume of domestic demand, as a result of new production capacities in November 2016. On the other hand, the study found a discrepancy in the nature of competition between cement products in the Egyptian market. The study found indications of price competition for Portland cement with a range of fluctuation between brands of approximately 14.5%. In contrast to the difference in pricing white cement, where there is a narrow range of volatility between brands with a range of 4.6%. This indicates the absence of price competition in this product, as was the case with Portland cement.

- 10.1.3 There is a significant difference between the distribution practices of Egyptian cement manufacturing corporations at a level of significance (1%), as the distribution practices of Egyptian cement manufacturing corporations have witnessed many developments. Joint offices selling cement to the domestic market, the state's tendency to apply economic openness, and its attendant activation of market economy mechanisms, many corporations tended to appoint agents. Also, the development of competition pattern based on foreign ownership (such as Suez Cement), the formation of a transportation fleet, which works to provide a flexible system for product delivery, in addition to forward integration processes by providing ready-made concrete products through subsidiaries or related corporations (such as Suez Cement and Al Arabiya Cement).
- 10.1.4 There is significant difference between the promotion practices of the Egyptian cement manufacturing corporations at a level of significance (1%). The study can demonstrate this as many marketing practices

carried out by Egyptian cement manufacturing corporations with foreign management are compatible with social concept. For marketing (such as the case of the Suez Cement Corporate), these practices include digital promotion, support for training programs, support for consumer awareness of the product, and support for environmental performance. This achieved integrated marketing communication between these facilities and related parties, which is not available in many Egyptian cement manufacturing corporations locally owned.

- 10.1.5 There is a significant difference in the competitive advantages between the Egyptian cement manufacturing corporations at a significant level (1%). The study can demonstrate this in light of the difference in price as a competitive advantage, based on the discrepancy in pricing policies among the Egyptian cement manufacturing corporations. As for the quality aspect as a competitive advantage, it is based on the tightening of industrial control procedures in Egyptian cement factories—internal control over product quality—in light of the strategic importance of the sector. As for the remote delivery system and speed of response as competitive advantages, they differ among the sample cooperates, and the study can be attributed to the different strategies of the Egyptian cement manufacturing corporations towards forward integration rather than the tendency of some establishments to provide value-added products to the market (the case of Suez Cement and Al Arabiya Cement).
- 10.1.6 There is a significant difference in marketing ethics among Egyptian cement manufacturing corporation at a level of significance (5%). This is explained due to the differences in marketing and sales teams' characteristics. In addition to the difference in management and ownership style for the Egyptian cement manufacturing corporations.

#### 10.2 Recommendations:

# 10.2.1 Recommendations for Egyptian cement Manufacturing Corporation:

- 10.2.1.1. The Egyptian cement manufacturing corporations should reconsider their marketing practices as they have a long-term impact and could create competitive advantages. Using the concept of social marketing as a basis for marketing practices, the Egyptian cement manufacturing corporation can achieve their sustainable development goals in three dimensions (economic, social, and environmental). Through cooperation with professionals, educational institutions, and non-profit NGOs, which supports both customer loyalty and long-term shareholder value creation. This is consistent with what was concluded in Aali et al. (2012) and Mbango, (2015).
- 10.2.1.2. The trend towards international markets due to high domestic production surplus of cement, which means the futility of domestic competition. A surplus that revolves around 40% rate of total production capacity for the Egyptian cement manufacturing corporations means that the inevitability of exporting in the short term. In addition, the possibility of benefiting from trade agreements such as the Egyptian-European Partnership, and the Common Market for Eastern and Southern Africa (CMESA). This gives Egyptian cement manufacturing corporations the ability to access those markets without customs or non-customs restrictions.
- 10.2.1.3 Diversifying the production mix of the Egyptian cement manufacturing corporation is not considered an effective strategy in the Egyptian cement sector, given that the depth of the domestic cement market in terms of sales value is based on three main products: Portland cement, white cement, and ready-made concrete.
- 10.2.1.4 The marketing department of Egyptian cement manufacturing corporation must adopt multiple strategies for competition, which vary according to the product, whether Portland cement, white cement, or ready-made concrete. Each product has its own market, with a unique competition pattern from the rest of the other products.
- 10.2.1.5 Stop relying on marketing practices related to the quality of cement products as an axis to gain a competitive advantage for the Egyptian cement manufacturing corporation. As similar level of product quality

exists among corporations. In addition to the strong control system that this industry enjoys for the technical characteristics of the product, both within the facilities produced or by regulatory authorities (such as the Egyptian General Organization for Standardization and Quality) and regulatory authorities (such as the Consumer Protection Agency).

- 10.2.1.6 Relying on marketing practices related to price, delivery systems, and response to customers, as pivotal to gaining competitive advantages for the Egyptian cement manufacturing corporation. Providing cement products according to customer requirements and creating added value during forward integration processes.
- 10.2.1.7 The Egyptian cement manufacturing corporates should reconsider their financial status and market value to evaluate their ability to use one of the merger or acquisition strategies. The aim is to achieve economies of scale resulting from reducing the total cost of production and maintaining the competitive strength of these corporations in the face of market conditions. In addition to supporting the volume of domestic demand to limit the exit of more corporations, as happened in the case of the National Cement Corporation (the case of liquidation). Thus, the demand coincides with the supply later, up to the state of balance.

# 10.2.2 Recommendations for parties related to the cement industry:

- 10.2.2.1 Due to the rapid developments in environmental protection, the 2022 United Nations Climate Change Conference, more commonly referred to as COP27, will be the 27<sup>th</sup> United Nations Climate Change conference, in Sharm El Sheikh, Egypt, the study recommends the establishment of a motivational award for Egyptian Cement Manufacturing Corporations that are most committed to environment protection.
- 10.2.2.2 Due to consumer protection associations, the study recommends the establishment of a motivational award for corporates that are most committed to ethical principles in marketing practices.
- 10.2.3 The Egyptian government agencies, especially the Export Development Fund, have adopted an export support program designed for Egyptian cement industry facilities. they provide measures

supporting the export of Egyptian cement and benefiting from idle production capacities - which is expected to reach 40% of the available production capacities. This provides job opportunities for the Egyptian youth, as well as maintaining the workforce, instead of reducing production lines to reduce costs, which ultimately results in raising the efficiency of production processes in the industry and opening opportunities for new external marketing.

10.2.4. The Consumer Protection Law should be reconsidered to keep pace with the changes that have occurred in the Egyptian cement industry in recent years. Especially the legal amendments related to monopoly cases, and the intensification of financial and criminal penalties.

# 10.2.3 Recommendations for the supervisory and supervisory authorities on the financial markets:

- 10.2.3.1 Developing rules for listing securities on Egyptian Stock Exchange, to oblige the issuing establishments to disclose financial and non-financial information related to marketing practices. Thus, reducing the asymmetry of information between the related parties.
- 10.2.3.2 Developing rules for listing securities on Egyptian Stock Exchange to ensure small shareholders protection. Especially due to acquisition offers (purchase offers) during decline periods of the Egyptian Stock Exchange. For example: the offer to acquire Suez Cement Corporate and Portland Torah Corporate shares.

#### 10.2.4 Future research

Egyptian cement industry marketing crisis is a rich field for many future research such as customer loyalty, consumer relationship management, supply chain management, etc.

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# دراسة مقارنة للمزايا التنافسية لشركات الإنتاج الضخم في ظل حالة السوق ذات فائض المعروض: شواهد من صناعة الأسمنت المصرية

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شعبة إدارة الأعمال الأكاديمية الدولية للهندسة وعلوم الإعلام

#### الملخص

تتاولت الدراسة تحليلا مقارنا للمزايا التنافسية للشركات الصناعية ذات الإنتاج الضخم في ظل حالة فائض العرض. شمل مجتمع الدراسة موظفي أقسام التسويق والمبيعات بشركات تصنيع الأسمنت المصرية في خضم أزمة تسويقية ناتجة من فائض المعروض، ففي عام ٢٠٢١ بلغ هذا الفائض ٤٣,٤٪ من الطاقة الإنتاجية؛ ذلك نتيجة لدخول شركات تصنيع جديدة إلى السوق منذ عام ٢٠١٨. وقد شملت الدراسة الثلاثة اللاعبين الرئيسيين في تصنيع الأسمنت بمصر (مجموعة إيتالشمنتي، مجموعة لافارچ، والعربية الأسمنت) حيث يمتلكون ست شركات للتصنيع (السويس للأسمنت، أسمنت طوان، أسمنت طره، شركة المصرية للأسمنت وأسيك للأسمنت واخيراً العربية للأسمنت) حيث تم استقصاء آراء ٣٢ مفرده في النصف الأولى من عام ٢٠٢٢ وفقًا لأسلوب التحليلي الوصفي (DAM). وقد أظهر الإحصاء الاستدلالي اللامعملي أن هناك اختلافا في كل من "الممارسات التسويقية" و "مزايا التنافسية" بين الشركات الممثلة في العينة. أخيرًا، تم تقديم مجموعة من التوصيات لكل من شركات تصنيع الأسمنت المصرية وأصحاب المصلحة، بالإضافة إلى اقتراح أبحاث مستقبلية.

#### الكلمات الدالة

المزايا التنافسية – فائض العرض – صناعة الأسمنت – مصر