Impact of Health and Safety Management on **Employee's Commitment:** Evidence from the Bottled and Sachet Water **Industry in Ghana**

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ABSTRACT

Employee commitment to work has been an influential factor in determining job performance. In companies, especially where most wastes are by-products, health and safety factors should matter a lot to the workers. In this research, we investigated how health and safety factors influence employees' commitment to the sachet and bottled water companies. A sample size of 150 respondents was collected using a convenience sampling technique. Data were then analyzed employing multiple regression analysis. The findings suggest that employees' welfare, specific hazard, job stress and safety factors had a significant influence on employees' commitment to the job. The study also found that specific Hazard (chemicals etc) had the greatest negative influence on employees' commitment towards their work. The study implies that employers need to put in place appropriate health and safety measures to increase employees' job performance. This research appears to be the first kind in the sachet and bottled water industry, so further research should explore more into this area by looking at health and safety factors influencing employees' commitment in different industries.

Keywords: Health and safety, Job stress, Employees commitment, Safety practices, Job performance, Harzard. JEL Classification: K32, j28, j62.

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Highlights of this paper

- This study investigated how health and safety factors influence employees' commitment to the sachet and bottled water companies.
- The findings suggest that employees' welfare, specific hazard, job stress and safety factors had a significant influence on employees' commitment to the job.

1. INTRODUCTION

The production of rubber materials has increased in most developing countries causing an increase in waste pollution in the environment (Nathaniel, Romanus, & Gladys, 2012). However, as at 2010 about three (3) billion people lack safe sanitation, and within 20 years an additional two billion people are expected to live in cities, mainly in developing countries, requiring sanitation (WHO/UNICEF, 2015). Currently, about two billion people still lack improved sanitation (WHO/UNICEF, 2015). A report by the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) (2015) indicate that only 63% of the world has improved sanitation access. This figure increased to only 68% in 2016 (Hutton & Chase, 2016). Though there are some positive figures which show sanitation seems to be improving, the negative figures are evident in most developing countries in Africa due to their massive generation and poor management of non-biodegradable wastes (Nathaniel et al., 2012). Today, best practices in health and safety management are well known for leading companies both in developed and developing countries (Pecillo, 2016). However, best practices are generally not applied thoroughly but rather correspond to fragmented action. Moreover, companies using these practices have reached a performance plateau (Eyiah, Kheni, & Quartey, 2019). Organizations that pay attention to manage health and safety practices recognize the relationship between the general health of employees, risk management and the heart of the business itself. Besides, their health and safety policies are aligned with other human resources policies designed to ensure engagement and participation; and promote employee well-being (Bello, 2017) both physical and mental health can be compromised if people are exposed to damage (for example from the use of chemicals). But if the workplace is safe and if people are interested and involved in their work, job satisfaction can increase and improvements in health and wellbeing can result. Despite the understanding to proactively manage health and safety, some companies or organizations do not give it the priority it deserves (Bello, 2017). This could be due to a lack of knowledge, skills and motivation, or to limited human resources. The problem of health and safety management practices in the packaged water industries, in particular, is a growing source of concern in Africa. The upsurge of the sachet and bottled water companies all over the country, of which most do not have the license by the regulatory agencies, has given rise to all manner of packaged water products on the market. Some of these companies not only lack qualified staff to oversee health and safety policies, but also the appropriate technology to achieve quality output. The practice of health and safety doesn't solely rest on the employers, but employees attitude play an important role. Most employees are not attached to the idea of health and safety and do not liaise with health and safety initiatives, which makes safety measures unsuccessful. However, any safety measures or actions on the part of the government or the employer may prove to be useless if the employees are not attached to the idea of health and safety. Employers also do not see occupational health and safety as a process. It is not enough to institute security measures and not to provide adequate training and education on these measures and rules.

Essentially, the conscious effort of management to put security measures in place and ensure that these rules are followed also requires employees to be aware of security at all times. A broader view of the safety and health of employees is necessary for the management of water bag companies to formulate correct industrial safety policies that are proportionate to international standards, compatible with national policies and at the same time, meet the organizational objectives of quality healthcare and personal satisfaction. Although most studies have look at health

and safety management practices in areas like health (Martin, Karanika-Murray, Biron, & Sanderson, 2016) Food industry (Chalak & Abiad, 2012) and engineering (Pęciłło, 2016) less concentration has been given to the packaged water industry (both bottled and sachet water). Studies of such are few in developing country like Ghana and these give room for more academic research in this area. Ghana has come a long way from the time of public access to drinking water by buying water sold in plastic cups to water sold in hand-tied soft plastic bags. The success and market performance of the sachet and bottled water industry is critical to the health and economic well-being of the nation. Unfortunately, most companies in the industry underperform because they are unable to leverage health and safety management strategies to achieve desired market share, growth and profitability. This gives more scope in the academic environment to learn about the health and safety management practices in the bottled and sachet water sector and its impact on workers' commitments.

2. LITERATURE REVIEW

Studies have seen the importance of specific constructs like workplace Environments (Karatepe, 2016) Safety factors (Schelmetic, 2013; Telang & Telang, 2010) Employees Welfare (Shea, De Cieri, Donohue, Cooper, & Sheehan, 2016) Specific Hazards (Hamdan, 2017; McCaughey, DelliFraine, McGhan, & Bruning, 2013) and Job Stress (Wireko-Gyebi, Adu-Frimpong, & Ametepeh, 2017). These factors have been seen to have an impact on employees' commitments. However, employees' intention to stay or maintain their workplace depends on their commitment to health and safety measures. The study adopted these factors from different research studies to help to understand employees' commitment to health and safety of their workplace. These factors were used in forming the research framework Figure 1.

2.1. Factors Influencing Workers' Commitment to Health and Safety 2.1.1. Workplace Environment

Many features of an organization's workplace environment seem to influence employee commitment and as a result, leads to their job satisfaction (Amponsah-Tawiah, Ntow, & Mensah, 2016; Karatepe, 2016). A critical area of study is the role of employees' perception of the work environment as a source of influence on employee outcomes. The working environment usually has to meet the physical and mental demands of the people who work there. A good working environment is likely to motivate employees to put in the best to support their an organisation day to day operations. Some studies have revealed that there is a relationship between certain experiential characteristics of the workplace environment and the responses of employees, which are mediated by what the employee observes about the situation at work (Uraon & Raya, 2017). Besides, experiential factors, such as workplace injuries, can lead to the formation of different perceptions, which then become the basis of generalized beliefs about the organizational work environment. As regards health and safety management concerns, the manufacturing industry's approach to technological growth, cultural shifts, etc. is fundamentally different from that of the nonmanufacturing sector. Small companies naturally take a specific view of and handle health and safety problems for workers (Achaw & Boateng, 2012; Kheni, Dainty, & Gibb, 2008). A work environment's physical dimensions may have a direct effect on the health and safety, productivity, job satisfaction, and morale of the people working there. Important factors that must be taken into account in the working environment include "building design, workplace layout, temperature, lighting, space, noise, furniture and air quality" (Sarode & Shirsath, 2012).

H1: Workplace environment will have a negative significant influence on employees commitment.

2.1.2. Safety Factor

Safety factors have also been seen as a strong factor that can influence employees' commitment. Maintenance and good repairs of breakages are factors that can influence employees' retention (Schelmetic, 2013). Proper maintenance is necessary if any production or processing activity is to be successful. One of the most critical aspects of a good organization is providing a high-quality maintenance service that you can count on to discover systematic errors and propose strong and realistic solutions. Management of maintenance has become a highly important and significant consideration for achieving overall efficiency in industrial organisations (Telang & Telang, 2010). Gates, doors and windows must be well designed and equipped with protection where possible. Regular maintenance is also necessary to maintain safe and reliable equipment, machinery, and working environment (Achaw & Boateng, 2012). Inadequate maintenance can result in unsafe conditions, injuries and health problems. Maintenance is a dangerous operation with many hazards inherent in the essence of the work. Maintenance is done in all fields and places of employment. An unintended failure of the computer may cause unnecessary personal injury. Proper equipment maintenance can help avoid injury (Dennis, Muthu Kumaran, & Balaji, 2015). Neglecting maintenance in an enterprise, however, often leads to breakdowns, leading to costly repairs and faster degradation of relatively expensive equipment, and ultimately far-reaching negative impacts on the overall business (Telang & Telang, 2010).

H2: Safety Factor will have a negative significant influence on employees commitment.

2.1.3. Employees Welfare

Contemporary companies are in a competitive world, and in addition to trying to improve consumer loyalty, they need to concentrate seriously on their employees 'safety, health and well-being and environmental protection (Shea et al., 2016). Thousands of people in the workplace are seriously injured or even killed each year. Also, many others suffer from work-related illnesses (Carayon et al., 2015). To reduce workplace hazards and ensure employees work in a healthy and safe environment, it is essential for an organisation to develop appropriate welfare policies and ensures its implementation. According to Neo, Hollenbeck, Gerhart, and Wright (2017) employee well-being refers "to that policy that focuses on a particular aspect of employee well-being, both in a physical and emotional sense". Nevertheless, Humphreys (2007) pointed out that the physical dimensions of a wider well-being strategy derive from initiatives aimed at enhancing occupational health and safety, as well as from issues like having toilets and washrooms, drinking water, resting facilities and meals. Through an emotional standpoint, companies are likely to be concerned with their workers' mental well-being, or more generally with the needs of people at work concerning human relationships. This will ensure employees commitment to the organisation as well as their health and safety. According to Shea et al. (2016) organisations with poor sanitation issues, unhygienic environment, poor protective tools and equipment's, needs to take necessary action to provide safety measures.

H3: Workers Welfare will have a negative significant influence on employees commitment.

2.1.4. Specific Hazards

In many manufacturing firms, workplace health is becoming a critical concern, as employees are routinely subjected to dangers such as verbal and physical assaults (Hamdan, 2017). Many work environments include sources of dangerous substances that can cause inhalation exposure, skin absorption, splashes in the eyes and much more (Hamdan, 2017). One of the most common types of work-related injuries is slipping of chemicals or liquid substance. Moreover, a musculoskeletal disorder is also another factor that harms workers (Chanchai et al., 2016). This usually includes injuries from manual handling. The employer is responsible for shielding workers from any

health hazards which may pose a threat to their safety and health (Onda, LoBuglio, & Bartram, 2012). Dennis et al. (2015) defined safety hazard "as those aspects of the work environment that have the potential for immediate and sometimes violent damage to an employee; for example, hearing loss, vision etc.". Health hazards such as those aspects of the work environment which slowly and cumulatively lead to a deterioration in the health of an employee, such as cancer and respiratory diseases, require careful care when handling. The cause of this illness was seen from physical and biological hazards, chemicals, and stressful working conditions. Workplace safety is becoming a critical issue in many healthcare facilities as workers are regularly exposed to hazards (Chen, McCabe, & Hyatt, 2017; McCaughey et al., 2013). However, these forms of hazards may affect employees' commitment to their work and well as affect their work performance.

H4: Specific Hazard will have a negative significant influence on employees commitment.

2.1.5. Job Stress

Studies have shown that stress stems from several pressures, including conditions where work expectations can not be met due to a lack of resources such as supervisors 'social support, coworkers, decision-making, skills usage and encouragement such as bonuses (Mensah & Kosi, 2016; Wireko-Gyebi et al., 2017). Work stress refers to different job conditions, including fatigue, differences in workload, conflicts of position and uncertainty (Nouri & Soltani, 2017) Employees who encounter a lot of tension also have weak coping reactions and work dissatisfaction, which also impacts the organization's participation and contributes to higher turnover (Hamdan, 2017; Huang et al., 2016). Work stress is a prevalent problem in all fields of work. It is a significant cause of workplace illness and related organizational outcomes. Fordjour and Chan (2019) describe stress as an individual, psychophysiological, and subjective condition characterized by a combination of high excitement and discontent. Fordjour and Chan (2019) describe stress as a latent construct that suggests a state of increased autonomic nervous system activity with synchronized manifestations at the affective, cognitive and behavioural levels. Nonetheless, perceived control over working hours can minimize work-stress-related health issues and also tension due to inconsistent salary and housework demands. Also, it has been shown that high regulation of employee working time indicates good subjective health and less absenteeism and is correlated with reduced absenteeism due to stress (Ticharwa, Cope, & Murray, 2019).

H5: Workplace environment will have a negative significant influence on employees commitment.

2.1.6. Employees Commitment

Several factors affect the way workers are committed to a business or organization (Mensah & Kosi, 2016). The more flexibility and responsibility a specific job has, the less tedious and dull the job is, and the more likely the employee is to enjoy the work, and feel fulfilled. Employees who feel motivated, challenged and fulfilled in their jobs are much more likely to be working with a particular work setting, business or organization. In their commitment formation. Morgan and Hunt (1994) published a study on employee engagement. The authors' research reveals that active workers are less likely to resign, are more driven and are more worried about the organization's citizenship behaviour. Redditt, Gregory, and Ro (2019) opined that service customers attribute their experience to both employees and companies. The age and level of education of the employees also tend to affect their commitment to the workplace. According to Mensah and Kosi (2016) employees who have stayed long in an organisation turns to be more committed as a whole. However, the more satisfied employees are with the physical work environment, their supervisors, colleagues, workload and other specific elements of the work, the more likely they are to commit to the company and the more likely they are to have an intention to join the company.

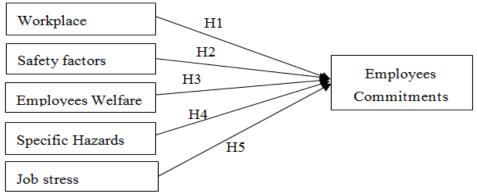


Figure-1. Conceptual framework.

3. METHODOLOGY

A cross-sectional survey design was employed for the study. This was used to help generate adequate relevant data to provide answers to the research questions and as well as providing evidence to validate the research findings and conclusion. The study included five (5) bottled and sachet water Companies in Ghana. A total of 150 questionnaires was used to solicit views from the participants. The study performed a reliability test on the constructs to see if it is significant enough to perform further analysis. The relationships between both the dependent (employees commitment) and independent variables (Workplace Environment, Safety Factors, Employees Welfare, Specific Hazard and Job Stress) were also tested using regression analysis.

4. DATA ANALYSIS AND RESULTS

4.1. Demographic Background

Out of 150 respondents, 86.7% (130) were males and 13.3% (20) were females. It can be concluded that most bottled and sachet water companies in Ghana are dominated by more males than females. Chong et al. (2012) indicated that the nature of some specific jobs sometimes required more males as compared to females. A total of 76.7% of the respondents were between the ages of 18 to 25 and 26 to 33 years, followed by respondents of 34 to 41 years with a total percentage of 23.3%. This is an indication that the majority of these people who work in the sachet and bottled water companies selected are people in their youthful age (that is 18 to 33 years). The study found the majority of the respondents to have Diploma / HND (61.3%). 34.7% of them have Junior/Senior High school contributing to 52 out of 150 respondents and the remaining have a vocational qualification (4.0%). It is likely the majority of the respondents with Diploma/HND contributes to the majority of the respondents who fall with the age of 26 to 33 years.

4.2. Reliability

All the five constructs (variables) exceeded the conventional acceptable value of 0.7, hence the construct is said to be reliable. Workplace environment had an alpha of (0.853), safety factor (α =0.879), employees welfare (α =0.953), specific hazard (α =0.878), job stress (α =0.783) and employee's commitment (α =0.909) indicating clear reliability for regression analysis.

Table-1. Reliability of constructs.

Factors/Constructs	Cronbach (a)	Number of Items
Workplace/Environment	0.853	5
Safety factor	0.879	6
Employees Welfare	0.953	5
Specific Hazard	0.878	3
Job Stress	0.783	5
Employee's Commitment	0.909	5

4.3. Multiple Regression

To evaluate the relationship between employee commitment and predictor variables, multiple regression was used. This was done to remove the independent variables, which can describe the dependent variable better. In other words, investigating the significant variables which have an effect or influence commitment towards their job. Employees commitment has been used as the dependent variable whereas independent variables have been defined by workplace environment, safety factor, employee's welfare, specific hazard and job stress. This was performed to test five hypotheses to see how it affects employees' commitment in the sachet/bottle water industry.

Table-2. Regression outcome.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.809^{a}	0.654	0.642	0.59801174

Note: a. Predictors: (Constant), Job Stress, Workplace/Environment, Employees Welfare, Specific Hazard, Safety Factor b. Dependent Variable: Employees Commitment.

Table 2 shows the overview model of the regression analysis. The correction coefficient had been calculated to be 0.809. It shows a strong connection between the various constructs. This shows a strong relationship between the constructs. The adjusted or Modified R Square value is also 0.642, indicating that Job Stress, Workplace Environment, Employees welfare, Specific Hazard and Safety Factor will predict 64% of the variance in employee engagement.

4.3.1. ANOVA Summary

The ANOVA Table 3 below also presents the result of the constructs. F-value of 54.529, with P-Value < 0.05 indicate the significance of the model. Which implies that the combination of all the independents construct can significantly predict the dependent variable.

Table-3. Anova Results.

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	97.503	5	19.501	54.529	0.000^{a}
	Residual	51.497	144	0.358		
	Total	149	149			

Note: a Predictors: (Constant), Job Stress, Workplace Environment, Employees Welfare, Specific Hazard, Safety Factor B Dependent Variable: Employees Commitment 95% confidence interval ($\alpha = 0.05$).

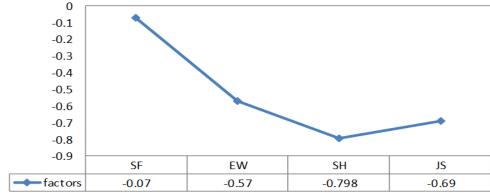
Table-4. Regression coefficient.

	Model	В	Std. Error	t	Sig. (P-Value)
1	(Constant)	-0.134	0.049	0.000	0.167
	Workplace/Environment	0.016	0.254	0.294	0.129
	Safety Factor	-0.070	0.014	2.903	0.015*
	Employees Welfare	-0.570	0.051	3.029	0.005*
	Specific Hazard	-0.798	0.101	5.674	0.000*
	Job Stress	-0.690	0.100	1.958	0.009*

Note: 95% confidence interval ($\alpha = 0.05$), * significant at $\alpha = 0.05$.

Table 4 shows the result of the multiple regression analysis of the various coefficients. From the table, it is seen that the P-value of constructs (factors): Safety Factor, Employees Welfare, Specific Hazard and Job Stress were found to be statistically significant. This is because the P-values are less than 0.05. This means that Safety Factor, Employees Welfare, Specific Hazard and Job Stress have a significant impact on the employees work commitment. However, the coefficients of these variables were found to be negative. This is an indication that the constructs have a negative impact on the dependent variables. That is, Safety Factor, Employees Welfare, Specific Hazard and Job Stress have a negative impact on employees' commitment to their job. Workplace/Environment was seen to be statically insignificant. This is also an indication that the construct was not able to predict employees' commitment toward a job. However, upon comparing the factors; it was found out that some of them have a strong negative impact on employees' commitment compared to the others. It is seen from the Table 4 above that the coefficient of specific Hazard has the highest negative value -0.798, the next highest is job stress with a value of -0.69, third-highest is employee's welfare with a value of -0.570 and the last is safety factor with a value of -0.070. Figure 2 below gives the graphical representation of the factors.

Line Chart Showing the Rank of the Most Influencial Factors



 $\begin{tabular}{lll} Figure-2. Factors comparison. \\ Note: SF = Safety Factors & EW= Employees welfare & SH= Specific Hazard & JS= Job Stress. \\ \end{tabular}$

5. DISCUSSION

One of the key objectives of the study was to investigate how health and safety factors can influence employees' commitment to the sachet/bottled water industry. This objective was achieved by measuring health and safety construct (factors). The construct consists of employees' welfare, specific hazard, job stress, workplace environment and safety factors. Each of these variables was used to measure employees' commitment based on health and safety. This research has verified that the measurement of health and safety factors can predict employees' commitment toward their work. Therefore, top managements of sachet/bottled water in Ghana, while designing strategies should pay much attention of the health and safety issues of their workers by considering variables like employees' welfare, specific hazard, job stress, workplace environment and safety factors which will help them to retain competent and loyal employees. The findings revealed that health and safety factors like employees' welfare, specific hazard, job stress and safety factors were seen to predict employees' commitment towards their job. These factors were seen to have a negative influence on employees' commitment. This is an indication that respondents are not pleased with the safety factors in the company, the kind of stress they experience, the chemicals used in the environment and their welfare. These findings support the previous work of Shea et al. (2016); McCaughey et al. (2013) and Mutambudzi, Theorell, and Li (2019).

The findings support the previous works of Sin, Tsiper, and Soos (2002) and Rotter (1971). In addition to these findings, the companies need to improve on these constructs very carefully to gain more advantage and become superior over their competitors. The sachet/bottled water company may gain a competitive advantage if they give much attention to these constructs. However, an unexpected finding of the study is that the workplace environment was seen as an insignificant construct to predict employees' commitments. This is an indication that workers are already comfortable with their working environment and it has no influence towards the work. Moreover, the work environment usually should satisfy the physical and mental requirements of the people who work within. This finding is also seen in the work of Uraon and Raya (2017). It was found in the study that four out of five constructs were seen to be statistically significant and had a negative impact on employees' commitment. This consists of employees' welfare, specific hazard, job stress and safety factors. Further analysis was carried out to determine which of these constructs are most influential. From the findings, specific hazard was seen to be the most influential factor that can have a very high negative effect on employees. Many work environments contain sources of hazardous substances which may cause exposure by inhalation, dermal absorption, splashing into eyes and many more.

These forms of hazards are likely to affect employees' commitment to their work and as well as affect their work performance. Findings of such support the work of McCaughey et al. (2013). The second negative influential construct was job stress. Job stress is a widespread concern across all employment sectors and occupational levels. Workers who perceive a high level of stress have poor coping responses and lack of job satisfaction, which often erode commitment to the organization and lead to higher turnover. As job stress has been seen as a crucial factor to affect employees work commitment, management of the companies. Employers must take note that high employee work-time control predicts good subjective health and less sickness absence, which then reduced employees' stress. This also supports the past study of Mutambudzi et al. (2019). Next was the employees' welfare, which was also seen to have a negative influence. This construct is seen as the third construct which affects employees' commitment. To reduce dangers in the workplace and ensure that employees are working in a healthy and safe environment, it is essential the sachet/bottled water companies develop appropriate welfare policies and ensures its implementation. Effectively implementation of welfare policy will increase employees' morale to put in their best. Lastly, the safety factor was seen to be the least negatively influential factor. Maintenance, good repairs and breakages are factors that can influence employees' retention. Good maintenance is essential to the success of any manufacturing or processing operation. Lack of maintenance or inadequate maintenance can lead to dangerous situations, accidents and health problems.

5.1. Conclusion and Recommendation

Health and safety are primary facets of employee welfare, which at times have been defined separately as essential areas of welfare provision. Today, workers expect their employers to provide clean, stable and balanced work environments. Nowadays, businesses place more emphasis on workers to offer their best and help the business survive. The bottled and sachet water company is incorporating promotion of customer relationships to attract and retain customers, and to gain competitive advantage. Most of these marketing works are being done by the employees. Building and sustaining a solid, consistent, trustworthy relationship takes a lifetime but it just requires moments to break it down. Improving the employees' health and safety towards their work provides the willingness to work hard. It is high time to rectify all the problems and minimize the gap as much as possible. Factors like "specific hazard" and job stress were seen to have a strong negative influence on employees' commitment. Employers should provide safety measures, tools or equipment on these factors to protect their employees.

5.2. Direction For Future Research

The study highlights the limitations of the Bottled and Sachet water company in health and safety practices and identifies approaches to address these issues. The work will contribute to academic awareness about the packaged water industry as there is little industry documentation. The results will assist the Government's policy on quality control regulations in the packaged water company. In the background of Ghanaian bottled and sachet water industry (packaged water industry) this study also opens some potential avenues for future studies. Consequently, more work will concentrate on the following questions:

- the research used only five selected sachet/bottled water company. Findings of these companies cannot
 be generalized as a whole for all the other companies. The sample size of the research can be increased
 to include other sachets/bottled water companies to get rigour understanding of the various health and
 safety practices.
- the research approach was quantitative were the researcher distant himself from the respondents. Questionnaires were closed-ended where respondents were limited to select specific answers. This did not give a chance to the respondents to share their views and give an in-depth explanation to the questions asked. Other researchers can also employ a mix method approach (both quantitative and qualitative) in other to provide much explanation and get the participants involved in the research work.
- the research relied on five selected factors from different literature to form the conceptual model use in the study. This model can be applied to different manufacturing industry to investigate which of those factors predict workers' commitment as well as investigating the most influential factors.

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