

Employee Perception of the Impact of Occupational Health and Safety Management on Organisational Commitment: A Case Study of an Energy Sector Organisation in Trinidad and Tobago

Ruel L.A. Ellis ^{a,Ψ}, and Kareem D. Gordon ^b

^aDepartment of Mechanical and Manufacturing Engineering, The University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies; E-mail: Ruel.Ellis@sta.uwi.edu;

^bFaculty of Science and Technology, The University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies; E-mail: Kareem.Gordon@my.uwi.edu

^Ψ Corresponding Author

(Received 13 December 2017; Revised 20 November 2018; Accepted 14 January 2019)

Abstract: Occupational Health and Safety (OHS) is one dimension of the work environment which can impact employee commitment to organisations. A poor work environment can lead to high attrition rates, employee unrest and disruption in production. A cross-sectional case study was conducted using 31 non-managerial employees identified in the Petroleum Sector in Trinidad and Tobago. Data was collected using a virtual snowball sampling technique, utilising an online questionnaire which combined the Survey of Perceived Organisational Support (SPOS) and the Organisational Commitment Questionnaire (OCQ). The data was then analysed using Spearman's Correlation. Findings revealed that employee perception of managerial OHS support practices had a significant and positive correlation with affective commitment ($r_s(22) = 0.4, p = 0.03$). This indicates that managerial OHS support would have an impact on employees wanting to remain employed in the organisation. It was concluded that the prioritisation of occupational health and safety in the workplace facilitates employees' organisational commitment. It is therefore critical to recognise that the workers, who perceive that their health and safety are given sufficient consideration by management, will demonstrate strong emotional attachment and therefore commit to the organisation.

Keywords: Employee Perception, Occupational Health and Safety Management, Organisational Commitment

1. Introduction

There is a growing trend in Trinidad and Tobago where managers continue to neglect local occupational, health and safety standards resulting in their employees engaging in various protest actions. The Prisons Officers' Association filed a complaint in the Industrial Court citing Occupational Health and Safety (OHS) infractions including a lack of emergency/evacuation plans being put in place for prison officers as it relates to dealing with fires and riots, poor ventilation and toilet facilities along with the lack of firefighting equipment and inadequate lighting. Another breach was the increasing overcrowding of prison cells at the remand yard of the Golden Grove Prison Arouca and these were cited as issues that were being overlooked by the relevant government authorities (POA versus State, 2015) Similarly, Trinidad Offshore Fabricators (TOFCO) workers launched a protest outside the main gate of the TOFCO compound at the Labidco Industrial Estate, citing serious health and safety issues that were being ignored by the company (Dowlal, 2016).

After three years of complaints from employees about health and safety concerns, the offices of three (3) departments of government were shown, by the court, to be unfit for office use and were shut down. Among the hazards listed were no proper fire escape, air pollutants,

unsafe and badly functioning escalators. The workers of the Water and Sewage Authority (WASA) together with the Public Services Association President (PSA), shut down the authority's water treatment plants causing a temporary disruption to the water supply in North and East Trinidad as part of a protest action as a result of management's failure to comply with OHS standards as it related to worker safety (Asson, 2016).

Furthermore, it is important to note that the Water and Sewage authority had previously come under criticism for ignoring similar OHS standards in 2010, when workers complained that they were not given adequate accommodations, personal protective equipment and sufficient security when assigned to high crime areas, in which they were subject to attacks by residents of said areas. Such events prompt further investigation into how management's performance in maintaining OHS standards may affect employees' commitment to their companies.

The preceding paragraphs provide an indication of the impact of OHS practices on organisations. This paper reports a study that investigated the relationships between employee perception of OHS support practices of a local oil company and their levels of *Affective*, *Continuance* and *Normative* to the organisation. The specific objectives of the study were to identify the

perception of the employees on the managerial OHS support practices and to determine the type of commitment which is to be expected by the organisation based on the level of OHS support that the management gives to the employees.

This paper explores the literature to identify the variables which affect employee commitment to their employers. The methodology utilised in conducting the research is then described, followed by a summary and discussion of the data collected via a survey of the Energy Company. The paper is then concluded by the cataloging of inferences gleaned from the literature based on the findings of the survey.

2. Literature Review

Renowned lawyer in the field of labour and employment law, Bill Phelps, posits that it is irresponsible for employers to disregard the importance of worker health and safety complaints. This can be a precursor for incidents of serious destruction and avoidable calamity. Within the employment setting, such indifference can lead to lost productivity from aggrieved workers or peaceful or even violent strikes. He further suggests that employers who have access to feedback on the matter from their employees, but fail to implement corrective procedures, have missed a tremendous opportunity to avoid catastrophe and to show to his/her employees that he/she cares about their wellbeing (Van Eeden, 2016).

If employees' concerns for safety are ignored, eventually the employees will stop reporting safety issues which will eventually lead to a catastrophic incident. The social exchange theory kicks in, as employees who feel cared for and respected, will continue to care for their place of employment.

2.1 Social Exchange Theory

Historically, the motivation behind the attitudes and behaviours exchanged between human beings has been explained, in detail, by the Social Exchange Theory. Eisenberger et al. (1986, 1990) expounded on this theory by providing evidence which revealed that the perspective of social exchange and what is described as "the norm of reciprocity" that also assisted in explaining aspects of the relationship between the organisation and its employees. Based on their research, it was concluded that employees formed ubiquitous perceptions about the intentions and attitudes of the organisation in which they worked toward them. And these perceptions were based on the various policies and procedures enacted by agents of the organisation e.g. managers and supervisors.

The tendency for employees to personify the organisation led to the theory of social exchange being applied to the relationship between the personified organisation and its employees. With continued investigation into this situation, researchers were then able to precisely predict that positive actions aimed at employees, by the company, significantly contributed to

the emergence of high quality exchange relationships that created opportunities for employees to reciprocate in positive and beneficial work behaviour.

Moreover, the social exchange theory revealed that employees' level of commitment and their performance as it relates to the execution of their work which was hinged on the degree to which they perceived that they were reaping the rewards of the company's activities. This condition has been highlighted as perceived organisational support and is the condition where employees' perception of the extent to which the company shows appreciation for worker contributions, shows genuine care about their well-being, and employees' feeling that the positive initiatives being performed by the company, have been voluntarily performed by the organisation.

This means that organisational support represents a situation where the company's core values and care for the overall well-being of employees are evidenced by such qualities that significantly reduce worker unhappiness. Hence, it was ultimately determined that "perceived" rather than "provided" organisational support altered the attitudes of employees towards the work and also, the company itself.

2.2 Managerial OHS Support Practices

Investments that catered for health practices based on the social exchange theory and the principle of reciprocity lead to an increase in employee health and well-being, which then lead to an increase in employees' attraction and commitment to the organisation. Perception, as defined by Turunc and Celik (2010) is the process of reception, interpretation and organisation of information emerging from the surrounding environment towards the individual. They further highlighted that perception should be created in a positive way, to make certain employees perform their duties in a way that benefits and/or favors the organisation.

Amponsah-Tawiah and Dartey-Baah (2011) posited that OHS characterised not only the physical well-being of the employee but also the emotional and mental prosperity of the worker as well as pertaining to the performance of his/her work. Therefore, occupational health and safety highlights an essential topic of interest, as it has the potential to impact positively on the achievement of organisational goals. Brown (1996) and Pagell et al. (2013) made a critical point that occupational health and safety should be given more emphasis in the workplace, by management, in conjunction with cost, flexibility, innovation, quality and delivery. Many governments of contemporary society have made it mandatory (usually in the form of an OHS Act) that employers implement some sort of OHS management system in their organisation. Also globally, the majority of workers demand the latter as a basic human right.

OHS has been recognised as an area of significant importance, and it has been given increased attention at both the national and international levels. At the organisational level, occupational health and safety cannot be taken for granted. The entire organisation, not just the safety units, must actively take part in ensuring the health and safety of every worker employed at the establishment. In order to achieve operational success, operational literature suggested that instead of managers giving OHS more attention over production, they should use OHS as a precursor. Hayes et al. (1998) suggested that site and job safety, co-worker safety practices, managerial safety commitment, supervisor safety practices, and safety programs/policies, are examples of important issues in the workplace. Safety can be a very complex and dynamic problem not just for management, but for society at large. Steenkamp and Van Schoor (2002) emphasise that OHS must be given ample attention especially by top management.

When it comes to critical aspects of safety interventions, management commitment has an imperative role. When managers show that they have both positive and supportive attitudes towards the safety of their employees this demonstrates that they are committed to the health and safety initiatives set forth by the company's health and safety policy. Yule et al., (2007) revealed that when employees believed that management took diligent action in ensuring their overall health and safety, the amount of accidents occurring in the workplace decreased significantly. Ali et al., (2009) added further to this point and stated that when managers exhibited positive safety practices, it plays an effective role in reducing workplace accidents and injuries.

Supervisors are considered to be one of the most important elements when it comes to health and safety management; usually because it is their responsibility to ensure compliance with safety measures and encourage safety participation among employees. Yule et al. (2007) observed that workers abided by the safety regulations and procedures when they believed that their supervisors' actions were not only fair, but in accordance with the company's OHS policy. Supervisors' safety practices were outlined as the following activities:

- Supervisors keeping track of unsafe practices
- Supervisors acknowledging employees who adopted safe work practices.

In management studies, organisational commitment has been intensively researched. Organisational commitment has been linked to organisational citizenship behaviour as well as work aversion behaviours such as absenteeism and employee turnover Banai et al. (2004). For many years this particular field of study has preoccupied the interest of many researchers. Organisational commitment has been significantly correlated with increased worker endeavor, decreased absenteeism and turnover, higher job satisfaction and increased employment in various

organisations. As such, many scholars have shown increased interest in this topic over the years (Morrow, 2011).

Organisational commitment has been defined in a multitude of ways, but the underlying principle remains the same with each definition. Values (2003) defined organisational commitment as "the condition that occurs when a worker identifies with his/her place of employment and its goals, and desires to preserve membership in that organisation, strictly based on genuine interest and association with the company's values and goals". Cohen (2003) defined commitment as a strong force that binds a person to a plan of action that is relevant and pertinent to one or more targets.

2.3 The Three-Component Framework of Organisational Commitment

Since the term organisational commitment was coined, it has been primarily measured as a universal construct. Meyer and Allen (1991) in their three-component model, identified three forms of organisational commitment namely affective, continuance and normative commitment.

Affective commitment was defined as the psychological state characterised by the employee's identification with, attachment to, and involvement in the organisation, as well as enjoyment of being a part of the organisation. When employees experience strong affective commitment they continue employment in the organisation because they *want* to do so. Continuance commitment refers to the condition where the worker is aware of the costs associated with leaving the company. What this means is that employees whose main link to the company is based on continuance commitment, continue employment in said company because they feel as though they *need* to do so. Finally, normative commitment has been defined as the psychological state where the employee feels obligated to continue employment in a company i.e. employees experiencing high levels of normative commitment feel as though they *ought* to remain with the company. One interesting commonality among these three approaches is that commitment is considered to be a psychological condition that defines the worker's relationship with the organisation, and has the potential to influence the employee's decision to either stay with or leave the company. However, it is important to understand that beyond this commonality the nature of each psychological state is unique.

Meyer and Allen (1991) argued however, that it is more appropriate to study affective, continuance and normative commitment as components, rather than as types of commitment. To them, the latter implied that the psychological states representing these three commitment states are mutually exclusive, when in reality, it is not that straightforward. Meyer and Allen (1991) also proposed that it is more acceptable to expect

that employees have the tendency to experience all three forms of commitment to varying degrees, at the same time. They provided the following examples: one employee might feel both a strong desire and a strong need to remain, but feel little obligation to do so; while another might feel little desire, a moderate need, and a strong obligation, and so forth. They also outlined that a critical implication for analysing commitment in this way, is that the various components of commitment might be expected to work together in influencing employee behaviours.

3. Methodology

3.1 Delimitations of this Study

In this study, data was not collected directly from upper, middle or lower level management representatives. Instead, data was collected from temporary and permanent non-management staff. The study did not examine managerial performance overall, but rather it relates specifically to health and safety. This study did not focus on managerial performance and its effects on overall employee job satisfaction.

3.2 Data Collection

Data was collected in one specific company, as a case study. A quantitative approach, in the form of an experiment to collect data, was not utilised. Rather, a quantitative approach via a cross-sectional survey, with questionnaires containing rating scale questions was used.

Data was collected via an online questionnaire adapted from the Survey of Perceived Organisational Support (SPOS) and the Organisational Commitment Questionnaire (OCQ). Some questions were modified slightly (in terms of the language) in the SPOS scale only, in an effort to capture the variables needed. In no way were the questions modified to elicit a specific or biased response from the participant.

3.2.1 The Survey of Perceived Organisational Support

The Survey of Perceived Organisational Support (SPOS) was designed with 32 items. However, after extensive redesigns more recent versions have demonstrated adequate psychometric properties using 8 or as few as 3 items. Respondents are asked to indicate the extent to which they agree with the following statements on a seven-point Likert scale (1= *Strongly Disagree*, 7= *Strongly Agree*). By using specific facets in the survey for example “Health and Safety”, respondents are able to provide specific answers about problems that may be unknown to employers.

3.2.2 The Organisational Commitment Questionnaire

The Organisational Commitment Questionnaire (OCQ) was used to measure the three components of organisational commitment, which are affective,

continuance and normative commitment. In total the OCQ had 24 items, and it was answered on a seven-point Likert scale ranging from 1 (“Strongly disagree”) to 7 (“Strongly agree”).

3.3 Sample Size

The sample units consisted of non-managerial staff members, specifically working in that particular petroleum marketing company only. Using Survey System’s Sample Size Calculator it was determined that with the sample size using a confidence level of 95%, a confidence interval of 20 and an unknown population size, this resulted in the sample size being at least 24 participants. However, we were able to successfully obtain 31 non-managerial staff responses from the period 13th March to 24th March 2017, thus improving the level of confidence to 98%.

3.4 Quality Control Procedures

Online questionnaires were administered. The responses that were subjected to pre-analysis in MS excel to correct for any possible errors. This was done to ensure good dataset quality before transference into SPSS. Item #5 in the survey was used as a tool to specify whether the respondents were managerial or non-managerial staff. This was included in the survey to ensure that the target sample was being captured. Items 11, 12 and 13 in the survey were reversely coded in the original scale and therefore were also reversely coded in the modified scale.

3.5 Instrumentation and Reliability Analysis

A Cronbach’s alpha “ α ” analysis was conducted to measure the internal consistency (reliability) of each research scale since each scale was slightly modified to capture the relevant variables. Due to the ordinal and Likert type nature of the data one could not use parametric techniques in the analysis. Therefore, the Spearman’s Rank-Order Correlation was utilised.

Worley et al. (2009) reported a Cronbach’s alpha for the eight item version as $\alpha = 0.93$, with item-total correlations ranging from 0.70 to 0.84. Meyer and Allen (1991) reported Cronbach α reliabilities of 0.74 for the affective commitment dimension, 0.84 for the continuance commitment dimension, and 0.74 for the normative commitment dimension.

Employees’ perception of managerial OHS performance was measured using the 8-item (answered on a 7-point Likert scale) Survey of Perceived Organisational Support (SPOS). After accounting for the reversely-worded items, this scale had a high level of internal consistency as determined by a Cronbach’s alpha (α) coefficient of 0.80.

Meyer and Allen’s questionnaire on Organisational Commitment was used to measure employee commitment. This measured the three dimensions of organisational commitment: Affective commitment,

normative commitment, and continuance commitment. The OCQ has a total of 24 items, and is answered on a seven-point Likert scale ranging from 1 (“Strongly disagree”) to 7 (“Strongly agree”). The affective commitment dimension reported a Cronbach’s alpha of 0.91. The continuance commitment dimension reported a Cronbach’s alpha of 0.91. The normative commitment dimension reported a Cronbach’s alpha of 0.88. Each organisational commitment subscale demonstrated very high levels of internal consistency.

It is critical to have the demographic characteristics of respondents. Table 1 provides the background statistical information of the respondents.

Table 1. Distribution of respondents’ demographic characteristics

Variable	Characteristics	Frequency	Percentage
Sex	Male	18	58
	Female	13	42
Age Group (y)	15-24	1	3
	25-34	13	42
	35-44	9	29
	45-54	8	26
Tenure (y)	1-6	9	29
	7-12	14	45
	13-18	4	13
	19-24	4	13
Job Status	Temporary/Contract	7	23
	Permanent	24	77

3.6 Assumptions of Spearman’s Rank-Order Correlation

The use of Spearman’s Rank Order Correlation requires that before using this test, the study design and data met three specific assumptions. These assumptions were as follows:

Assumptions about the study design:

- (a) There are two continuous or ordinal variables; and
- (b) These two variables represented paired observations.

Assumption about the data:

The third assumption involved using SPSS Statistics to determine whether there was a monotonic relationship between these variables; in this case, a monotonic relationship between "perception" and "affective commitment," "perception" and "continuance commitment" and finally "perception" and "normative commitment".

Before testing for a monotonic relationship, it was necessary to compute the total score for each participant in each of the measurement scales i.e. the SPOS, Affective, Continuance and Normative Commitment scales. This was done by transforming the data in SPSS using the following formulas: $PQ1 + PQ2 + PQ3 + PQ4 + PQ5 + PQ6R + PQ7R + PQ8R$ (*R = reversed coded item*), $ACQ1 + ACQ2 + ACQ3 + ACQ4 + ACQ5 + ACQ6 + ACQ7 + ACQ8$, $CCQ1 + CCQ2 + CCQ3 + CCQ4 + CCQ5 + CCQ6 + CCQ7 + CCQ8$, and finally,

$$NCQ1 + NCQ2 + NCQ3 + NCQ4 + NCQ5 + NCQ6 + NCQ7 + NCQ8.$$

Table 2. Variables included in analysis

Independent Variables		Dependent Variables
Perception of managers conducting building inspections.		Affective Commitment
Perception of managers providing Health and Safety training.		Continuance Commitment
Perception of managers providing PPE and ensuring its usage.		Normative Commitment
Perception of managers investigating workplace accidents and injuries.		
Perception of managers providing feedback on OHS complaints		
Sex	Male	
	Female	
Age (y)	15-24; 25-34	
	35-44; 45-54	
Tenure (y)	1-6; 7-12	
	13-18; 19-24	

3.7 Test for Normality

As a precautionary measure, the normality of the transformed dependent variables was assessed by conducting the Shapiro-Wilk test. The results of the test proved that the data were normally distributed $p > 0.05$ and therefore, no further transformations were necessary.

4. Results

A scatterplot was done in SPSS and inspected to determine whether there was sufficient evidence to suggest a monotonic relationship existed between the variables. Upon a visual inspection of the following scatterplots it can be concluded that there is a monotonic (but non-linear) relationship between employee perception and affective commitment, employee perception and continuance commitment and finally employee perception and normative commitment, as the scatterplots illustrate that the relationship between employee perception and affective commitment is positive (see Figure 1), the relationship between employee perception and continuance commitment is negative (see Figure 2), and the relationship between employee perception and normative commitment is positive (see Figure 3).

The Spearman’s correlation confirmed that there was a moderately positive correlation between employee perception of managerial OHS support practices and affective commitment. Therefore, we can infer that as employees have positive perceptions/beliefs as it relates to their managers’ Health and Safety performance on the job, their emotional attachment and identification with their organisation became stronger. Even though the sample populations differed, the results of this study can still be compared to the work done by Amponsah-

Tawiah and Mensah (2016), who also found a positive relationship between occupational health and safety management and affective commitment. It can therefore be concluded that there is a significant relationship between employees' perception of managerial OHS support practices and affective commitment.

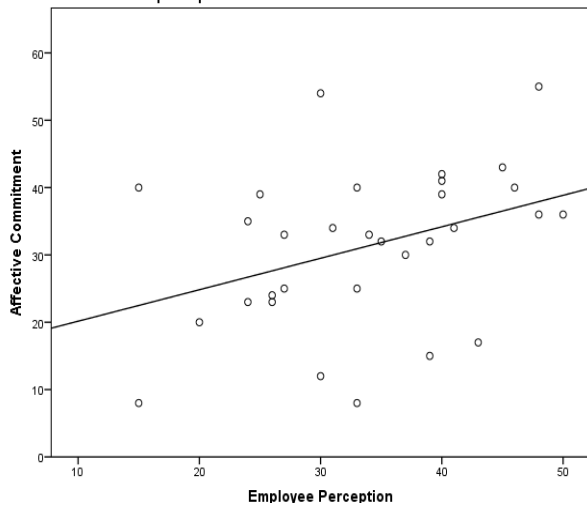


Figure 1: Monotonic Relation between Employee Perception and Affective Commitment

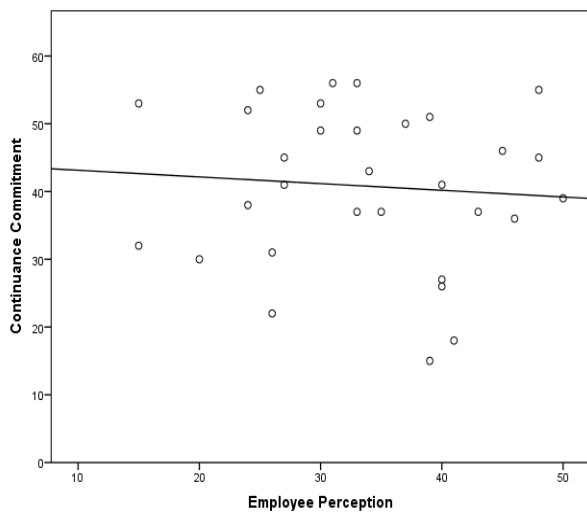


Figure 2: Relationship between Employee Perception and Continuance Commitment

The finding indicates that employee perception of the managerial OHS support is a determinant in the employee wanting to remain with the organisation. Employee perception of managerial OHS support does not influence their belief that they have to stay with the organisation. This result is not consistent with the study by Amponsah-Tawiah and Mensah (2016) in which a positive relationship was also found between occupational health and safety management and continuance commitment. They interpreted their findings

as; where employees perceived the health and safety management in the organisation to be appropriate and adequate, they were more likely to have a continuing relationship with the organisation knowing that their health and safety was secured in the company.

However, the interpretation of the results of the current study was different based on how continuance commitment was operationally defined in this study. Therefore, as employees believed that their managers performed favorably as it related to OHS support practices, their need to continue employment in said organisation based on the perceived costs associated with leaving decreased. This indicates that employee perception of managerial OHS support has an influence on employee belief that they ought to remain in the employ of the organisation.

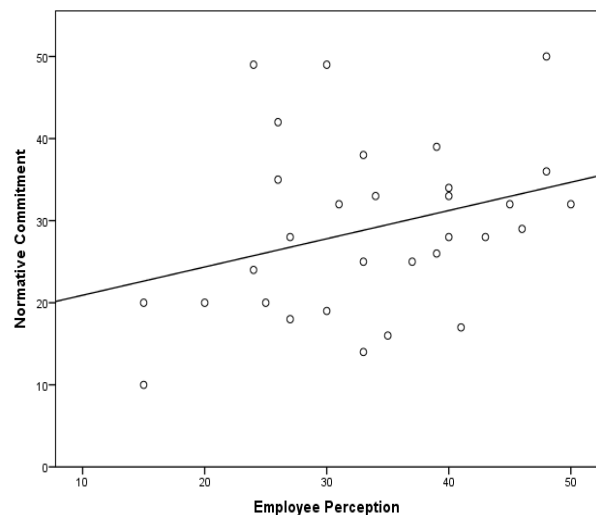


Figure 3: Monotonic Relationship between Employee Perception and Normative Commitment

The results further illustrated that there was a weak positive correlation between employee perception of managerial OHS support practices and normative commitment. Hence, as employees have positive perceptions/beliefs as it relates to their managers' Health and Safety performance in their workplace, the more they felt obligated and loyal to their company.

This finding corroborates the results of the study conducted by Eisenberger et al. (1990) to some degree, in which they concluded that when employees felt that the organisation was in support of their best interests e.g. improving their health and safety at work, employees developed a sense of loyalty towards the organisation.

In the study by Amponsah-Tawiah and Mensah (2016) the positive relationship between occupational health and safety management and affective commitment was moderate. In this study, the positive relationship was considered weak. This finding was not statistically significant which indicates that there is no significant

relationship between employees' perception of managerial OHS support practices and normative commitment. It is speculated that the current weak economy with increasing unemployment may have a more statistically significant impact on the continuance and normative commitment constructs. In stronger economies employees may not perceive that they ought to remain on a job if their health and safety are at risk.

These findings from this study gave credence to the various theories on reciprocity, specifically the social exchange theory, which proposed that social behaviour is the result of an exchange process, the purpose of which is to maximise benefits and minimise costs.

5. Conclusion

The impact of OHS issues on the effective operations of state organisations has been significant as reported in the press. The literature provides a 'moral impetus' for employers and management of organisations to ensure that there is no loss of productivity or cessation of work due to union action. This is predicated on a basis of social exchange where employees commit to their places of employment based on their levels perception towards the management and by extension the organisation.

This study identified that at a 98% level of significance, in a local oil company that there is a weak negative correlation between employee perception of managerial OHS support practices and continuance commitment. This indicates that managerial OHS support practices do not make employees feel that they *have* to remain in the organisation. The study also confirms a positive correlation between employee perception of managerial OHS support practices and affective commitment. This implies that managerial OHS support would make the employees *want* to remain in the employ of the organisation. Also revealed was a weak positive correlation between employee perception of managerial OHS support practices and normative perception. This is an indication that employees *ought* to remain in the employ of the organisation.

It can therefore be concluded that for organisations wishing to retain their employees then their implementation, and commitment to OHS support imperative should be given some priority. In the present economy where jobs are difficult to come by and there is an increasing rate of unemployment, the continuance commitment of employees may have been more motivated by this factor, than by their perception of managerial OHS support. However, this study focused on the employee perception of managerial OHS support. The factor may need further investigation to confirm.

References:

Ali, H., Abdullah, N., and Subr, C. (2009), "Management practice in safety culture and its influence on workplace injury an industrial study in Malaysia", *Disaster Prevention and Management*, Vol.18, pp.470e7.

- Amponsah-Tawiah, K. and Dartey-Baah, K. (2011), "Occupational health and safety: Key issues and concerns in Ghana", *International Journal of Business and Social Science*, Vol.2, pp.119-126.
- Amponsah-Tawiah, K., and Mensah, J. (2016), "Occupational health and safety and organisational commitment: Evidence from the Ghanaian mining industry", *Safety and Health at Work*, Vol.7, No.3, pp.225-230. doi:10.1016/j.shaw.2016.01.002.
- Asson, C. (2010), "WASA (South) workers protest", *Trinidad and Tobago's Newsday*, October 27, Available at: <http://www.newsday.co.tt/news/0,129813.html>. Accessed October 25, 2016.
- Banai, M., Reisel, W. D., and Probst, T. M. (2004), "A managerial and personal control model: Predictions of work alienation and organisational commitment in Hungary", *Journal of International Management*, Vol.10, pp.375-392.
- Brown, K.A. (1996), "Workplace safety: A call for research", *Journal of Operations Management*, Vol.14, pp.157-171.
- Cohen, A. (2003), "Organisational commitment and turnover: A meta-analysis", *Academy of Management Journal*, Vol.36, pp.1140e57.
- Dowlal, R. (2016), "T&T water supply under threat", *The Trinidad Guardian Newspaper*, September 22, available at: <http://www.guardian.co.tt/news/2016-09-22/tt-water-supply-under-threat>. Accessed October 25, 2016.
- Eisenberger, R., Fasolo, P., and Davis-LaMastro, V. (1990), "Perceived organisational support and employee diligence, commitment, and innovation", *Journal of Applied Psychology*, Vol.75, No.1, pp.51-59. doi:10.1037//0021-9010.75.1.51.
- Eisenberger, R., Huntington, R., Hutchison, S., and Sowa, D. (1986), "Perceived organisational support", *Journal of Applied Psychology*, Vol.71, No.3, pp.500-507, doi:10.1037//0021-9010.71.3.500.
- Hayes, B.E., Perander, J., Smecko, T., and Trask, J. (1998), "Measuring perceptions of workplace safety: Development and validation of the work safety scale", *Journal of Safety Research*, Vol.29, pp.145e61.
- Meyer, J.P., and Allen, N.J. (1991), "A three-component conceptualisation of organisational commitment", *Human Resource Management Review*, Vol.1, No.1, pp.61-89. doi:10.1016/1053-4822(91)90011-z.
- Morrow, P.C. (2011), "Managing organisational commitment: Insights from longitudinal research", *Journal of Vocational Behaviour*, Vol.79, pp.18-35. <http://dx.doi.org/10.1016/j.jvb.2010.12.008>.
- Pagell, M., Johnston, D., Veltri, A., Klassen, R., and Biehl, M. (2013), "Is safe production anoxymoron", *Production and Operations Management*, Vol.23, No.7, pp.1161-1175. <http://dx.doi.org/10.1111/poms.12100>.
- Pourghaz, A., Tamini, K.B. and Karamad, A. (2011), "Do demographic characteristics make a difference to job satisfaction, organisational commitment and burnout among travel agency drivers? (A case study in Iran)", *Journal of Basic and Applied Scientific Research*, Vol.1, pp. 916-923.
- Steenkamp, R., and Van Schoor, A. (2002), *The Quest for Quality of Work Life: A TQM Approach*, Juta, Cape Town (South Africa)
- Turunç, Ö., and Çelik, M. (2010), "The effect of perceived organisational support and work stress on organisational identification and job performance", *Journal of Management and Economics*, Celal Bayar University, The Faculty of Economic and Administrative Sciences, Vol.17, No.2, pp.183-206.
- Values, M.K. (2003), "Attitudes and job satisfaction", In: Robbins, S.P., Odendaal, A., and Roodt, G, (Ed.), *Organisational Behaviour: Global and Southern African Perspectives*, Pearson Education, Cape Town (South Africa)
- Van Eeden, P. (2016), "Ultimate responsibility for maintenance of Health and Safety", LinkedIn. Accessed December 19, 2016.

<https://www.linkedin.com/pulse/ultimate-responsibility-maintenance-health-safety-pieter-van-eeden>.

Worley, J.A., Fuqua, D.R., and Hellman, C.M. (2009), "The survey of perceived organisational support: Which measure should we use?" *SA Journal of Industrial Psychology*, Vol.35, No.1, doi:10.4102/sajip.v35i1.754.

Yule, S., Flin, R., and Murdy, A. (2007), "The role of management and safety climate in preventing risk-taking at work", *International Journal of Risk Assessment and Management*, Vol.7, No.2, pp.137, doi:10.1504/ijram.2007.011727.

Authors' Biographical Notes:

Ruel L.A. Ellis is a lecturer in the Department of Mechanical and Manufacturing Engineering at The University of the West Indies (UWI), St. Augustine in the following courses: Simulation, Project Management, Production/Operations Management, Database Design. He is the Coordinator of the MSc Project Management Programme and also delivers the Project Management Information Systems course. Additionally, he supervises projects in the MSc, Occupational Environmental Safety and Health in the Faculty of Science and Technology. Dr. Ellis is also the current chairman of the IEEEET (Institute of Electronic and Electronic Engineers,

Trinidad and Tobago) Education Society, and is current Chairman of the Board of Directors for the Society of Caribbean Industrial Engineers.

Kareem D. Gordon is an Occupational Environmental Safety and Health Specialist in the Coastal Protection Unit, Ministry of Works and Transport; where he is responsible for overseeing the environmental health and safety aspects of shoreline stabilisation projects, located in Trinidad. His research interests focus on how employers can strengthen the safety culture within their organisations in an effort to enhance employee commitment to their jobs. Mr. Gordon facilitates his research by combining the knowledge gained from his bachelor's degree, specialising in Cognitive and Industrial Psychology; with a mastery of theoretical and practical frameworks learned while acquiring his master's degree in Occupational Environmental Safety and Health. He is also a former Vice President of 'Psi Chi', The International Honour Society in Psychology, at the University of the West Indies, St. Augustine.

■