A Conceptual Framework of Power Outage, Global Economic Recession and Green Human Resources Management: A Palestinian Health Sector Perspective

Issam Ayyash
Department of Computerized Financing and Banking
College of Business and Economics
Palestine Technical University- Kadoorie
Tulkarm, Palestine
e.ayash@ptuk.edu.ps

Abstract
This study explores the effect of the power outage and global economic recession crises on green human resource management (GHRM) practices. The current study aims to find effective and ineffective GHRM practices used by businesses in the context of economic crises in order to improve workforce productivity (WP) during all those crises in the health sector of Palestine. A questionnaire-based survey was used, and data were collected from 254 healthcare professionals working in various public hospitals in Palestine through convenience sampling. Structural equation modeling- partial least square (PLS-SEM) was used for data analysis. Results revealed that both power outages and global economic recession have significant positive impacts on GHRM. Findings also confirmed that GHRM has a positive effect on WP. This study helps the health managers to think about the power outage and global economic recession of the public hospitals. Following the various types of crises, the most common human resource management strategy was to reduce the number of workers through the downswing, either freeze or reduce some training and growth costs. While the performance objectives were formulated harder and more challenging. However, the incentive measures and benefits have not been seriously impacted. Whereas the GHRM procedures need to be revised, it is also a central responsibility of the company to safeguard the employee's interests in response to crises.

Keywords
Power outage, Global economic recession, GHRM practices, Palestine, Health sector.

1. Introduction
During the era of multiple crises, the role of human resource management in organizations is crucial (Sohail-Rehan and Ul-Haq, 2018). The effects of different types of crises on the general economy of Palestine and, in particular (Saleh et al., 2021), on the health sector is critical. The healthcare sector faces many obstacles, such as the spread of chronic illnesses, high-cost innovations, inadequate service delivery and the accumulation of solid waste in the city, which raises environmental pollution (Zaid et al., 2020; Scott, 2014). Development and environmental impacts have helped to launch ground-breaking Human Resources Management (HRM) activities that encourage and enhance Green Human Resources Management (GHRM), an environmentally sustainable practice (Bon et al., 2018; Zaid et al., 2018; Markoulli et al., 2017). In general, GHRM activities are carried out at a moderate level in the Palestinian health systems, for a variety of reasons from the point of view of managers (Zaid et al., 2018). The reasons for this are lack of awareness and commitment from top management and staff to green practices, implementation costs and lack of government facilitation for such practices, and consideration of providing social medical services (Mousa and Othman, 2020).

The Palestinian Centre for Human Rights (PCHR) confirms that the lack of medicines and medical supplies, and the power crisis resulting from the shutdown of the power plant and the effects of a power outage for long hours on medical facilities. Due to power outage, adverse effects can be seen on laboratories and blood banking supplies and
causes failure to perform the required laboratory tests, indicating that laboratory devices are constantly in need of electricity (Jawad and Ayyash, 2020; WHO, 2019). On the other hand, the global economic recession (GER) began at the end of 2007 and spread globally at the beginning of 2008. As a result, several countries have undergone a deep economic crisis (OECD 2009) (Abdel Jawad and Ayyash, 2020; Sohail-Rehan and Ul-Haq, 2018). Initially, developed nations (G-7) suffered from GER due to the drastic declines in consumption, investment and trade. However, developing countries later became victims of crises by three means: (i) banking collapses and declines in domestic credit, (ii) a decline in export earnings and (iii) a decline in financial flows (Sohail-Rehan and Ul-Haq, 2018; Naudé, 2009). Many countries have studied how businesses respond to global economic crises by changing their HRM practices; however, Palestine has no research on this subject. Furthermore, in contrast to other countries, Palestine's situation is more complicated due to a variety of challenges such as energy crises, weak stability, and a higher cost of doing business (Jawad and Ayyash, 2020). As a result, this conceptual paper is the first to look at how Palestine businesses react to HRM practices during times of crisis.

The most important source of long-term competitive advantage for successful companies is their workforce. Human resources are incredibly unique, so managing human resources efficiently plays a key role in the success and growth of companies. However, in times of crisis, HRM's position becomes much more essential and strategic (Arqawi et al., 2019; Gunnigle et al., 2013, Shen and D'Netto, 2012). Relevant HRM procedures, carefully adapted to the characteristics of the situation, allow businesses to effectively solve the crisis. Researchers are interested in the adoption by organizations of HRM activities during the recession and the uncertain situation. This conceptual study provides relevant literature on the impact of different aspects of the crisis on human resource management (HRM) activities. Consequently, this study aims to i) identify the relationship between major economic crisis and GHRM in the health sector in Palestine; and ii) to develop a conceptual model to represent the relationship between the major economic crisis and GHRM in the health sector in Palestine.

2. Literature Review

2.1. Major Crisis

A crisis is the product of a situation that is unpredictable and risky. Economic, political, defense and social affairs all suffer as a result of crises. Palestine is suffering from electricity shortages and an unpredictable security situation, which are uncompetitive because of the higher cost of economic recession and industry. The economic activities of the country have slowed down because of all of these crises (WHO, 2019). This slowdown in economic activity results in a fall of macroeconomic indicators like investment spending, GDP, employment, household income, capacity utilization, and business profits, while unemployment, bankruptcies, and inflation rate rise. The nature of crises in Palestine is slightly different from global crises. The Palestinian economy is in a special condition as it is under invasion. The Israel occupation has enforced several restrictions since 1967, including land grabbing, settlement set up, water diversion, seizure of land and sea crossings, and making the economy dependent on the Israeli economy, as Palestine imports much of its energy from Israel. The Palestinian economy has been subject to the Israeli economy (Jawad and Ayyash, 2020). Whereas the world bank report on the energy plan (2020-2030) discloses that Palestine is the third fastest-growing population country, according to the report the annual growth rate is 2.9% which is expected to increase by 4.5 Million by 2030. Therefore, the usages of electricity are not the same for a different type of sectors. In 2017, Palestine implied that 91.8% of its electricity was imported from Israel, while 0.91% were imported from Jordan, 1% from Egypt and 6% were provided by the Palestinian power station. According to the Palestinian Electricity Regulatory Council's annual performance report (2017), the percentage of electricity lost in distribution firms was 23%, costing 370 million NIS, knowing that Israel deducts the prices of electricity sold by Israeli companies to Palestinian areas from the clearing funds, putting a strain on the Palestinian government's budget. Therefore, high power outage practices in Palestine effect different sectors, but most importantly the health sector. According to the report of PCHR, especially in the Gaza area, Al-Qedrah cautioned that the Ministry would be unable to provide medical services due to a power shortage and a lack of supplies, stating that in an 8-hour power outage, the Ministry would need around 450,00 liters of fuel per month to run 90 electric generators in hospitals and health centers. The Ministry, however, needs approximately 750,000 liters of fuel per month due to the power outage, which has lasted 16 to 20 hours per day. Moreover, medical staff, nurses and doctors also stressed that the continued power outage and use of alternative power sources cause damage to equipment, such as incubators, respirators, and infant ventilators etc. Although there are many difficulties, Foreign Aid (FA) is regarded as an instrument to support economic and human growth, where significant amounts of FA are...
directed to health. There is a need to address the aforementioned issues to be undertaken to improve the power outage matter (Mataria, 2018).

Since the world has entered in the 21st century it has been experiencing multiple types of catastrophes and global economic downfall. Before COVID-19, the global economic recession of 2007-09 has been termed as “Great Recession”. The global economic crisis had much worse consequences than the Great Depression of the 1930s. In contrast to the Great Depression of the 1930s, the latest global economic crisis has had a greater negative impact on global trade, manufacturing production, and financial markets across the world (Sohail-Rehan and Ul-Haq, 2018). The world hasn’t overcome those effects of crisis yet that the world has now entered the 12th month of the COVID-19 pandemic situation. We have seen that the health care system or medical crisis has led to a transition in the multi-system game, which will pose huge challenges to all the countries of the world (Baig and Zaid, 2020; Hossain and Rahaman, 2021). Moreover, it has been shown that economies are shrinking to the Great Depression compared to the 1930s, and the unfolding unemployment crisis is rising sharply as a result of lockdowns, foreign travel restrictions, and COVID-19 domestic travel restrictions. This deep dive assesses the evolving dynamics of the COVID-19 pandemic and its effect on the world (Hossain and Rahaman, 2021; Sohail-Rehan and Ul-Haq, 2018). Research shows that the world including IMF, World Bank, etc. strongly assume that due to COVID-19 that is due to lockdowns, and travel restrictions the global economy will be downgraded significantly (Hossain and Rahaman, 2021). Therefore, to work with limited capital, companies change their financial decisions, change marketing priorities, review business strategies, and even review HRM practices. For any successful company, its human capital is the most vital source of sustainable competitive advantage. The ability of the company to attract, select, grow, empower and retain skilled employees is very important for its success (Park et al., 2004; Baig et al., 2018; Zaid et al., 2021).

The literature indicates that the global economic recession caused by COVID-19 has influenced global HRM practices. Many businesses around the world have opted for large-scale downsizing due to business closures that have contributed to a rise in inflation. Organizations were left with no choice but to follow new HRM methods, such as outsourcing, flexible work hours, work from home and a reduction in training costs.

2.2. Green Human Resource Management

The concept of green human resource management (GHRM) is a popular term in various sectors and industries these days. GHRM is used to encourage and improve environmental management in organisations in order to achieve their sustainability goals. (Ren, 2018). Many GHRM studies promote the use of a bundle of environmentally sustainable practices rather than single stand-alone activities. This cluster of practices is referred to as a GHRM package, and it is used to spread the concept and culture of environmental standards and values within an organization. (Mousa and Othman, 2020). GHRM practices are largely applied in companies in Palestine (Arqawi, 2019).

2.2.1 Green Training and Development

Green training is a valuable tool for achieving clear goals as well as a successful sustainability initiative (Umran et al., 2020), in addition to presenting extensive data about the organization's policies and regulations, as well as its processes and programs (Mandip, 2012). Furthermore, green training allows workers to gain a deeper understanding of green practices like reduced energy use and green waste management (Ahmad, 2015), as well as develop their expertise in understanding and implementing green solutions (Govindarajulu and Daily, 2004). Green training and development (GTD) is an important strategy for every organization to ensure its long term sustainable development (Pinzone et al., 2019). Some initiatives were suggested to be integrated into environmental conservation training programs, including training on energy conservation, protection, green space studies, waste management, environmental training and programs, and career alternation for potential green managers within the organization. The design of these programs must focus on the need for training to maximize the environmental benefits of training (Zaid et al., 2018; Cherian and Jacob, 2012).

2.2.2 Recruitment and Selection

Organizations must hire job candidates who are action-oriented and environmentally conscious since they depend on their workers' willingness to engage in environmentally sustainable activities to ensure their long-term success.
According to Zibarras and Coan (2015), candidates' levels of green values and environmental consciousness can be calculated by interviews, in addition to their credentials that demonstrate sustainability knowledge. Concerning innovations and green practice. According to Khurshid and Darzi (2016), effective usage of accessible advanced technologies will enhance an organization's long-term sustainability practices. For instance, using social media and the internet for ads is more effective and environmentally friendly than using printed materials; additionally, sending official letters by email rather than mailing them increases the organization's sustainability level.

### 2.2.3. Performance and Appraisal

The performance management process assists in the evaluation of an employee's actual success, the identification of gaps, the exploration of improvisational techniques, and the establishment of future targets (Arqawi et al., 2019; Mishra, 2017). One of the main strategies of human resources to promote environmental measures and sustainable growth is performance management. Compensation and bonus schemes are critical human capital tool for rewarding employees for their achievements. This method fine-tunes the individual's and organization's goals. It encourages staff to make more efforts (Arqawi et al., 2020 Arqawi et al., 2019; Mishra, 2017). As environmental sustainability and the performance evaluation process are combined, staff performance activities are aligned with the long-term goals of a company's sustainable growth. According to the motivational aspect (M) of the AMO (Abilities, Motivation, and Opportunities) principle, continual appraisal and feedback on employees' results toward achieving the company's green goals allows employees to volunteer to engage in attempts to generalize green practices that increase the organisational setting's performance (Chaudhary, 2019).

### 2.3. Workforce Productivity

Many researchers affirmed that designing an effective human resource system has a positive impact on workforce productivity (WP) (Sabri and Sweis, 2016; Vokić and Vidović, 2008). The empirical research also investigated a positive influence of GHRM on employees’ work-related outcomes (e.g. Dumont et al., 2016; Shen et al., 2018). For example, Kim et al. (2019) found the impact of GHRM on employees’ eco-friendly behavior and environmental performance. Another study by Dumont et al. (2016) examined the effect of GHRM practices on employees' in-role and extra-role green behaviors through a psychological green climate. Organizations can actually work towards implementing GHRM practices that will help create motivated employees regards environmental issues who can essentially improve productivity (Vasa and Thatta, 2018, Zaid et al., 2021). A proper orientation and training program amplify newly recruited employee towards firm and retain existing employees as well. Furthermore, it also helps in increasing employee productivity and establishes long-lasting relationships with the firm (Faisal and Naushad, 2020). GHRM involves undertaking environment-friendly HR initiatives resulting in greater efficiencies, lower costs and better employee engagement and retention which in turn, help organisations to reduce employee carbon footprints by the likes of electronic filing, car-sharing, job-sharing, teleconferencing and virtual interviews, recycling, telecommuting, online training and energy-efficient office spaces (Mandip, 2012).

### 3. Formulation of Hypothetical Model

The conceptual framework of the current study is shown in Figure 1. This presents the health sector's problems, including a power outage and the consequences of the global economic recession. In the light of the literature, these crises have had a serious impact on GHRM activities in the Palestinian health sector. Organizations need to adapt to such emergencies by adapting HRM processes to GHRM, including green recruiting and selection, green performance and appraisal, green training and development. The hypotheses developed for the study are:

- **H1**: There is a positive relationship between power outage and GHRM practices.
- **H2**: There is a positive relationship between global economic recession and GHRM practices.
- **H3**: There is a positive relationship between GHRM practices and WP.
4. Methodology

This is an explanatory study that tries to untangle the relationship between power outage, global economic recession, GHRM practices and environmental sustainability performance. Convenience sampling technique was used to draw a sample form of the target population that consists of the healthcare professionals working in various public hospitals in Palestine. This is a survey study because the questionnaires were distributed to employees of public hospitals in Palestine. A cover letter was also attached at the beginning of the questionnaire. The sample was drawn where 290 questionnaires were distributed among the employees whereas, 254 filled were collected. The data collected voluntarily from the participation of the respondents.

4.1 Measures

Power outage was based on 6-items scales by Amadi (2015). The global economic recession was based on 7-items scales by Wickramasinghe and Perera (2012). GHRM practices was based on the 12-items scale by Mousa and Othman (2020). WP was based on the 6-items scale by Van De Voorde et al. (2016). 5-point Likert scale (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1) was used to measure all constructs.

4.2 Demo Graphic

The respondent's details of demographics were provided in Table 1. The age at which responded was divided into three sections in which 28.3% of participants were between the ages of 20 and 30, while 36.2% were between 31 and 40, 35.5% were 41 years of age or older. There was distribution by gender in two parts, male and female, there were 50.8% of male respondents while only 49.2% were female. Most of the 36.6% of respondents were from nurses, while only 32.6% of respondents were from the paramedical staff. 30.8% of respondents from the doctors.

Table 1: Demographic

<table>
<thead>
<tr>
<th>Age</th>
<th>Staff category</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Doctors</td>
<td>Nurses</td>
</tr>
<tr>
<td>20-30 Years</td>
<td>21</td>
<td>27</td>
</tr>
<tr>
<td>31-40 Years</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>Above 40 Years</td>
<td>25</td>
<td>35</td>
</tr>
</tbody>
</table>
4.3 Analysis

Data were analyzed using PLS-SEM. Before testing the hypothesis, a different test such as missing value and errors were run on the data to make sure it is applicable for the analysis.

Table 2: Mean and Standard deviation

<table>
<thead>
<tr>
<th>Rank</th>
<th>Variable/ scale</th>
<th>Mean</th>
<th>Std.Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power outage</td>
<td>3.59</td>
<td>.568</td>
</tr>
<tr>
<td>2</td>
<td>Global economic recession</td>
<td>3.72</td>
<td>.389</td>
</tr>
<tr>
<td>3</td>
<td>GHRM</td>
<td>3.79</td>
<td>.420</td>
</tr>
<tr>
<td>4</td>
<td>WP</td>
<td>3.88</td>
<td>.441</td>
</tr>
</tbody>
</table>

Table 2 shows the mean and standard deviation of study variables (i.e., power outage, global economic recession, GHRM and WP). The mean score of responders on the Power outage scale was 3.59, the standard deviation in the score was .568, the mean score of the global economic recession scale was 3.72, the standard deviation was 0.389, the mean of GHRM was 3.79, the standard deviation was 0.420 and the mean of WP was 3.88, the standard deviation was 0.441.

Table 3: Correlation Coefficients, Reliability Scores

<table>
<thead>
<tr>
<th>Variable/ scale</th>
<th>CR</th>
<th>Alpha</th>
<th>Power outage</th>
<th>Global economic recession</th>
<th>GHRM</th>
<th>WP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power outage</td>
<td>0.80</td>
<td>0.722</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global economic recession</td>
<td>0.76</td>
<td>0.813</td>
<td>3.94*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GHRM</td>
<td>0.84</td>
<td>0.778</td>
<td>.378*</td>
<td>.256*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>WP</td>
<td>0.79</td>
<td>0.805</td>
<td>.377*</td>
<td>.287*</td>
<td>.276*</td>
<td>1</td>
</tr>
</tbody>
</table>

The reliability of Power outage 6-items scaled was found to be 0.722, which cannot be increased from the acceptable range. The alpha reliability of 7-items global economic recession was found to be 0.813, which cannot be increased from the acceptable range. The reliability of 12-items scaled of GHRM was found to be 0.778, which also cannot increase from the acceptable range. The reliability of 5-items scaled of WP was found to be 0.805, which also cannot increase from the acceptable range. In the analysis, there were no reverse coded questions that were present on this scale. Furthermore, all variables show the appropriate value of Cronbach’s Alpha above 0.7 (see Table 3).

Table 3 spectacles the outcomes of Pearson's correlation among constructs. All the construct core elements associate significantly with each other (p = 0.01). Pearson correlation was conducted to determine the association between power outage and GHRM. The results reveal that power outage was significantly positively correlated to GHRM (r=0.378, p<0.01), which is the most important factor in health care sector. This provided initial support to hypothesis 1. Global economic recession was significantly positively related to GHRM (r=0.256, p<0.01). This provided initial support to hypothesis 2. GHRM significantly positively related to WP (r=0.287, p<0.01). This provided initial support to hypothesis. After the evaluations of correlation, calculated values for the further regression analysis.

Table 4: Hypothesis Testing

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
<th>T-statistic</th>
<th>P-Value</th>
<th>R-Square</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power outage →GHRM</td>
<td>0.236</td>
<td>2.815</td>
<td>0.001</td>
<td>.342</td>
<td>0.478</td>
</tr>
<tr>
<td>Global economic recession→GHRM</td>
<td>0.201</td>
<td>3.178</td>
<td>0.002</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 4 indicates the path coefficients ($\beta$) with their respective $t$-statistic, $p$-values, $r$-square and adjusted $r$-square. The importance of the estimated path was determined through the bootstrapping method in the software of Smart PLS-SEM using the critical $t$-value for significance testing at a 5% significance level (Ramayah et al., 2018). As shown in the Table 4, there were three paths show significant positive relationships among constructs. The highest positive significant path relationship was between GHRM and WP ($\beta=0.288$, $t=3.9785$, $p=0.000$). This presents that the effect of both variables exogenous constructs describes 34.2% of the variance in the endogenous construct (see Table 4).

5. Implementation

The results of this research confirm that the objectives were achieved. The first objective was to investigate the relationship between power outage and GHRM. The results demonstrated that power outage positively predicted GHRM. The second objective of this study was to investigate the relationship of global economic recession and GHRM. The findings significantly indicated the positive effect of global economic recession on GHRM. The third objective of this study was to investigate the relationship between GHRM and WP. The findings showed that GHRM has a significant positive relationship with WP. This research approves that the power outage and global economic recession as important constructs in the field of GHRM affects the WP among the public hospitals in Palestine. Additionally, the findings shed light on the ways for enhancing the GHRM and WP through taking into account key aspects of the power outage and global economic recession as driver’s mechanisms.

While, in the short term, the overall GHRM techniques have proven beneficial to the organisations, workers can, however, be able to take these steps against their interests. The GHRM measures introduced, especially by reducing the size of the workforce, are likely to have a negative effect on the morale of the remaining employees. The introduction of new GHRM interventions in response to multiple forms of crisis is likely to result in reduced organisational support, which, in turn, can have a negative impact on employee behaviour and organisational engagement. The wage maintenance act of organisations during a difficult and demanding period is very motivating. This measure is necessary in order to improve employee morale and ensure organisational sustainability.

6. Conclusion and Recommendation

Although facing several types of crises, organisations need to act in a fair and appropriate way. Rather than merely following a cost-cutting approach, management needs to keep a long-term view on the well-being of both the company and its workers in mind. Fund allocations should be included to deal with difficult periods, so that staff salaries, recruitment expenses, wages and other benefits cannot be incurred. Organizations that take care of their workers during difficult times are considered to be supportive of their employees and, during the recovery phase, these organisations emerge more rapidly from the crisis. It is recommended that organisations encourage economic benefit in their respective divisions. To this end, GHRM interventions such as talent management and retention, training and growth assistance, employee engagement, open collaboration, performance assessment and salary maintenance are important. The limitation of this research was limited to convenience sampling during data collection, and it might not be voluntarily generalized to other industries. In the future research should be conducted in the individualistic culture to determine the generalization of this research. Other researchers can expand this research to see if they respond more positively to GHRM. Also, in this study included public hospitals in Palestine: however, researchers can choose from other sectors or companies to verify the relationship and research could be to collect a larger sample. Future studies should include a cross-cultural research design or consider the effects of cultural factors.

References


Acknowledgements

A special thanks for Palestine Technical University – Kadoorie for supporting this research.

Biographies

**Issam Ayyash** is an assistant professor of Economics at the Department of Computerized Financing and Banking, Palestine Technical University-Kadoorie, Tulkarm, Palestine. He received his PhD degree from the Selcuk University-Turkey in 2017. His research activities have focused on economic, human resource management and financial banking.