

The Impact of Green Human Resource Management Practices in Creating Sustainable Competitive Advantage "A Descriptive Study of a Sample of the Egyptian Food Industry"

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Abstract:

Green Human Resource Management (GHRM) and Sustainable Competitive Advantage (SCA) have become increasingly popular and essential in the Egyptian food industry organizations. The Research aims to discuss and examine the relationship between GHRMP (Green recruitment & selection, green training & development, green performance management, and green Compensation & benefits) as a tool to create and enhance SCA in the Egyptian food industry. The questionnaire was used as a tool to collect data information related to Research. The validity and reliability subject scale was distributed to a research sample of (299) employees. Research data were analyzed using (the SPSS V. 22) program test scale of the first variable: green human resource management and its practices. Also, the Research examines the second variable, a sustainable competitive advantage. The hypothesis test, correlation coefficient, and Regression analysis were used. The results also reveal that green recruitment & selection, green training & development, green performance management, and green Compensation & benefits are positively and significantly related to SCA. The paper concludes with suggestions for managers of the food industry organizations in Egypt and future Research.

Keywords: *Green Human Resource Management Practices, Sustainable Competitive Advantage.*

1. Background History:

1.1 Green Human Resource Management Practices (GHRMP):

Recently and globally, with the globalization era, many countries from America, China, Japan, Europe, and the Middle East have increased their interest in "*greening*" as a significant step toward sustainability, especially after raising the usage and price of natural renewable resources such as water, oil, gas, and most sort of energy resources (Andreas and Cooperman, 2011). With global competition and economic pressures, and starting from the globalization period since the 1970s, capital has not become the only bottleneck for the development of industries; human resources have become significant in achieving a competitive advantage. Globalization refers to companies extending their sales, ownership, and manufacturing to new markets abroad. For example, Toyota builds Camrys in Kentucky, while Apple assembles iPhones in China. Free trade areas—agreements that reduce tariffs and barriers among trading partners—further encourage international trade. So, it is clear that globalization shows how the industry has become a significant factor in nations' development; however, it has negatively affected the ecological system across all countries, and there should be effective practices to overcome these implications (Dessler, 2020) and (Opatha, 2019).

Another impact and output of globalization are creating a new terminology in the era of business globally; Green Human Resource Management (GHRM). GHRM is an emerging field between Environmental Management systems (EMS) and Human Resource Management (**HRM**). While EMS is concerned with minimizing and avoiding harmful and adverse effects of business work in the organization on the natural environment, HRM is the discipline and practice of managing people at work efficiently and effectively to achieve the organization's objectives (Opatha and Hewapathirana, 2019). In this context, some people never know about this terminology and concept within the business model concept; however, the idea originated in 1996 when (Wehrmeyer, 1996) edited a book titled greening people: human resources and

environmental management (as in Jackson, Renwick, Jabbour, & Muller-Camen, 2011). As a result, while the GHRM-related field is growing (see Renwick et al., 2013), it seems relatively small, young and needs movement to generate an environmentally sustainable outlook (Harris & Tregidga 2012, p. 238).

1.2 Sustainable Competitive Advantage (SCA):

On the other hand, GHRMP is not only used as a tool for keeping and preserving the environment but also is considered a central element and significant factor in creating sustainable competitive advantage. Organizations, whether industrial, agricultural, or service, exert efforts to succeed by achieving their objectives and utilizing different resources to sustain themselves in market competition. Because of its importance to firms' long-term success, organizations struggle to create their competitive advantage through the available Resource Based View (RBV) (Barney, 1991). The concept of Sustainable Competitive Advantage (SCA) was established in 1984 When (Day, 1984) recommended some types of strategies that may help to "sustain the competitive advantage" (p. 32). Once again, the term SCA surfed in 1985 when (Porter, 1985) discussed the proposed primary competitive advantage strategies that firms could implement (Low-cost or differential) to achieve SCA. Although Porter proposed the central concept of SCA, he did not present a precise formal definition for SCA. (Barney, 1991) considers the first one who has come closest to a formal definition by submitting the following: "*A firm is said to have a sustained competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy.*" (p. 102). (Day and Wensley, 1988) focused on two categorical sources in creating an SCA: superior skills and resources. Other authors have elaborated on the specific skills and resources that can contribute to an SCA. For example, (Barney, 1991) states that not all firm resources hold the potential of SCAs; instead, they must possess four attributes: rareness, value, inability to be imitated, and inability to be substituted. Similarly, (Hunt and Morgan, 1995) propose that

"potential resources can be most usefully categorized as financial, physical, legal, human, organizational, informational, and relational" (p. 6-7). (Prahalad and Hamel, 1990) suggest that firms combine their resources and skills into core competencies, loosely defined as that which a firm does distinctively well concerning competitors.

1.3 Problem Statement:

In the era of globalization and to what extent organizations need to achieve sustainability by utilizing human capital as a source of competitive advantage, surveyed food organizations' primary problem is applying some green human resource management practices, but not in an integrated manner. Moreover, no process evaluation was conducted on the application level of those practices, the challenges they face, and the extent to which these practices reflect the sustainable competitive advantage and enhance it. Based on the above, the problem of the study can be demonstrated by raising several questions, as follows:

- To what extent are green human resource management practices applied in the surveyed food industry? What are the practices most applied to it?
- How interested are food companies in promoting sustainable competitive advantage?
- Is there a relationship and an impact of green human resource management practices in promoting and creating sustainable competitive advantage?

1.4 The Scope of the Study:

Many countries started to take initiatives for greening the environment and workplaces globally. The Egyptian Ministry of Environment is one of those administrations that launched initiatives as part of the National Sustainable Development Strategy "Egypt 2030". The main objective of the "**Live Green**" initiative is to change the citizen's attitude and behavior toward the environmental system and to protect the environment, natural resources, and marine life to maintain sustainability (<https://www.presidency.eg>). Accordingly, the scope of this research will cover the Egyptian industrial food sector as one of

the critical sectors that have implications on life citizens and directly affect the environmental system. The study will investigate a what-if scenario of the application and the impact of GHRMP on the Egyptian food sector as a tool to sustain and maintain the EMS. The scope of the food sector is selected because of the direct effects of this industry on the elements of EMS (land - air - water) and how much this sector consumes massive environmental resources and affect it adversely at the same time.

1.5 The Research Objectives:

- 1) It provides a basic understanding of green human resource management practices.
- 2) How to gain a sustainable competitive advantage through applying green human resource management practices (green recruitment & selection - green performance management - Green Compensation & Benefits - Green Training & Development)
- 3) Ensure a relationship and influence between green human resource management practices represented by its elements and the sustainable competitive advantage, and determine the correlational relationships between the study variables.

1.6 Research Significance:

The findings of this research will contribute to the benefit of both public and private organizations seeking to enhance the ecological systems and apply GHRMP by utilizing the best resources to create SCA. Besides, the top management will be guided to the best investment decision that improves the work environment among employees. For example, investment in training and compensating the employees who work and preserve the environment, recruiting the employees who are keen on the concept, and making the green performance management base for the evaluation would build more commitment and achieve the organization's objectives.

2. Literature Review and Hypotheses Development:

2.1 Overview:

This part presents a revision and analysis of theoretical and empirical data found in the literature to demonstrate the

definitions and importance of HRM practices in the field of EMS and the relationship between them. Then it briefly describes GHRM practices that organizations can implement to create sustainability. Also, it clarifies what a sustainable competitive advantage is and how GHRM practices can be intangible resources to achieve this sustainability.

2.2 Green Human Resource Management Practices (GHRMP):

This part focuses on the different aspects of green human management practices. It tries to cover the various definitions and elements of GHRMP and expose the importance of GHRMP in industrial sectors, especially in Egypt.

Over the last few years, Environmental aspects have become significant to worldwide industries. The increasing concern for environmental protection through pollution prevention, conservation of resources, and optimum energy usage have attracted several firms to align green practices with their human resource practices. Many researchers try to study how these implications affect the environment and human society. Recently GHRMP has increasingly become strategic among many organizations and is considered one of the main aspects to treat these significant implications to comply with environmental standards, laws, and regulations. So, this part of the research focuses on the different definitions of GHRMP, presents the elements of the GHRMP, and shows the importance of applying GHRMP to obtain a sustainable competitive advantage (Jabbar and Abid, 2015), (Muisyo, Qin, Ho, and Julius, 2020), (Opatha and Hewapathiran, 2019), (Acquah, Mensah, Afum, 2020). According to Opatha (2019), environmental management is concerned with minimizing and avoiding harmful effects of business works in the organization on the natural environment. HRM is the discipline and practice of managing people at work efficiently and effectively to achieve an organization's goals. Therefore, Industry sectors exert many efforts in Egypt to overcome this type of pollution because consumer awareness has increased, and may the decision of buying is affected by the extent of respecting the nature and environment. For example,

governments released laws and regulations in a trial to protect the environment and encourage the industry sector to use the proper tools to get the best practices. On the other hand, some industry sectors try to use the concept "green" accompanying HRMP to enhance productivity inside the organization through different techniques of HRMP such as green recruitment, green training & development, green compensation & benefits, and green performance appraisal system to develop the industry and minimize the waste to reach the optimum efficiency (Ullah, 2017) & www.ecaa.gov.eg.

2.2.1 What is GHRMP?

Although GHRMP is a new phenomenon and still unpopular enough among researchers and practitioners, there are many attempts to define GHRMP and explain the central concept of this new approach. According to Opatha and Hewapathiran (2019), an attempt was made to find out definitions given by relevant researchers through a comprehensive examination of the literature available to the authors. It was a surprise to reveal that the number of distinct definitions of GHRMP given by relevant researchers was less than the number of research papers published. Perhaps it is why most researchers concentrated on exploring, describing, and explaining the contents of GHRMP, relationships, and empirical impact of various GHRMP with and on specific organizational outcomes. Another reason might be that they considered defining GHRMP as less important than other aspects of GHRMP.

Herein below are some examples of the definitions by researchers to clarify and explain the different meanings of GHRMP:

Table 2.1: The meanings of the term Green Human Resource Management Practices.

Source	Definitions
Opatha (2019)	<i>“HRM is the discipline and practice of managing people at work efficiently and effectively in order to achieve goals of an organization, when environmental management is combined with HRM so that they become closely linked, GHRM</i>

Source	Definitions
	<i>gets created.”</i>
Bombiak and Marciniuk-Kluska (2018)	<i>“The application of HR policies to promote sustainable use of company resources and to support ecology; and its primary objective is to develop ecological sensitivity in employees and to make them aware of how their own behavior may affect the environment.”</i>
(Jaramillo, Sossa, & Mendoza, 2018; Siebenhüner & Arnold, 2007; Wolf, 2013; Wong, Wong, & Boon- itt, 2018).	<i>“Green human resource management (GRHM) practices offer a practical way for organizations to develop human capital that can enhance the environmental performance (EP) and sustainable development of the firm.”</i>
Pellegrini, Rizzi, and Frey (2018)	<i>“Developing an employee's green abilities involves integrating positive environmental thinking into the firm using human resource (HR) activities such as recruitment, selection, training, and leadership development.”</i>
Arulrajah and Opatha (2016, p.152)	<i>“GHRM is the environmental (green) orientation of all human resource functions or practices of an organization at all levels. Further they define that the GHRM deals with rethinking the basic concepts of HRM, its objectives, functions, processes, activities, and strategies in an environmentally friendly manner in order to accommodate the needs of ecological sustainability.”</i>
(Kramar, 2014 p. 1075).	<i>“HRM activities that have positive environmental outcomes.”</i>
Renwick, Redman and Maguire (2013)	<i>“GHRM as the integration of Corporate Environmental Management into HRM.”</i>
Opatha (2013, p.28)	<i>“Green HRM is referred to all the activities involved in development, implementation and on-going maintenance of a system that aims at</i>

Source	Definitions
	<i>making employees of an organization green. It is the side of HRM that is concerned with transforming normal employees into green employees so as to achieve environmental goals of the organization and finally to make a significant contribution to environmental sustainability. It refers to the policies, practices and systems that make employees of the organization green for the benefit of the individual, society, natural environment, and the business.”</i>
(Renwick et al., 2013).	<i>HRM practices can be categorized into three primary activities: developing green employee abilities, motivating green employees, and providing green opportunities</i>
Jabbour, Santos and Nagano (2010)	<i>“GHRM was defined as the greening of functional dimensions of HRM such as job description and analysis, recruitment, selection, training, performance appraisal and rewards. It was observed that they utilized functional perspective to defining GHRM and when HRM functions such as job analysis, recruitment, selection, training, performance evaluation, pay management, incentives management, and benefits management become incorporated with greening GHRM exists.”</i>

2.2.2 Green Recruitment and Selection (GRS):

According to (Ullah, 2017), "green recruitment is recruiting new talent aware of the sustainable process, environmental system and familiar with the words of conservation and sustainable environment." (Guerci, Montanari, Scapolan, and Epifanio, 2016) find a significant positive association between recruiting efforts and attracting job applicants. (Ahmad, 2105) advocates that firms are now trying to exert efforts to show as

"green employers" to gain a good reputation and be a practical approach to attracting new talent. Green recruitment and selection can be defined as *“hiring individuals with knowledge, skills, practices, and behaviors that identify with environmental management systems within an organization”*. (Grolleau, Mzoughi, and Pekovic, 2012) note the influence of green criteria on firm staffing. A firm commitment to environmental management improves its reputation. Further, applicants' intention to work with eco-friendly firms is a more significant and higher acceptance of employment offers. The motivation among incumbents to work for the firms was greater toward pro-environmental companies (Brekke & Nyborg, 2008). German firms such as Siemens, BASF, Bayer, and Mannesmann use environmental activities and a green image to attract high-quality staff. The Rover Group carmaker in Britain makes environmental responsibilities and qualifications part of every job profile (Wehrmeyer, 1996, p. 30). According to (Wehrmeyer, 1996), recruitment practices can support effective ecological management by ensuring that new entrants are familiar with an organization's environmental culture and capable of maintaining its ecological values. A firm practical outlook toward environmental protection enhances a firm's attractiveness (Bauer & Aiman-Smith, 1996). (Dechant and Altman, 1994) find that employee perception is vital, and they are keen to work in a company that will improve their value profile. Increasingly, green job descriptions with environmental aspects are now being included for employees within the recruitment agenda.

In addition, green recruitment supports the organization with a probability to retain talented employees, and this retention enables the employer to transfer the employees from someone who performs the typical tasks and duties into a source of competitive advantage. Accordingly, the firms should align the recruitment processes with EMS to widen and spread the concept of GHRMP. Green recruitment in industrial sectors needs more focus due to the nature of its operations and outputs, wherein this sector is one of the sectors that cause pollution and emissions. HR managers should play a significant role and use different methods

when selecting and hiring new employees. They may use all the typical approaches, but in environmental manners, some of these methods use online interviews instead of face-to-face interviews, which conserve the environment from gas emissions and noise. They can use webpage applications instead of using paper and causing trees destructions. Also, part of the questions should cover the extent to which the candidate is keen on environmental aspects and has a passion for EMS. These approaches develop and enhance the recruitment practice, ending with green behavior and employee.

2.2.3 Green Training & Development (GTD):

Any organization searching for sustainability and continuity should consider people development as crucial. The organization should prepare programs, workshops, and awareness sessions to enable the employees to acquire the necessary knowledge of EMS. Green Training and development could be considered a built-in tool to transfer all employees into green ones. Many researchers and scientists identify the role of training and development in the organization as the primary function of moving forward into green employees.

(Srivastava and Shree, 2019) argue that a study on tourist hotels reveals that green training facilitates the employees of an organization to get involved in socially and environmentally responsible activities. Green training and development activities make employees aware of different aspects and values of environment management. It helps them embrace other conservation methods, including waste management within an organization. Further, it sharpens the skill of an employee to deal with various environmental issues. In their quantitative study, (Saturnino Neto et al., 2014) conclude that environmental training is crucial for the systematic development of low-carbon products to mitigate climate change. (Renwick et al., 2013) suggest certain practices be included in the training programs to enjoy environmental protection, recycling energy efficiency and safety, green workplace analysis, waste management, ecological training and programs, and job rotation for potential green managers within the organization. Also, environmental training is crucial

for successfully implementing the environmental management system and building a green organizational culture (Teixeira et al., 2012). These training programs should be designed based on activity needs to achieve the best environmental benefits from the training (Cherian and Jacob, 2012). Such increased involvement of employees may then lead to environmentally efficient business operations. Research in China proclaims that a high level of green training results in higher environmental performance in sustainable organizations (Ji et al., 2012). Green training and development educate employees about the value of EM, train them in working methods that conserve energy, reduce waste, diffuse ecological awareness within the organization, and provide an opportunity to engage employees in environmental problem-solving (Zoogah, 2011).

Future research that facilitates green training on the one hand and helps organizations develop eco-friendly managers who, without any hesitation, can satisfy and promote sustainability throughout the process would be beneficial. Green training and development stand out as one of the essential GHRMP needed to succeed in green management at firms. Environmental training is also considered one of the most critical tools for developing human resources (Jose, Chiappetta, and Jabbour, 2011). (Liebowitz, 2010) suggests that the HR Department can offer leadership development workshops to help managers build their "front wheel" soft, people skills, or behavioral competencies in teamwork, diversity, managing change, and collaboration. (Sarkis et al., 2010) press that environmental training effectively supports the environmental management system performance.

2.2.4 Green Performance Management System (GPM)

According to (Ahmad, 2015), "*Performance Management (PM) is the process by which employees are prompted to enhance their professional skills that help achieve the organizational goals and objectives.*" Green performance management consists of issues related to environmental concerns and policies of the company. It also concentrates on the use of ecological responsibilities. Setting green performance indicators requires creating a set of environmental benchmarks for all employees in

the appraisal and communication of green guidelines. Performance appraisal was most effective for executives and staff in influencing compensation. Performance management is an ongoing communication process between a supervisor and an employee that occurs throughout the year to accomplish the organization's strategic objectives. Green performance management includes the issues related to policies of the organization and environmental responsibilities. Integration of environmental management into performance management systems improves the quality and value of ecological performances. It acts as a safeguard to protect environmental management against any damage (e.g., Jackson et al., 2012; Renwick et al., 2013). In performance management, the exercise of green indicators was crucial. Appraising managers' green results play a significant role in green management, making them responsible for green performance. Individuals who do not meet green performance standards are dealt with incompetent (Renwick et al., 2013). Most crucial aspect of PM is performance appraisal. In addition to meeting the reliability, validity, and fairness criteria, effective performance appraisals provide helpful feedback to employees and support continuous improvements in the firm's environmental outcomes (Jackson et al., 2011, p. 7). Today some firms deal with the issue of PM by installing corporate-wide ecological performance standards and green information systems/audits to gain valuable data on environmental performance (Marcus and Fremeth, 2009). (Jabbour and Santos, 2008) refer to green performance management (GPM) as the practice of appraising individuals' performance through remunerations in green management practices. Companies need to identify an efficient way of executing GPM. Therefore, implementing a general GPM standard is a priority for numerous companies. In their study, (Epstein and Roy, 1997) conclude that when HR managers integrate environmental performance into PM systems, they safeguard environment management against any damage. (Clair, Milliman, and Whelan, 1996) indicate that developing green

objectives involves translating eco-friendly goals into action plans for the workforce and can achieve sustainability.

2.2.5 Green Compensations and Benefits Management (GCB):

One of the crucial and significant elements for employee motivation is establishing a compensations and benefits system to raise and enhance work commitment. It is more sensitive for any firm when this incentive encourages employees to transform their behavior and skills into green employees. There are many kinds of literature about green reward and how it affects employees' attitudes towards the ecological system.

According to (Pellegrini et al., 2018), reward positively affects sustainable behavior. (Tang et al., 2018) hypothesize that along with financial incentives, organizations should pay the employees non-monetary rewards such as green recognition, green tax incentives, and green travel benefits. (Pillai and Sivathanu, 2014, p. 1) state that "*green rewards can include workplace and lifestyle benefits, ranging from carbon credit offsets to free bicycles, to engage people in the green agenda while continuing to recognize their contribution.*" According to (Pillai and Sivathanu, 2014), a green reward system means "*aligning the strategy with the firm's green policies and practices.*" It should be designed to produce green initiatives in the workplace and lifestyle and reduce carbon footprints. There are many reward practices that firms may use to green skills acquisition. Rewards can be in the form of financial-based EM rewards (e.g., premium, cash, bounces), nonfinancial based EM rewards (e.g., leave, gifts, sabbatical), recognition-based EM rewards (e.g., external roles, daily praise, dinners), and positive rewards in EM (e.g., feedback) (Renwick et al., 2013; Opatha and Arulrajah, 2014). (Mandip, 2012), (Jabbour, Santos, and Nagano, 2010) refer to green compensation management (GCM) as the practice of using rewards aimed at hiring and motivating the workforce to work toward environmental objectives. A green reward system plays a vital role in encouraging people and helps in identifying their significant performance towards environmental management (Teixeira et al., 2012). According to (Jackson et al., 2011), non-monetary rewards such as praise and

recognition were significant for motivating employees. (Jackson and Seo, 2010) predict that rewards are beneficial when individual performance links to a company's objectives. The aim of adopting rewards criteria is to achieve, maintain and encourage people to perform well and realize the importance of environmental protection (Lindström and Vanhala, 2011).

In addition, employees could be awarded bonuses for their outstanding work on special projects (Liebowitz, 2010, p. 53). People should be rewarded with bounces for their interest in understanding and developing eco-friendly culture (Liebowitz, 2010). The efficiency of green rewards and compensation was observed in a study conducted by (Berrone and Gomez-Mejia, 2009) on 469 US firms operating in high-polluting industries. They found that the firms having eco-friendly performance paid their CEOs more than non-eco-friendly firms. They also concluded that long-term company results according to pay were associated with tremendous pollution prevention success. It suggests that if green rewards and compensation systems align with HRM, a green culture in organizations can be encouraged. By incorporating elements of green management in the compensation program, managers can promote green behaviors among the employees.

2.3 Sustainable Competitive Advantage (SCA):

2.3.1 Introduction:

After the research exposed green human resource management practices, their definitions, and elements, it is time to reveal the sustainable competitive advantage as another research pillar.

Understanding sources of sustained competitive advantage for firms has become a significant area of research in the field of strategic management (Porter, 1985; Rumelt, 1984). Any organization utilizes different resources to achieve particular objectives; the resources may be human capital, financial, material, and machinery to create a competitive advantage that enables the firm to continue and sustain in the dynamic market. Accordingly, many researchers tried to build frameworks and theories to suggest that these firms could obtain their sustained

competitive advantage by utilizing their internal strengths by responding to environmental opportunities while neutralizing external threats and avoiding internal weaknesses. At the same time, each organization tries to use its unique strategy to reach effectiveness and efficiency for better organizational performance (porter, 1985; Barney, 1991). These resources could be classified into three categories; physical capital resources (Williamson, 1975), human capital resources (Becker, 1964), and organizational capital resources (Tomer, 1987). Physical capital resources include the physical technology used in a firm, its plant and equipment, its geographic location, and its access to raw materials. Human capital resources include the training, experience, judgment, intelligence, relationships, and insight of individual managers and workers in a firm. Organizational capital resources include a firm's formal reporting structure, formal and informal planning, controlling and coordinating systems, and informal relations among groups and between a firm and its environment.

For more clarification, various authors have generated lists of firm attributes that may enable firms to conceive and implement value-creating strategies. These attributes are:

- Firm resources,
- Competitive Advantage, and
- Sustained Competitive Advantage.

2.3.2 Firm Resources:

(Daft, 1983) defines "*firm's resources include all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc., controlled by a firm that enables it to conceive of and implement strategies that improve its efficiency and effectiveness.*"

From the previous definitions, firm resources are strengths that firms can use to conceive and implement their strategies across all organization's sectors to achieve effectiveness and efficiency to gain a competitive advantage.

2.3.3 Competitive Advantage and Sustained Competitive Advantage:

(Barney, 1991) in his article, exposed to both definitions, competitive advantage and sustained competitive advantage, as follows; *“a competitive advantage for any organization occurs when implementing a value-creating strategy that any current or potential rivalry is not simultaneously implementing.”* However, a sustained competitive advantage occurs when a firm uses a strategy that is not simultaneously implemented by its current or potential competitors that lasts a long calendar time. At the same time (Barney, 1991) considers the first one who has come closest to a formal definition of sustainable competitive advantage by submitting the following: *“A firm is said to have a sustained competitive advantage when it is implementing a value-creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy.”*

In conclusion, any firm has an absolute dream and vision to sustain forever; this vision should be applied and implemented by running and operating some resources inside the business. These resources differ from time to time, but in all cases, they are sources of strengths that lead the organization to create a competitive advantage by not allowing competitors to imitate their product or service. Creating a competitive advantage is not the optimum scenario, but the radical vision is to keep and sustain this advantage for the longest time and continue the business life-cycle for decades and decades.

2.3.4 What is the relationship between GHRMP and SCA?

After the research has presented the primary concept and elements of SCA as one pillar of the research and dependent variable and how the different resources may create this competitive advantage, this part tries to clarify to what extent there is a relationship between GHRMP as a significant resource inside any organization and SCA as a target of many objectives that organizations try to reach it. HRM is essential to ensure the success of any organization, which is based on the belief that an organization gains a competitive advantage by utilizing its people effectively and efficiently. According to (Saha, 2012), HRM is a distinctive approach to employment management that seeks to

achieve competitive advantage through the strategic development of a highly committed and capable workforce. On the other hand, American Management Association (AMA) mentions it as the organizational function accountable for obtaining and maintaining qualified employees.

According to (O'Reilly & Pfeffer, 2000), they argue that "*we do live in a world in which knowledge, intellectual capital, rather than physical capital, is increasingly important, and we need intelligent people who can do great things, increase productivity, build new products and services, and do so even more quickly.*" Accordingly, the first role of HRM in a firm is being "a support system" that provides guidance and supervision for the people management in the workplace. The second role is "human resourcing," which includes necessary training, development, recruitment, selection, and planning. Another role is "strategic management," which plays an essential part in corporate strategy, a vital part of the decision-making cycle.

In short, HRM in modern enterprises has two inter-related roles:

- (i) To foster the performance of an enterprise and
- (ii) To act as a support for achieving competitiveness through people.

Thus, HR strategy is an essential determinant of the intensity and diversity of human resource practices that assist and guide managers and affect the organization's success. Similarly, (Hamel & Prahalad, 1994) pointed out that human capital represents the only sustainable source of competitive advantage. Therefore, firms may succeed in establishing a SCA by combining skills and resources in unique and continuing ways. By combining resources in this manner, firms can focus on collectively learning how to coordinate all employees' efforts to facilitate the growth of specific core competencies. (Hoffman, 2000).

In conclusion, in the era of rapid technology changes and dynamic markets, it is becoming necessary for each organization to have unique resources to produce the services and products that any rivalry cannot imitate. Nowadays, organizations consider GHRMP one of these resources that can create this uniqueness. So, if the HR managers implement modern competitive strategies

and methods to recruit, train, evaluate, and reward the employees using the green approach, it would guarantee that the organizations' employees could create a competitive advantage and sustain it last. Therefore, it is essential to mention that HRM is the backbone of any business, enabling firms to strengthen their core competencies through interaction and pooling of information between individuals within an organization.

2.3.5 Research hypotheses:

Based on the previous literature review, the following main hypothesis and four sub-hypotheses have been developed and tested in this research:

The first primary hypothesis states a significant correlation relationship with a statistical significance between green human resource management practices and sustainable competitive advantage.

The hypothesis is divided into the following sub-hypotheses: -

H1: Green human resource management practices predict sustainable competitive advantage.

H1.1: Green recruitment & selection positively influences sustainable competitive advantage

H1.2: Green performance management positively influences sustainable competitive advantage

H1.3: Green compensation & benefits positively influence sustainable competitive advantage

H1.4: Green training & development positively influences sustainable competitive advantage

2.3.6 Theoretical Framework:

Based on the previous preliminary literature review, the following theoretical framework is identified to test relationship between green human resource management practices and sustainable competitive advantage.

- The Dependent Variable: Sustainable Competitive Advantage
- Independent Variable: Green human resource management practices

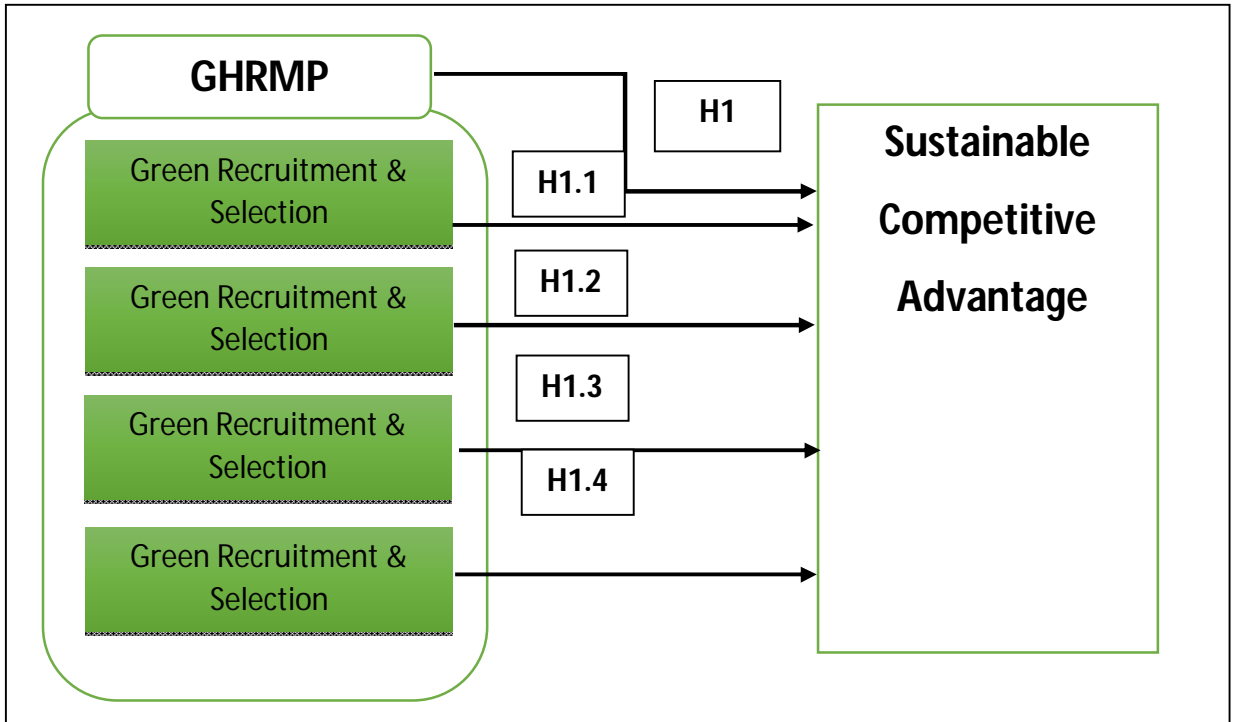


Figure (2.1): Proposed Research Model

3.Methodology:

3.1 Research Design:

The research type is deductive hypothesis-testing research. It is a correlation in nature as it aims to examine the relationship between GHRM and its practices and SCA in the food sector in Egypt. Data has been collected through a questionnaire designed to achieve this objective. The population is identified based on a database compiled by Egyptian Industry Chambers, a reliable data source concerning Egyptian companies. The population is selected from three large food factories in Egypt (1350) employees to guarantee the applications of HRM & EMS. It targets a sample of (299) from the food sector in Egypt conducted by employees across all levels (Blue-collar and White-collar). The current research uses a causal study with minimal interference by the researcher. Individual employees are the central element in the GHRMP activity, whereby they are affected by all related practices. Such studies are called "cross-sectional studies."

Respondents collected data between June and August of 2022 in a time "cross-sectional study." In this research, the collected data is quantitative. The quantitative approach facilitates the measurement of responses from a few questions and allows data to be easily collected and compared. The number of valid questionnaires has reached 299 employees, and the response rate was 225 answers, representing 75% of the total number of distributed questionnaires, which is an acceptable response rate.

3.2 Measure:

▪ **Demographics.**

Participants are asked to provide their gender, age, educational level, and job title for descriptive purposes only and the years of experience.

▪ **Green Human Resource Management Practices (GHRMP).**

GHRMP is measured using the 13-item measure developed by Tang et al., (2017). The 13 items are distributed as follows: Green Recruitment and Selection: 3 items; Green Training: 3 items; Green Performance Management: 4 items; and Green Pay and Reward: 3 items. Green involvement was excluded as it is out of this research scope and objective. Responses range from strongly disagree (1) through to strongly agree (5). The reported Cronbach alpha for each dimension is: 0.84, 0.83, 0.87, and 0.87 respectively (Tang et al., 2017).

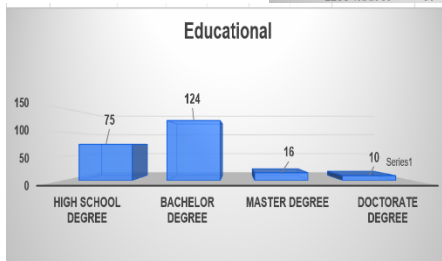
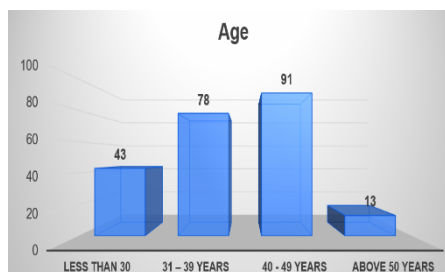
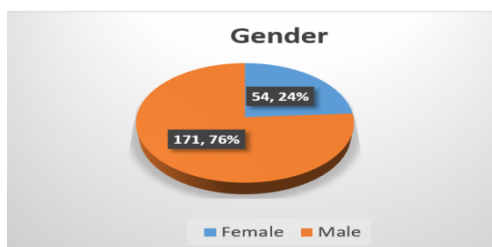
▪ **Sustainable Competitive Advantage (SCA).**

SCA is measured using the 6-item measure developed by Guimarães et al., (2017). The questionnaire is given to different levels of management (directors, managers, supervisors, and technicians). The observable variables are presented within the text in the form of statements, with a degree of agreement or disagreement in a 5-point Likert scale: 1 – Strongly disagree; 2 – partially disagree; 3 – Neither agree nor disagree; 4 – partially agree, and 5 – Completely agree.

3.3 Data Analysis and Hypotheses Testing:

According to elements of the questionnaire, the results are divided into two sections; the first section represents the demographic analysis which includes age, gender, job title, and experience. The second section includes the item of the hypotheses, which cover GRS, GPM, GCB, and GTD.

3.3.1 Demographic Analysis



3.3.2 Hypotheses Testing - Descriptive Statistics and Correlation Analysis:

This section highlights the results of testing the research hypotheses. It clarifies the relationship between the independent

variables and the dependent variable. It also determines the impact of the independent variables on the dependent variable. Moreover, it shows the statistical difference among responses toward some traits. Several tools are used to test the hypotheses, such as the Person Correlation Coefficient, Multiple Linear Regression, the Independent Samples T-test, and Analysis of Variance. In this part the research will use the **Pearson Correlation** and **Multiple Linear Regression** to test the relationship among all variables. A Pearson correlation matrix will indicate the direction, strength, and significance of the bivariate relationships among all the variables measured at an interval or ratio level. The correlation is derived by assessing the variations in one variable as another variable also varies. A correlation coefficient that indicates the strength and direction of the relationship can be computed by applying a formula that considers the three sets of figures – in this case, GHRMP and SCA. On The other hand, the researcher uses Multiple Linear Regression analysis in a situation where one independent variable is hypothesized to affect one dependent variable (Sekaran & Bougie, 2016).

- The Pearson correlation coefficient (R) and the coefficient of determination (R²) are calculated to test the relationship between the two variables of interest in this research.
- Analysis of Variance (ANOVA) is calculated to provide information about levels of variability within a regression model and tests of significance.
- Multiple Regression Coefficient is calculated to predict the dependent variable from the independent variables.

The next part shows extra clarifications by presenting the results tables that show the correlation between all variables and hypotheses, to show the significant relationships.

H1.1: Green Recruitment & Selection positively influences Sustainable Competitive Advantage .

Table 3.1.1: GRS & SCA Correlation

Correlation			
		Sustainable Competitive Advantage	Green Recruitment & Selection
Sustainable Competitive Advantage	Pearson Correlation	1	.422**
	Sig. (2-tailed)		0
	N	225	225
Green Recruitment & Selection	Pearson Correlation	.422**	1
	Sig. (2-tailed)	0	
	N	225	225
**. Correlation is significant at the 0.01 level (2-tailed).			

The correlation coefficient between green recruitment & selection and sustainable competitive advantage equals 0.422, and the p-value (Sig.) equals 0.000. The p-value (Sig.) is less than 0.05, so the correlation coefficient is statistically significant at $\alpha = 0.05$. The researcher concludes with a positive relationship between GRS and SCA.

Regression

Table 3.1.2: GRS & SCA Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422 ^a	0.178	0.174	0.54721
a. Predictors: (Constant), Green Recruitment & Selection				

Table 3.1.3: GRS & SCA ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14.447	1	14.447	48.25	.000 ^b
	Residual	66.775	223	0.299		
	Total	81.222	224			
a. Dependent Variable: Sustainable Competitive Advantage						
b. Predictors: (Constant), Green Recruitment & Selection						

Table 3.1.4: GRS & SCA Coefficients

Coefficients*						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.284	0.202		11.29	0
	Green Recruitment & Selection	0.366	0.053	0.422	6.946	0
a. Dependent Variable: Sustainable Competitive Advantage						

Tables 5.8.3: 5.8.5 show that GRS explains 17.4% of the changes in SCA (Adjusted R² = 0.174), and from the ANOVA table, we can conclude that the suggested model is a good model since the value of Sig. = 0.00. To test whether the model is good only or also best, this is through the table of Coefficients; since the Sig of Constant and GRS are equal to 0.00, we have to reject that the parameters are insignificant and accept the alternative that is significant at any significant level. The best-suggested model in the form:

$$SCA = 2.284 + 0.366 GRS$$

H1.2: Green Performance Management positively influences Sustainable Competitive Advantage.

Table 3.1.5: GPM & SCA Correlations

		Sustainable Competitive Advantage	Green Performance Management
Sustainable Competitive Advantage	Pearson Correlation	1	.600**
	Sig. (2-tailed)		.000
	N	225	225
Green Performance Management	Pearson Correlation	.600**	1
	Sig. (2-tailed)	.000	
	N	225	225

** . Correlation is significant at the 0.01 level (2-tailed).

Testing the research sub-hypothesis H1.2, the influence of GPM on SCA:

The correlation coefficient between green performance management and sustainable competitive advantage equals 0.600, and the p-value (Sig.) equals 0.000. The p-value (Sig.) is less than 0.05, so the correlation coefficient is statistically significant at $\alpha = 0.05$. The researcher concludes with a positive relationship between GPM and SCA.

Regression

Table 3.1.6: GPM & SCA Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.600 ^a	0.36	0.357	0.48293
a. Predictors: (Constant), Green Performance Management				

Table 3.1.7: GPM & SCA ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.213	1	29.213	125.3	.000 ^b
	Residual	52.009	223	0.233		
	Total	81.222	224			
a. Dependent Variable: Sustainable Competitive Advantage						
b. Predictors: (Constant), Green Performance Management						

Table 3.1.8: GPM & SCA Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.74	0.175		9.942	0
	Green Performance Management	0.527	0.047	0.6	11.19	0
a. Dependent Variable: Sustainable Competitive Advantage						

Tables 5.8.8: 5.8.10 show that GPM explains 35.7% of the changes in SCA (Adjusted R² = 0.357), and from the ANOVA table, we can conclude that the suggested model is a good model since the value of Sig. = 0.00. To test whether the model is good only or also best, this is through the table of Coefficients; since the Sig of Constant and GMP are equal to 0.00, we have to reject that the parameters are insignificant and accept the alternative that is significant at any significant level. The best-suggested model in the form:

$$SCA = 1.74 + 0.527 GPM$$

H1.3: Green compensations & benefits positively influence sustainable competitive advantage.

Table 3.1.9: GCB & SCA Correlations

		Sustainable Competitive Advantage	Green Compensation & Benefits
Sustainable Competitive Advantage	Pearson Correlation	1	.524 ^{**}
	Sig. (2-tailed)		0
	N	225	225
Green Compensation & Benefits	Pearson Correlation	.524 ^{**}	1
	Sig. (2-tailed)	0	
	N	225	225
**. Correlation is significant at the 0.01 level (2-tailed).			

Testing the research sub-hypothesis H1.3, the influence of GCB on SCA:

The correlation coefficient between green **compensations & benefits** and sustainable competitive advantage equals 0.524, and the p-value (Sig.) equals 0.000. The p-value (Sig.) is less than 0.05, so the correlation coefficient is statistically significant at $\alpha = 0.05$. The researcher concludes with a positive relationship between GCB and SCA.

Table 3.1.10: GCB & SCA Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524 ^a	0.274	0.271	0.51415
a. Predictors: (Constant), Green Compensation & Benefits				

Table 3.1.11: GCB & SCA ANOVA^a

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.272	1	22.272	84.25	.000 ^b
	Residual	58.95	223	0.264		
	Total	81.222	224			
a. Dependent Variable: Sustainable Competitive Advantage						
b. Predictors: (Constant), Green Compensation & Benefits						

Table 3.1.12: GCB & SCA Coefficients^a

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.32	0.15		15.42	0
	Green Compensation & Benefits	0.37	0.04	0.524	9.179	0
a. Dependent Variable: Sustainable Competitive Advantage						

Tables 5.8.13: 5.8.15 show that GCB explains 27.1% of the changes in SCA (Adjusted R² = 0.271), and from the ANOVA table, we can conclude that the suggested model is a good model since the value of Sig. = 0.00. To test whether the model is good only or also best, this is through the table of Coefficients; since the Sig. of Constant and GCB are equal to 0.00, we have to reject that the parameters are insignificant and accept the alternative that is significant at any significant level. The best-suggested model in the form:

$$SCA = 2.32 + 0.37 GCB$$

H1.4: Green Training & Development positively influences sustainable competitive advantage.

Table 3.1.13: GTD & SCA Correlations

		Sustainable Competitive Advantage	Green Training & Development
Sustainable Competitive Advantage	Pearson Correlation	1	.474**
	Sig. (2-tailed)		0
	N	225	225
Green Training & Development	Pearson Correlation	.474**	1
	Sig. (2-tailed)	0	
	N	225	225

** . Correlation is significant at the 0.01 level (2-tailed).

Testing the research sub-hypothesis H1.4, the influence of GTD on SCA:

The correlation coefficient between green training & development and sustainable competitive advantage equals 0.474, and the p-value (Sig.) equals 0.000. The p-value (Sig.) is less than 0.05, so the correlation coefficient is statistically significant at $\alpha = 0.05$. The researcher concludes with a positive relationship between GTD and SCA.

Table 3.1.4: GTD & SCA Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.474 ^a	0.225	0.221	0.53131
a. Predictors: (Constant), Green Training & Development				

Table 3.1.15: GTD & SCA Model ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.271	1	18.271	64.72	.000 ^b
	Residual	62.951	223	0.282		
	Total	81.222	224			
a. Dependent Variable: Sustainable Competitive Advantage						
b. Predictors: (Constant), Green Training & Development						

Table 3.1.16: GTD & SCA Coefficients^a

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.163	0.19		11.39	0
	Green Training & Development	0.39	0.048	0.474	8.045	0
a. Dependent Variable: Sustainable Competitive Advantage						

Tables 5.8.18: 5.8.20 show that GTD explains 22.1% of the changes in SCA (Adjusted R² = 0.221), and from the ANOVA table, we can conclude that the suggested model is a good model since the value of Sig. = 0.00. To test whether the model is good only or also best, this is through the table of Coefficients; since the Sig. of Constant and GTD are equal to 0.00, we have to reject that the parameters are insignificant and accept the alternative that is significant at any significant level. The best-suggested model in the form:

$$SCA = 2.163 + 0.39 GTD$$

H1: Green Human Resource Management Practices predict Sustainable Competitive Advantage.

Table 3.1.17: GHRMP & SCA Correlations

		Sustainable Competitive Advantage	Green Human Resource Management Practices
Sustainable Competitive Advantage	Pearson Correlation	1	.632**
	Sig. (2-tailed)		.000
	N	225	225
Green Human Resource Management Practices	Pearson Correlation	.632**	1
	Sig. (2-tailed)	.000	
	N	225	225

** . Correlation is significant at the 0.01 level (2-tailed).

Testing the research hypothesis H1, the influence of GHRMP on SCA:

The correlation coefficient between green human resource management practices and sustainable competitive advantage equals 0.632, and the p-value (Sig.) equals 0.000. The p-value (Sig.) is less than 0.05, so the correlation coefficient is statistically significant at $\alpha = 0.05$. The researcher concludes with a positive relationship between GHRMP and SCA.

Table 3.1.18: GHRMP & SCA Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.632 ^a	0.399	0.396	0.46782
a. Predictors: (Constant), Green Human Resource Management Practices				

Table 3.1.19: GHRMP & SCA ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	32.417	1	32.417	148.1	.000 ^b
	Residual	48.805	223	0.219		
	Total	81.222	224			
a. Dependent Variable: Sustainable Competitive Advantage						
b. Predictors: (Constant), Green Human Resource Management Practices						

Table 3.1.20: GHRMP & SCA Coefficients^a

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.271	0.199		6.383	0
	Green Human Resource Management Practices	0.642	0.053	0.632	12.17	0
a. Dependent Variable: Sustainable Competitive Advantage						

Tables 5.8.23: 5.8.25 show that GHRMP explains 39.6% of the changes in SCA (Adjusted R² = 0.396), and from the ANOVA table, we can conclude that the suggested model is a good model since the value of Sig. = 0.00. To test whether the model is good only or also best, this is through the table of Coefficients; since the Sig. of Constant and GHRMP are equal to 0.00, we have to reject that the parameters are insignificant and accept the alternative that is significant at any significant level. The best-suggested model in the form:

$$\text{SCA} = 1.271 + 0.642 \text{ GHRMP}$$

4. Discussion:

The study results confirm that the variables considered in the theoretical framework are essential and positive. Applying GHRM practices effectively inside Egypt's food industry will significantly impact the business and can create SCA. The

organizations are perhaps not harnessing their full potential and adequately encouraging GHRM practices development; however, the results show a positive relationship among the responders. It seems worthwhile to remedy this situation. It would be helpful if the top executives assigned progressively higher levels of commitment to EMS and GHRM practices to enhance the work environment and green the employees.

4.1- Impact of GHRM practices on SCA:

The research tests the role of GHRM practices (GRS, GPM, GCB, and GCB) on sustainable competitive advantage especially in the food industry in Egypt. The completed analysis and final results show a positive statistical relationship between GHRM practices and other variable, SCA.

The first finding of a positive relationship between GHRMP and sustainability supports the same finding (Mandago, 2019), where the study assists organizations in appreciating and implementing the relevant Green Human Resource Management Practices. The study found that the same four practices of current research positively influence environmental sustainability in state corporations in Kenya. (Mandago, 2019) In his research, the study findings indicate that 52% of the respondents were Bachelor's holders. The findings are similar to this research, indicating that most of the population has Bachelor's degrees 54%. A study (King & McGrath, 2002) indicates that in today's constantly fluctuating business environment, high education level is one factor that positively impacts the development of firms. He asserts that organizations with more extensive stocks of human capital, in terms of education and vocational training, are better placed to adapt their organizations to unexpected fluctuations.

Also, American Management Association (AMA) perceives that one of the significant sources of a firm's competitive advantage is the employees. Similarly, (Hamel & Prahalad, 1994) pointed out that human capital represents the only sustainable source of competitive advantage. Another researcher (Hoffman, 2000) supports the stream of theories in establishing an SCA by combining skills and resources in unique and continuing ways. By combining resources in this manner, firms can focus on

collectively learning how to coordinate all employees' efforts to facilitate the growth of specific core competencies. (MacDuffie, 1995) declares that GHRMP is a kind of intangible asset and significant firm resources used to achieve these objectives and create an SCA.

According to (Jabbour et al., 2019), based on the RBV theory, the study hypothesizes that green HRM practices (i.e., green analysis and job description, green recruitment, green selection, green training, green performance assessment, and green rewards) would positively impact sustainability. The findings indicate that only two green HRM practices showed a statistically significant and positive relationship with sustainability: green recruitment and green training. GHRM practices have been proposed as a way of transforming employees into valuable, rare, and inimitable resources that can promote firms' goals (Barney, 1991; Barney, Ketchen, & Wright, 2011; De Saá- Pérez & García- Falcón, 2002). These findings imply that GHRMP may provide environmentally committed employees and employ environmental values throughout the firm, which, in turn, can help to attain business sustainability, and this similarity may be due to most of the firms surveyed complying with ISO 14000 standards.

Herein below are the Pearson Correlation results that show the direct and positive relationship between GHRM practices (GRS, GTD, GPM, and GCB) and SCA.

4.2- The impact of Green Recruitment & Selection (GRS):

As a result of the Pearson Correlation that equals 0.422, green recruitment and selection is the lowest score among the four dimensions or practices; however, the result is accepted because the concept of green is not popular in all Egyptian organizations till now. One of the three factories selected to survey with them started applying the "Go Green" concept and system inside the organization's work location. During the discussion with the middle and top management regarding GRS, it was clear that the technology would start soon during recruitment processes as one of the solutions for applying a green approach and conserving the environment. Some researchers searched for the impact of green

recruitment and to what extent it could attract the applicant. (Guercia, Montanarib, Scapolanc, and Epifaniod, 2016) Declare the distinct and direct effects of green recruiting practices on attracting applicants inside the organizations. Green recruitment can be utilized as the process of hiring individuals with knowledge, skills, approaches, and behaviors that identify with environmental management systems within an organization (Ahmad, 2015). According to (Wehrmeyer, 1996), recruitment practices can support effective environmental management by ensuring that new entrants are familiar with an organization's environmental culture and can maintain its environmental values.

4.3- The impact of Green Training & Development (GTD):

Green training & development have a different Pearson Correlation result which is 0.474. GTD has ranked number three among the four practices compared to the correlation result. Many scientists focus on the impact and effect of green training on the environmental aspects and to which extent the GTD could mitigate the impact of adverse environmental aspects. (Daily et al., 2007) conducted a study on the EMS training framework and its relation to the HRM practices in the organization. The survey results identified that the formation of an effective green management system was directly dependent on environmental training. The findings (Unnikrishnan & Hedge, 2007) investigate the importance of environmental training and its relationship to cleaner production strategies. The results showed that environment management training was focused; however, learning processes were not very strong. The study observed a lack of top management commitment, a lack of suppliers of cleaner technologies, and a gap between academic institutes and industries concerning implementing green training policies. According (Al-Hosani, 2022) proves that in respect of Green Training & Development, the result revealed that it has a positive significant effect on Sustainability Performance. (Jabbar et al., 2010) attempt to identify the importance of HRM in promoting a company's environmental management. The results of this study identify that recruitment, training, employee motivation, and rewards are essential human dimensions that contribute to the

improvement in employee implementation of green management principles.

4.4- The impact of Green Performance Management (GPM):

Green performance management has the highest Pearson Correlation result, which is 0.600. GPM has ranked number one among the four practices compared to the correlation result. Several researchers explore and manage the relationship between performance management as an HR practice tool and the quality of EMS inside the organization for more sustainability. Organizations that set environmental Key Performance Indicators (KPIs) may create motivation for their employees and interest in sustainability and differ from competitors. A past survey by Wagner showed that implementing GHRM practices increased the firm's sustainable performance and explored the positive and significant impact of GHRM practices on the firm's economic performance (Martins et al., 2021). (Gharbi, Sobaih, Aliane, and Almubarak, 2022) confirm the results showing significant positive influences on GHRM on innovation capacities and competitive advantages. In other cases, (Jabbour et al., 2019) examined the relationship between GHRMP and sustainability and found that green performance assessments do not significantly influence sustainability.

4.5- The impact of Green Compensations and Benefits (GCB):

Theoretically, GCB is considered one of the essential factors in enhancing the green employee concept. The result shows that the Pearson correlation equals 0.524, which reflects a direct and positive relationship between GCB and SCA. Organizations use GCB as an essential motivation tool through rewarding and recognizing employees, which is crucial when applying any new system or approach. Findings (Al-Hosani, 2022) showed that Green Rewards & Compensation positively impact Sustainability Performance. (Ahmad, 2015) advocates that employee compensation programs can be modified to give bonuses based on the employee's appraisal ratings on behavioral and technical competencies. In addition, employees could be awarded bonuses for their outstanding work on special projects

(Liebowitz, 2010, p. 53). Green rewards can include workplace and lifestyle benefits, ranging from carbon credit offsets to free bicycles, to engage people in the green agenda while continuing to recognize their contribution (Pillai & Sivathanu, 2014, p. 1). A reward framework can inspire workers to increase their performance in ecological activities and build their dedication and obligation (Epstein & Buhovac, 2010).

5. Research Recommendations:

After the research is exposed to its results, the next part shows the different recommendations regarding GHRM practices:

5.1 Green Recruitment and selection:

Organizations must analyze prospective employees' environmental values during the GRS process. Individuals with higher green values are more likely to be encouraged to participate in the food industry at work than those with lower values.

5.2 Green Training and Development:

Additionally, it is highly recommended that educational institutions incorporate GHRM into their curriculum to increase awareness to be more environmentally conscious so that graduates are already familiar with GHRM practices. GTD practices help employees become aware of sustainability practices and equip them with the qualifications and abilities they need to complete their green tasks and, thereby, demonstrate voluntary behavior in the workplace.

5.3 Green Performance Management:

Build an eco-advantage culture, which includes creating Key Performance Indicators' KPIs' to comply with environmental policies and procedures and keep track of employees' green performance; by using environmental criteria in the performance appraisal management system.

5.4 Green Compensations and Benefits:

Executives should ensure EMS and HRM support for GHRMP; by motivating the employees through good compensations and benefits and clarifying the benefits of GHRM inside the organization. HR managers should provide awareness during the

process of GRS and employee induction about the pay and rewards dedicated to green compensations and rewards.

6. Research Managerial Implications:

Based on the findings of this research and the identified correlations between GHRMP & SCA in the food industry in Egypt. This research contributes to the literature by assessing and discussing GHRM practices in a developing country context. Research result assists companies in understanding their current level of GHRMP to help them clarify their strengths and weakness, to enhance their environmental performance.

This study is one of the recent studies investigating and focusing on the relationship between GHRMP's primary factors and environmental performance. This investigation has been done by testing a model representing these relations in the context of food organizations. The research provides a conceptual GHRM practices model intended to explain the implementation of GHRMP and to help firms understand how they can improve their environmental performance through human resources functions. This research also theoretically contributes by highlighting the main barriers, drivers, and benefits of GHRMP in a developing country, which are applicable in other developing countries.

7. Research Limitations:

The research may face limitations, as well as the current one. Although this research provides practical contributions to theoretical literature and practitioners, it still has some limitations. Firstly, employees are unfamiliar with the GHRM in Egypt. Secondly, the small sample focuses on organizations that reflect green or sustainable practices. Other limitations could be considered, such as lack of green culture, lack of cooperation, lack of top management commitment, lack of dedicated financial resources to GHRMP, and lack of time.

8. Future Research

The limitations mentioned in the previous section are the spark to generate some suggestions for future research. Hence, future studies are encouraged to examine the relationship between GHRMP and sustainable competitive advantage on a broader

level. It will be worthwhile if the researchers conduct more quantitative research to confirm or update the results presented in this research and expand the research for other industries.

9. Conclusions

This research aims to develop a model that examines the relationship and impact of GHRMP in creating a sustainable competitive advantage in the food industry in Egypt. This examination has been done by exploring to what extent the food industry factories in Egypt utilize GHRM practices, testing the correlations between GHRMP and SCA, and finding the best practices to enhance environmental sustainability. Practitioners and policymakers, particularly in human resource management in Egypt's food industry, could fully use this study's results and integrate them into their strategies for HRM, creating sustainability and achieving the organization's strategic objectives.

To conclude, it has been found that organizations appear to use GHRM practices at a moderated level to encourage pro-environmental behavior in their employees and be a source of sustainable competitive advantage. The finding of the analysis demonstrates that the preferable practice which has been done to increase employees' commitment and awareness toward the environment is "Green Performance Management." Followed by "Green Compensations & Benefits" and "Green Training & Development," while the least used practice was "Green Recruitment & Selection."

References:

- Abdel-Gawadh, S. T., Kandil, M., & Sadek, M. (2004). Water Scarcity Prospects in Egypt 2000 - 2050
- Abdel-Shafy, H. (2002). Water issue in Egypt: Resources, pollution and protection endeavors CEJOEM 2002, Vol.8. No.1.:3– 21
- Acquah, I. S. K., Mensah, Y. A. & Afum, E. (2020). Examining the link among green human resource management practices, green supply chain management practices and performance September 2020 Benchmarking An International Journal ahead-of-print (ahead-of-print) DOI:10.1108/BIJ-05-2020-0205
- Ahmad, S. (2105). Green Human Resource Management: Policies and practices <https://doi.org/10.1080/23311975.2015.1030817>
- Andreas, F. (Ed.). (2011). A simple path to sustainability: green business strategies for small and medium-sized businesses. ABC-CLIO.
- Barney, J. B., Ketchen, D. J., Wright, M., Barney, J. B., Ketchen, D. J., & Wright, M. (2011). The Future of Resource-Based Theory: Revitalization or Decline? *Journal of Management*, 37(5), 1299–1315. <https://doi.org/10.1177/0149206310391805>
- Barney, J.B., (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of management*, 27(6), pp.643-650.
- Bauer, T.N., Aiman-Smith, L. (1996). "Green career choices: The influence of ecological stance on recruiting." *Journal of business and psychology* 10.4 (1996): 445-458.
- Bombiak, E., Marciniuk-Kluska, A. (2018). Green Human Resource Management as a Tool for the Sustainable Development of Enterprises: Polish Young Company Experience doi:10.3390/su10061739
- Borman, W. C. (1991). "Job Behavior, Performance, and Effectiveness". Psychology Faculty Publications. 1117.
- Brekke, K. A., & Nyborg, K. (2008). Attracting responsible employees: Green production as labor market screening. *Resource and Energy Economics*, 30(4), 509-526.
- Cherian, J., Jacob, J. (2012). A Study of Green HR Practices and Its Effective Implementation in the Organization: A Review ; Vol. 7, No. 21; 2012 ISSN 1833-3850 E-ISSN 1833-8119 doi:10.5539/ijbm.v7n21p25
- Chiappetta, C. J., Jabbour (2011). How green are HRM practices, organizational culture, learning and teamwork? A Brazilian study

- VOL. 43 NO. 2 2011, pp. 98-105, Q Emerald Group Publishing Limited, ISSN 0019-7858 DOI 10.1108/0019785111110892
- Clair, J. A., Milliman, J., & Whelan, K. S. (1996). Toward an Environmentally Sensitive Ecophilosophy for Business Management. *Industrial & Environmental Crisis Quarterly*, 9(3), 289–326. <https://doi.org/10.1177/108602669600900302>
 - Daily, B. F., Bishop, J. W., & Steiner, R. (2007). The Mediating Role Of EMS Teamwork As It Pertains To HR Factors And Perceived Environmental Performance. *Journal of Applied Business Research (JABR)*, 23(1). <https://doi.org/10.19030/jabr.v23i1.1411>
 - Day, G.S. and Wensley, R., (1988). Assessing advantage: a framework for diagnosing competitive superiority. *Journal of marketing*, 52(2), pp.1-20.
 - Epstein, M. J., & Roy, M. J. (1997). Using ISO 14000 for improved organizational learning and environmental management. *Environmental Quality Management*, 7(1), 21-30.
 - Epstein, M. J., Buhovac, A. R., & Yuthas, K. (2010). Implementing sustainability: The role of leadership and organizational culture. *Strategic finance*, 91(10), 41.
 - Groenewegen, P.P., Geiser, K., Aasen, B., Hass, J., Hall, S., Chess, C., Lynn, F., Piet, J., Irwin, A., James, P. and Wehrmeyer, W., (1996). *The greening of industry resource guide and bibliography* (No. 307). Island Press.
 - Grolleau, G., Mzoughi, N., & Pekovic, S. (2012). Green not (only) for profit: An empirical examination of the effect of environmental-related standards on employees' recruitment. *Resource and Energy Economics*, 34(1), 74-92.
 - Guerci, M., Montanari, F., Scapolan, A. & Epifanio, A. (2016). Green and non-Green Recruitment Practices for Attracting Job Applicants: Exploring Independent and Interactive Effects ." *The International Journal of Human Resource Management* 27.2 (2016): 129-150.
 - Guimarães, F. C. J., Severo, A. E. & Vasconcelos, M.R.C. (2018). The influence of entrepreneurial, market, knowledge management orientations on cleaner production and the sustainable competitive advantage, *Journal of Cleaner Production*, Volume 174, 2018, Pages 1653-1663, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2017.11.074>.

- (<https://www.sciencedirect.com/science/article/pii/S0959652617327348>)
- Harris, Candice, & Tregidga, H. (2012). "HR managers and environmental sustainability: strategic leaders or passive observers?." *The International Journal of Human Resource Management* 23.2 (2012): 236-254.
 - Hossin, M.A.; Hosain, M.S.; Frempong, M.F.; Adu-Yeboah, S.S.; Mustafi, M.A.A. What Drives Sustainable Organizational Performance? The Roles of Perceived Organizational Support and Sustainable Organizational Reputation. *Sustainability* 2021, 13, 12363. <https://doi.org/10.3390/su132212363>
 - Hunt, S.D., (1995). The resource-advantage theory of competition: Toward explaining productivity and economic growth. *Journal of Management Inquiry*, 4(4), pp.317-332.
 - Huselid, Mark A. (1995). "The impact of human resource management practices on turnover, productivity, and corporate financial performance." *Academy of management journal* 38, no. 3 (1995): 635-672.
 - Jabbar, A. (2010). Oncospheral Penetration Glands and Secretary Blebs Are the Sources of *Taenia ovis* Vaccine Antigens DOI: <https://doi.org/10.1128/IAI.00511-10>
 - Jabbar, M. H., Abid, M. (2015). GHRM: Motivating Employees towards Organizational Environmental Performance . ISSN. 1444-8939. DOI: [dx.doi.org/14.9831/1444-8939.2014/2-4/MAGNT.34](https://doi.org/10.1128/IAI.00511-10)
 - Jabbour, C. J. C., Santos, F. C. A. and Nagano, M. S. (2010). Contributions of HRM Throughout the Stages of Environmental Management: Methodological Triangulation Applied to Companies in Brazil. *The International Journal of Human Resource Management*, 21(7)
 - Jackson, S. E., Renwick, D. W. S., Jabbour, C. J. C., & Muller-Camen, M. (2011). State-of-the-Art and Future Directions for Green Human Resource Management: Introduction to the Special Issue. *German Journal of Human Resource Management*, 25(2), 99–116.
 - <https://doi.org/10.1177/239700221102500203>
 - Jackson, S. E., Seo, J. (2010). The greening of strategic HRM scholarship DOI: 10.1057/omj.2010.37
 - Jamal, T., Zahid, M., Martins, J. M., Mata, M. N., Rahman, H. U., Mata, P. N. (2021). Perceived Green Human Resource Management Practices and Corporate Sustainability: Multigroup

- Analysis and Major Industries Perspectives. Sustainability 2021, 13, 3045.
- <https://doi.org/10.3390/su13063045>
 - Jaramillo, J. A., Sossa, J. W. Z. & Mendoza, G. L. O. (2018). Barriers to sustainability for small and medium enterprises in the framework of sustainable development—Literature review DOI: 10.1002/bse.2261
 - Jenatabadi & Salarzadeh, H. (2015). "An overview of organizational performance index: Definitions and measurements." Available at SSRN 2599439 (2015).
 - Ji, Y. (2012). A Conceptual Approach to Green Human Resource Management and Corporate Environmental Responsibility in the Hospitality Industry Print ISSN: 2288-4637 / Online ISSN 2288-4645 doi:10.13106/jafeb.2020.vol7.no1.195
 - Liebowitz, J., (2010). The role of HR in achieving a sustainability culture. Journal of sustainable development, 3(4), pp.50-57.
 - Lindström, S. & Vanhala, S. (2011). Divergence in HR Functional Roles in Local Government October 2011 Public Management Review 13(7):1023-1040 DOI:10.1080/14719037.2011.589620
 - Mandago, R.J. (2019). INFLUENCE OF GREEN HUMAN RESOURCE MANAGEMENT PRACTICES ON ENVIRONMENTAL SUSTAINABILITY IN SERVICE BASED STATE CORPORATIONS IN KENYA
 - Masri, H. A. (2017). "Assessing green human resources management practices in Palestinian manufacturing context: An empirical study." Journal of cleaner production 143 (2017): 474-489.
 - McGrath, S. (2002). Skills for development: a new approach to international cooperation in skills development? Journal of Vocational Education and Training, 54:3, 413-430, DOI: 10.1080/13636820200200207
 - Milkovich, George, & Milkovich, C. (1992). "Strengthening the pay-performance relationship: The research." Compensation & Benefits Review 24, no. 6 (1992): 53-62.
 - Ministry of Environment- Egyptian Environmental Affairs Agency - "www.eaa.gov.eg"
 - Mohammed, S., Ajimon George Ph. D. (2020)
 - Muisyo, P.K., Qin, S., Ho, T.H. & Julius, M.M. (2022). "The effect of green HRM practices on green competitive advantage of manufacturing firms", Journal of Manufacturing Technology

Management, Vol. 33 No. 1, pp. 22-40.
<https://doi.org/10.1108/JMTM-10-2020-0388>

- Muller-Camen, M. (2011). State-of-the-Art and Future Directions for Green Human Resource Management: Introduction to the Special Issue. *German Journal of Human Resource Management*, 25(2), 99–116. <https://doi.org/10.1177/239700221102500203>
- Neto, A. S. (2014). Green training supporting eco-innovation in three Brazilian companies: practices and levels of integration VOL. 46 NO. 7 2014, pp. 387-392, C Emerald Group Publishing Limited, ISSN 0019-7858
- Opatha, H.H.D.N.P. & Hewapathirana, R.A. (2019). Defining Green and Green Human Resource Management: A Conceptual Study. *International Journal of Arts and Commerce*, 8(5), 1-10.
- Opatha, H.H.D.N.P., (2019). Sustainable human resource management. Sri Lanka: Author.
- Paillé, P., Chen, Y., Boiral, O. and Jin, J., 2014. The impact of human resource management on environmental performance: An employee-level study. *Journal of Business ethics*, 121(3), pp.451-466.
- Pellegrini, C., Rizzi, F. & Frey, M. (2018). The role of sustainable human resource practices in influencing employee behavior for corporate sustainability. April 2018 *Business Strategy and the Environment* 27(3) DOI:10.1002/bse.2064
- Perron, G., Cote, R. P. & duffy, J. F. (2006). Improving environmental awareness training in business doi: 10.1016/j.jclepro.2005.07.006
- Pfeffer & Jeffrey (1997). *New directions for organization theory: Problems and prospects*. Oxford University Press on Demand, 1997.
- Pillai, R., & Sivathanu, B. (2014). Green human resource management. *Zenith International Journal of Multidisciplinary Research*, 4(1), 72-82.
- Porter, M. E. (1985). Technology and competitive advantage. *Journal of business strategy*.
- Prahalad, Coimbatore K., & Hamel, G. (2009). "The core competence of the corporation." In *Knowledge and strategy*, pp. 41-59. Routledge, 2009.
- Renwick, D. W. S, Tom Redman, T., & Stuart Maguire, S. (2013). "Green human resource management: A review and research

- agenda." International journal of management reviews 15.1 (2013): 1-14.
- Renwick, D. W. S. (2013). Opatha, H. H. D. N. P. & Arulrajah, A. A (2014) Green Human Resource Management Practices Sri Lankan Journal of Human Resource Management Vol.5, No.1, 2015
 - Rogers, E. W. & Wright, P. M. (1998). MEASURING ORGANIZATION PERFORMANCE IN STRATEGIC HUMAN RESOURCE MANAGEMENT PROBLEMS, PROSPECTS, AND PERFORMANCE INFORMATION MARKETS
 - Russell, J. S., Terborg, J. R., & Powers, M. L. (1985). Organizational performance and organizational level training and support. Personnel Psychology, 38(4), 849–863
 - Saá- Pérez,d. & García- Falcón, (2002). A resource-based view of human resource management and organizational capabilities development, International Journal of Human Resource Management, 13:1, 123-140, DOI: 10.1080/09585190110092848
 - Sarkis, J., Gonzalez-torre, P. & Adenso-diaz, B. (2010). Stakeholder pressure and the adoption of environmental practices: The mediating effect of training <http://dx.doi.org/10.1016/j.jom.2009.10.001>
 - Sekaran, U. and Bougie, R., (2016). Research methods for business: A skill building approach. john wiley & sons.
 - Sobaih, A.E.E., Hasanein, A., Gharbi, H. and Abu Elnasr, A.E., 2022. Going Green Together: Effects of Green Transformational Leadership on Employee Green Behaviour and Environmental Performance in the Saudi Food Industry. Agriculture, 12(8), p.1100.
 - Srivastava, A.P. and Shree, S., 2018. Examining the effect of employee green involvement on perception of corporate social responsibility: Moderating role of green training. Management of Environmental Quality: An International Journal.
 - Tang, G., Chen, Y., Jiang, Y., Paillé, P. and Jia, J. (2018). Green human resource management practices: scale development and validity. Asia Pac J Hum Resour, 56: 31-55. <https://doi.org/10.1111/1744-7941.12147>
 - Teixeira, A.A., Jabbour, C.J.C. and de Sousa Jabbour, A.B.L., (2012). Relationship between green management and environmental training in companies located in Brazil: A

- theoretical framework and case studies. *International Journal of Production Economics*, 140(1), pp.318-329.
- Terpstra, D.E. and Rozell, E.J., (1993). The relationship of staffing practices to organizational level measures of performance. *Personnel psychology*, 46(1), pp.27-48.
 - Ullah, M.M., (2017). Integrating environmental sustainability into human resources management: A comprehensive review on green human resources management (Green HRM) Practices. *Economics and management*, 6(1), pp.14-19.
 - Ulrich, D., (1997). Measuring human resources: an overview of practice and a prescription for results. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management*, 36(3), pp.303-320.
 - Unnikrishnan, S. and Hegde, D.S., 2007. Environmental training and cleaner production in Indian industry—A micro-level study. *Resources, conservation and recycling*, 50(4), pp.427-441.
 - Wehrmeyer, W. ed., (2017). *Greening people: Human resources and environmental management*. Routledge.
 - Zoogah, D.B., 2011. The dynamics of Green HRM behaviors: A cognitive social information processing approach. *German Journal of Human Resource Management*, 25(2), pp.117-139.