

Al-Abbadi, Lina Hamdan; Rumman, Amani Rajab Abu

Article

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*Corresponding author: Lina Hamdan Al-Abbadi, Business School, Al-Ahliyya Amman University, Amman, Jordan
E-mail: L.alabbadi@ammanu.edu.jo

Reviewing editor:
Trevor Wilmshurst, Accounting and Corporate Governance, University of Tasmania - Launceston Campus, Amman - Jordan, AUSTRALIA

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MANAGEMENT | RESEARCH ARTICLE

Sustainable performance based on entrepreneurship, innovation, and green HRM in e-Business Firms

Lina Hamdan Al-Abbadi^{1*} and Amani Rajab Abu Rumman¹

Abstract: The purpose of this study is to look into how the three pillars (Entrepreneurship, Innovation, and Green Human Resource Management) effect on sustainable performance. For data collection purposes the researcher uses a “random sample” consisting of (350) employees and managers. The method of data collection was by a questionnaire distributed to the sample. The total returned questionnaires were (268) with a good response rate of approximately (77%). The findings indicated the significant and positive effects of entrepreneurship,



Lina Hamdan Al-Abbadi

ABOUT THE AUTHORS

Lina Al-Abbadi is an Associate professor of the business administration department at the Business School. She joined Al-Ahliyya Amman University of Amman-Jordan in 2018. She is a Certified E-Learning Manager. Her research focus on the major areas of management. Areas of teaching include Human Resource Management, Strategic Management, Marketing Management, Knowledge Management, Supply Chain Management, Total Quality Management and Entrepreneurship at the graduate and undergraduate levels. She supervised of many thesis in master degree. She worked with accreditation and quality committees at the faculty level. She worked in the Ministry of Education. She passionate work with charities, especially on the training side.

Amani Abu Rumman is an Associate professor of the business administration department at the Business School. She joined Al-Ahliyya Amman University of Amman-Jordan in 2018. She is a EFQM Assessor. Her research focus on the major areas of management. Areas of teaching Include Human Resource Management, Strategic Management, Change and Crisis Management, Knowledge Management, Total Quality Management, and Entrepreneurship at the graduate and undergraduate levels. She supervised of many thesis in master degree. She worked with accreditation and quality committees at the faculty level. She worked in the Jordanian Military, Higher Media Council, Ombudsman Bureau, and Integrity and Anti-Corruption Commission. She passionate work with charities, especially on the training side.

PUBLIC INTEREST STATEMENT

The concept of sustainable performance is now an essential tool through which organizations demonstrate accountability to their stakeholders (e.g. Owners, Employees, Customers, Government, etc.).The increasing of the global competitiveness and the awareness of the consequences of organizations' activities suggests the need for organizations to concern of Entrepreneurship, Innovation, and Green Human Resource Management. The purpose of this study is to look into how the three pillars (Entrepreneurship, Innovation, and Green HRM) effect on sustainable performance. The findings indicated the significant and positive effects of entrepreneurship, innovation, and green HRM on sustainable performance. Entrepreneurship is the most influential variable in sustainable performance followed by green HRM and then Innovation. The study contributes to the literature by conceptualizing the three pillars (entrepreneurship, innovation, and green HRM). Researcher advised employing suitable measurements that are consistent with the dependent variable because of this. Additionally, managers should concentrate on these three pillars to enhance sustainable performance.

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Subjects: Sustainable Development; Human Resource Development; Innovation Management

Keywords: innovation; green HRM; (Business Administration/ M130 New Firms; Startups) sustainable performance

1. Introduction

Since it has the ability to propel the economies of nations and is already both a social and an economic phenomenon, entrepreneurship is one of the most important global phenomena that is currently pervasive in the twenty-first century (Thornton et al., 2011). All Organizations strive to achieve their survival and continuity within the framework of what the current reality dictates by achieving competitive advantage to outperform other competitors in the markets.

All organizations try thrive through a combination of a set of critical factors such as entrepreneurship, innovation, and green human resource management to attempt achieve the sustainable performance especially in e-commerce and e-business. Innovation and entrepreneurship are now crucial for the long-term expansion and development of businesses across all sectors (Boons & Lüdeke-Freund, 2013). Entrepreneurial tendency correlates with offering and process innovation to bring about novelty in product and service provision (Alsharif et al., 2021).

Accounting for advantages inherent to e-Business Firms, we take the agility in innovation and diversification to be an attribute of success and critical component for maintaining sustainability (Waiganjo et al., 2021).

The Global Competitiveness Report ranked Jordan 64th globally and 8th in the Arab world, according to the indicators on which countries' progress and economic growth are measured. The leading economies have achieved, in each indicator, an important record of development and utilization of available talent, as well as in creating investments that promote innovation, and that these Smart investments were expected thanks to a coherent approach based on strong collaboration between the public and private sectors (Nasereddin, 2022, p. 437).

All organizations seek to successfully compete in markets entrepreneurship, innovation, and green human resource management are key competitive advantages in the globalized world and more so in emerging economies that store huge growth opportunity potential. It has been found that entrepreneurship and innovation are supporting each other because organizational success and sustainability in today's dynamic and changing environment depend on the combination of these two—entrepreneurship and innovation (F. Zhao, 2005). According to Schaltegger et al. (2012), e-business organizations have employed a variety of survival strategies, the most crucial of which is creating new business models and implementing numerous innovations. There is a gap between empirical theory and reality, according to Teece (2007), Chang and Lee (2008), and Lüdeke Freund (2013), who also asserts that the business model plays a significant role in establishing sustainable performance.

On the other side, Human resources are sufficient to achieve the elements of self-reliance if we educate, train, and employ them well, in line with the requirements of development and market

needs, and most importantly, providing the appropriate environment for excellence, creativity and invention, and encouraging creative initiatives that contribute to completing the drawing of Jordan's economic identity, that identity that is still unclear Landmarks.

In particular, GHRM is a new concept, it has become popular all over the world and there is no comprehensive definition for it. Refers to making efforts to improve energy efficiency or reduce pollution from home, work, and general living habits. The main purpose of switching to green is to reduce the potential negative impact of energy consumption and pollution on the environment (Likhitkar & Verma, 2017; Mehta & Mehta, 2017; Rawashdeh, 2018; Tahir et al., 2020) According to the green (HRM) practices, the AMO (Ability, Motivation, and Opportunity) theory has received significant attention for its ability to explain the interaction between how people are managed and subsequent performance outcomes as well as for its potential to enhance proactive HR behavior (Al-Tit, 2020; Korauš et al., 2020). According to Kianto et al. (2017), GHRM significantly impacted innovation and performance and is essential for enhancing innovation (Hong et al., 2019).

Green HRM techniques facilitate the progression of HR careers (Alikaj et al., 2020). Organizational citizenship behavior (OCB) is improved and increased by green HR practices (Kataria et al., 2019). According to Lopez-Cabrales and Valle-Cabrera (2020), green HRM is linked to economic, social, and environmental performance as well as to employee job performance (Manzoor et al., 2019).

Finally, this research seeks to analyze the impact of entrepreneurship, innovation, and green HRM on the sustainable performance of e-business companies in Jordan. In past researches, these four variables were examined independently in earlier studies. This research tries to better comprehend the four pillars for sustainable performance of e-business companies in Jordan. It contains forth parts: a review of pertinent literature, the construction of a theoretical framework and hypothesis, the justification of the data collecting and analytic procedures, the discussion of the findings, the implications of the research, and the conclusion.

2. Literature review

Related literature covering sustainable performance, entrepreneurship, innovation and green HRM, are shown below:

2.1. Sustainable performance

Sustainable performance is the interaction between the performance of organizations in their business, and (environmental, economic, social) performance (Henri & Journeault, 2008). It is the ability of the organization to achieve its business and increase value for shareholders, taking into account the long-term economic, environmental and social responsibility.

According to the Organization for Economic Cooperation and Development (OECD) Sustainable performance is measured in several ways:

Social performance: It is one of the most important aspects of sustainability, as it refers to people's mentality and ways of thinking. In addition to objectives, standards of living and equity, social dialogue, delegation of responsibilities and protection of culture/heritage.

Economic performance: It means sustainability in growth and development and the stability of financial performance.

Environmental performance: Continuing to conserve and protect natural resources and avoid pollution for those resources (OECD, 2006).

The sustainable performance variable is measured through several dimensions, namely the environmental, social, and these dimensions have been used in several studies, the most important of which is (Angeloska Dichovska & Petkovska Mirchevska, 2016; Bi et al., 2017; Holtzblatt &

Tschakert, 2011; Pakwihok et al., 2012; Ray et al., 2013; Searcy, 2012; Smith & Lewis, 2011). where it is called the three pillars of sustainability, because it helps in evaluating the sustainable performance of companies as it provides useful information to decision makers, which improves the quality of decisions (Kamble et al., 2020). Many scholars have investigated the variables that affect sustainable performance and found there are many variables that affect it. In this research, entrepreneurship, innovation, and green human resources management will be studied as critical factors consistent with the nature of the study community.

2.2. Entrepreneurship

Entrepreneurship means that it is a set of activities aimed at exploiting unique opportunities that achieve outstanding performance (Miles et al., 2013) or/and which is the process by which individuals seek to seize opportunities without regard to the resources that they currently control (B. Barringer & Ireland, 2012) and it is defined as the behavior of risk adoption that results in new opportunities (Schermerhorn & Bachrach, 2015).

The Entrepreneurship is the Processes, practices, and decision-making activities that lead to a new situation characterized and measured by one or more of the following dimensions: willingness to innovate, take risks, and be proactive in relation to market opportunities and these dimensions have been used in several studies, the most important of which is (Al-Awlaqi et al., 2018; Ambad & Abdul Wahab, 2017; Eggers et al., 2013).

2.3. Innovation

B. R. Barringer and Ireland (2016) defines innovation as the process of creating something new, which is fundamental to the entrepreneurial process. According to the Small Business Administration Defense Office, small innovative companies are 16 times more productive than large innovative companies in terms of patents per employee. While H. Zhao et al. (2010) defined innovation as the efforts provided by the organization to discover, create and find opportunities for service and improvements to the existing systems, and showed that innovation is not engineering or other sciences and that it is not considered a technology only, but rather innovation talks about ideas and their development and development into products Goods that are put into the market to generate economic growth. Ceylan (2013) indicates that the types of innovation are as follows:

- Gradual innovation: It is the most widespread, and it uses the technologies available to you, so the value of the customer in the local market is increased.
- Exciting innovation: It is called hidden innovation and contains the application of new technologies or processes in the current market of the organization. Often these technologies are expensive and have few advantages and are difficult to use.
- Structural innovation: This innovation depends on the application of skills, lessons and techniques in the markets.
- Radical innovation: It is the first idea we have when thinking about innovation, if it gives birth to new industries or ends the life of current industries and specializes in creating a revolutionary technology. It has been noted that the concept of innovation and its types change with time.

Innovation—performance relationship frequently presents mixed findings in several empirical studies (Abiodun, 2017). The researchers believe that innovation is to reach everything that is new through finding, improving, and owning information, collecting it together, and putting it into practice to come up with new and distinct products and services. Finally, it can be said that the relationship between creativity and innovation is an integrative one.

2.4. Green HRM

According to (Arulrajah et al., 2016) the human resource practices are the methods, processes and programs carried out by the human resource department in the organization. Similarly, green practices for human resources management in organizations in order to reduce negative environmental impacts and are also the methods, processes and programs that are actually implemented

to promote the positive environmental impacts of organizations and the ultimate goal of green human resources management practices is to improve the sustainable environmental performance of the Organization (Arulrajah et al., 2016). (Wulandari & Nawangsari, 2021) also assert that green human resource management is a key element in enabling organizations to integrate human resource management objectives with the organization's environmental management. So it works to improve green empowerment that contributes to greater employee participation in business management and define green human resource management as a strategy to implement green practices that enhance environmental performance and achieve sustainable development. Experts have outlined the benefits and attributes of Green HRM, which are mentioned below:

- Help companies cut costs without losing their talent.
- Huge growth opportunities by being green and creating a new friendly environment, which helps in achieving huge operational savings by reducing carbon emissions.
- Helps achieve employee job satisfaction and commitment, which leads to increased productivity and sustainability.
- Create a culture of concern for the well-being and health of your fellow workers.
- Improve employee retention rate.
- Improve the public image. Any time a company adds a green initiative to its workplace, it can use the event to generate positive PR. Organizations can promote the environmental contributions of the media through press releases to attract the attention of potential customers and potential new sales.
- Raise employee morale.
- Improvement in attracting better employees.
- Reducing the environmental impact of the company.
- Improve competitiveness and increase overall performance.
- Significantly reduce utility costs. Even small businesses can significantly reduce their utility costs by using energy efficient and less wasteful technologies.
- Rebates and tax benefits. Going green is made easier with the help of local governments and municipalities, the water supply authority, and electric companies offering tax incentives and rebates.
- Increase job opportunities.
- Some also mandate that their purchasing departments only buy green products or use products and services sold by companies that meet certain green standards.
- Reducing environmental damage.
- Encouraging employees, through training and compensation, to find ways to reduce the use of environmentally harmful substances. (Zaid et al., 2018; Mousa & Othman, 2020; Obeidat et al., 2022; Tang et al., 2017; Wulandari & Nawangsari, 2021; Jamal et al., 2021).

From the above, the researcher believes that green human resource management is all the efforts made by the organization in order to link the various functions and activities of human resource management by adopting policies and practices that encourage green initiatives in order to increase employees' awareness and commitment to sustainable environment issues that enhance environmental performance, for example, employment Green, green training, job sharing, teleconferencing, virtual interviews, recycling, online training, building energy efficient office space.

A review of the literature supports the positive correlation between Entrepreneurship and Sustainable Performance. Several studies have found a statistically significant impact of Entrepreneurship on Sustainable Performance (environmental, economic, and social) (Fazal et al., 2022; Le et al., 2022; Seraj et al., 2022). A more recent study proved that entrepreneurship has significant positive effects on performance sustainability. Hence, based on the above, we propose the following hypotheses:

The literature discussed above leads to the following hypotheses:

H1: Entrepreneurship is positively associated with Sustainable Performance.

A review of the literature supports the positive correlation between innovation and Sustainable Performance. Several studies have found a statistically significant impact of innovation on Sustainable Performance (environmental, economic, and social) (Latifi et al., 2021; Schaltegger et al., 2012). A more recent study proved that innovation has significant positive effects on performance sustainability. Hence, based on the above, we propose the following hypotheses:

The literature discussed above leads to the following hypotheses:

H2: Innovation is positively associated with Sustainable Performance.

A review of the literature supports the positive correlation between Green HRM and Sustainable Performance. Several studies have found a statistically significant impact of Green HRM on Sustainable Performance (environmental, economic, and social) (Bhattacharya et al., 2019; Hameed et al., 2020; Mousa & Othman, 2020; Obeidat et al., 2022; Zaid et al., 2018). A more recent study proved that Green HRM has significant positive effects on performance sustainability. Hence, based on the above, we propose the following hypotheses:

The literature discussed above leads to the following hypotheses:

H3: Green HRM is positively associated with Sustainable Performance.

2.5. Conceptual framework

The resulting model is represented in Figure 1. The dependent variable is Sustainable Performance and independent factors are Entrepreneurship, Innovation, and Green HRM.

3. Methodology and analysis

3.1. Methodology, research sample and data collection

To examine the influence of Entrepreneurship, Innovation and Green HRM on sustainable performance, a quantitative methodological approach was used. This involved conducting an online survey of employees and managers work at e-business firms and the main reason to select this firm's return to the importance of this firms and its concern on the research areas such as Entrepreneurship, Innovation and Green HRM on sustainable performance.

The study population is e-business firms. For data collection purposes the researcher uses a "random sample" consisting of (350) employees and managers. The method of data collection

Figure 1. Research model.

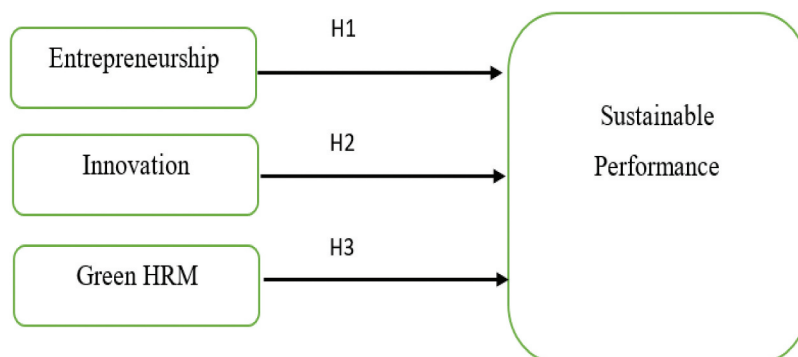
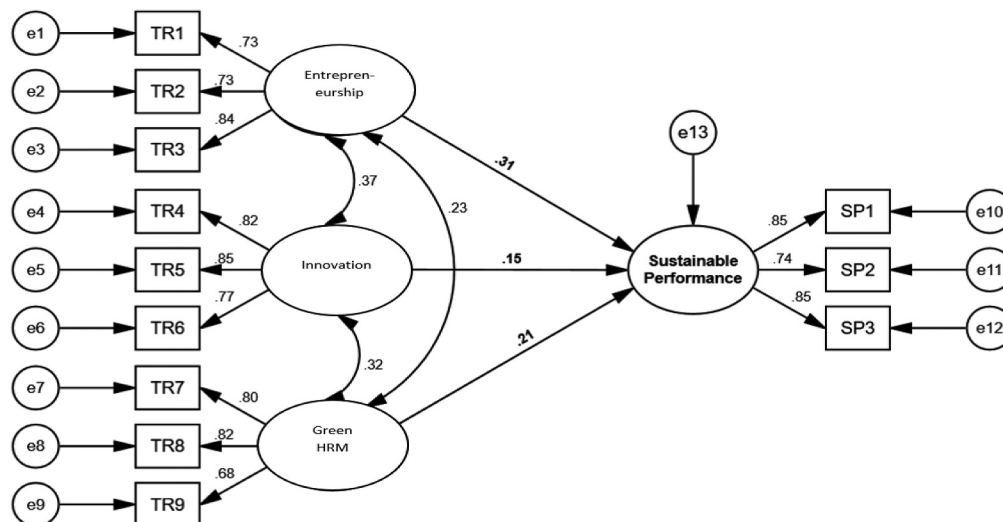


Figure 2. Testing hypotheses.



was by a questionnaire distributed to the sample. The total returned questionnaires were (268) with a good response rate of approximately (77%).

3.2. Research tool

The current tool depends on using a five-point Likert scale (1–5): 1 is (strongly disagree) to 5 is (strongly agree). The questionnaire contains 12 questions based on a set of strong studies as explained in the [table 1](#).

3.3. Statistical analysis tools used in research: “common method bias (CMB) and multicollinearity”

The researcher used a questionnaire to measure the dependent variable (sustainable performance) and the independent variables (entrepreneurship, innovation, and green HRM). This suggests that common method bias (CMB) exists when variations in responses are caused by the tool rather than the true tendency of the respondents that the tool attempts to uncover. In actuality, the technology led to biases and variations that were then analyzed. Gathering data from a variety of sources is the greatest way to reduce the CMB ([Podsakoff et al., 2012; Jakobsen & Jensen, 2015]). As a result, the author gathered data from managers to measure the dependent variable and from employees to gauge (Entrepreneurship, Innovation, and Green HRM). High correlations between variables might result in the conundrum of multicollinearity.

3.4. (Face, discriminate, and convergent validity) and reliability of the study instrument and model fit

For the purpose of measuring the face validity of the variables of the questionnaire, it was presented to a number of arbitrators from among the professors of Jordanian universities, numbering (5) professors, and they were presented to persons with specialization in the Jordanian e-business firms, whose number reached (3) managers ([Table 1](#)). To ensure the validity of the questions and their suitability for the objectives and hypotheses of the study, and to seek their views on its ability to measure the variables of the study, in order to ensure the clarity and accuracy of the questions from a scientific point of view. The results in [Table 2](#) show that the Average Variance Extracted (AVE) for all study variables is higher than (0.5), which indicates that the study tool is characterized by discriminate validity. This measure measures the extent to which the search variables differ from each other and, consequently, the lack of similarity of the variables and that each variable represents the same (Hair et al., 2010). [Table 1](#). The dependent and independent variables and questionnaire questions

The results of Table 2 show that the Factor Loading values for all variables are larger than (0.50), indicating that the study tool exhibits convergent validity. Convergent validity assesses the degree of consistency between the many items that measure the variable (Hair et al., 2010; Lukman et al., 2020).

The researcher employed the Cronbach's Alpha test to gauge the measurement tool's dependability based on the responses of the respondents, who totaled n in the study (350). The test findings are shown in Table 2, where the data reveal that Cronbach's alpha coefficient for all study variables is greater than 60%, indicating a high degree of consistency and correlation between the assertions in the questionnaire (Sekaran & Bougie, 2010). The Composite Reliability (CR) test was also used, which confirms the interdependence of the study items. As shown in Table 2, the results show that the CR values are greater than (0.70), which indicates that the study items are interdependent (Hair et al., 2017; Purwanto & Sudargini, 2021), and this suggests that the results may be stable and that the study's findings may be generalized. The Goodness of Fit Index (GFI), Chi-square to Degree of Freedom Ratio (CMIN/DF), Root Mean Squared Approximation of Error (RMSEA), and Comparative Fit Index were the four indices the researcher used to evaluate the fit of the measurement model (CFI). According to Hair et al. (2010), model fit goodness is defined as CMIN/DF 2.0, GFI and CFI 0.90, and RMSEA 0.08. According to Table 2, the researcher discovered that the existing model has a satisfactory fit.

Table 1. The dependent and independent variables and questionnaire questions

The dependent and independent variables, questionnaire questions and references.

(1) Entrepreneurship (Le et al., 2022; Seraj et al., 2022; Fazal et al., 2022; Ambad, Nabila & Wahab, 2016; Eggers et al., 2013; Al-Awlaqi et al., 2018).
<ul style="list-style-type: none"> • The firm is keen to be proactive and initiative to improve performance. • The firm has the ability to determine the degree of risk for new opportunities. • The firm encourages employee empowerment.
(2) Innovation (Ahn, 2020; Latifi et al., 2021; Schaltegger et al., 2012).
<ul style="list-style-type: none"> • The firm is keen to make drastic changes. • The firm adopts the new creative ideas presented by the workers without delay. • The firm encourages employees to adopt new methods in its operations.
(3) Green HRM (Zaid et al., 2018; Mousa & Othman, 2020; Obeidat et al., 2022; Al-Minhas et al., 2020; Tang et al., 2017; Wulandari & Nawangsari, 2021; Jamal et al., 2021).
<ul style="list-style-type: none"> • The firm works to attract individuals with green competencies and skills. • Transformational training programs encourage firm employees to develop behaviors related to environmentally friendly aspects. • The firm provides financial and non-financial reward for the good environmental performance provided by the employees.
(4) Sustainable Performance (Le et al., 2022; Seraj et al., 2022; Fazal et al., 2022; Bhattacharya et al., 2019; Al-Abbadi, 2021; Angeloska Dichovska & Petkovska Mirchevska, 2016; Bi et al., 2017; Ray et al., 2013; Pakwihok et al., 2012; Smith & Lewis, 2011; Holtzblatt & Tschakert, 2011; Searcy, 201).
<ul style="list-style-type: none"> • The firm seeks to increase its market share. • The firm's policy is to minimize damage to natural resources. • The firm contributes to supporting the surrounding community.

Table 2. Shows the outcomes of the study tool's reliability, validity, and correlation coefficient tests

Independent and dependent Variables	Items	Factor Loading	Reliability and Validity				Correlation Coefficients			
			AVE	CR	Cronbach's alpha	STR	SOT	GTR	SP	
Entrepreneurship (EN)	EN1	0.847	0.686	0.862	0.812	1				
	EN 2	0.803								
	EN 3	0.835								
Innovation (IN)	IN 4	0.857	0.727	0.889	0.854	0.317**	1			
	IN 5	0.868								
	IN 6	0.833								
Green HRM (GH)	GH 7	0.839	0.693	0.871	0.807	0.187**		0.284**	1	
	GH 8	0.891								
	GH 9	0.762								
Sustainable performance (SP)	SP1	0.889	0.725	0.888	0.855	0.346**		0.300**	0.287**	1
	SP2	0.803								
	SP3	0.860								

**The Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.807, the Bartlett's Test of Sphericity has a significance level of 0.000, and the correlation is significant at the 0.01 level (2-tailed). Principal Component Analysis is the extraction technique. Varimax with Kaiser Normalization is the rotation method. In five iterations, the rotation converged. CMIN/DF = 1.15, GFI = 0.968, CFI = 0.949, RMSEA = 0.024; Total Variance Explained = 73.65.

4. The research results

The testing of hypotheses is illustrated in the Figure 2. It demonstrates the links between entrepreneurship and sustainable performance (H1), innovation and sustainable performance (H2), and green HRM and sustainable performance (H3). Table 3 demonstrates that each of these hypotheses was confirmed. fgbf

According to Table 3's findings, innovation has a statistically significant impact on SP (Standardized = 0.188, Unstandardized = 0.152, $P=0.042$) and entrepreneurship has a statistically significant impact on sustainable performance (EN) (Standardized = 0.335, Unstandardized = 0.306, $P=0.000$). The impact of green HRM on SP is also statistically significant (Standardized = 0.305, Unstandardized = 0.309, $P=0.004$).

5. Discussion

The results of this research are consistent with some of the existing literature. According to (Latifi et al., 2021; Le et al., 2022; Obeidat et al., 2022) most of these studies have agreed on the great importance of Entrepreneurship, Innovation, and green HRM and their significant role in achieving sustainable performance, especially in achieving economic sustainability which leads to many benefits of sustainability include better risk management, cost, and savings optimization, decision-making facilitation, and improved corporate confidence and reputation. By benefiting from the results of this study, it can be confirmed that the existence of the triple pillars (Entrepreneurship, Innovation, and green HRM) have superior quality results for firms.

6. Conclusion

This study used three assumptions to examine how innovation, entrepreneurship, and a green human resource affect sustainable performance. The findings demonstrated a favorable relationship between the three prior parameters and sustainable performance. These findings suggest that increasing the economic, social, and environmental components of sustainable performance calls for greater interest in entrepreneurship, innovation, and green human resource management as well as a greater understanding of the significance of sustainability. Three domains must be present in the primary business processes that enhance sustainable success. First, entrepreneurship aims to enhance long-term economic performance. Second, innovation promotes the growth of people and communities. Third, energy saving and environmental protection are the main goals of green human resource management.

7. Theoretical implications

The study makes two contributions to the body of literature. First, independent factors—a construct made up of the characteristics of entrepreneurship, innovation, and green human resource management—are introduced. Its goal is to increase performance that is sustainable. Second, the objective that determines the measure is the ultimate objective of the independent variables. For instance, if the objective of the independent variables is to enhance sustainable performance, then the measures must be explicit about their constituent parts and how they affect the sustainable performance characteristics. Therefore, it is necessary for researchers to employ tools that demonstrate how independent variables affect the dependent variable. As a result, this study's theoretical contribution involves developing a model that accounts for both the dependent and independent variables.

8. Managerial implications

E-business firms seek to increase their interest in entrepreneurship, innovation and development of their practices for green human resources in order to improve their sustainable performance in all aspects of economic sustainability, which forms the solid foundation for social and environmental sustainability, which is reflected positively on all managerial aspects of the company.

Table 3. The study results of testing theories

Hypotheses				Unstandardized Estimates	Standardized Estimates	CR	P
H1	EN	→	SP	0.335	0.306	4.05	0.000
H2	IN	→	SP	0.188	0.152	2.04	0.042
H3	GH	→	SP	0.305	0.209	2.86	0.004

9. Limitations of the research and future research directions

Overall, this study has provided more insights and advances the body of knowledge further in sustainable performance research. The present study had two drawbacks that were noted. It is limited to a sample of managers and workers in e-business organizations, to start. Future research must therefore choose samples from other businesses. Second, future research can evaluate different commercial approaches. In order to generalize the findings, it appears that additional research on sustainable performance in other industries is necessary.

Author details

Lina Hamdan Al-Abbadi¹

E-mail: L.alabbadi@ammanu.edu.jo

ORCID ID: <http://orcid.org/0000-0003-2992-2642>

Amani Rajab Abu Rumman¹

ORCID ID: <http://orcid.org/0000-0002-6557-7463>

¹ Business School, Al-Ahliyya Amman University, Amman, Jordan.

Disclosure statement

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