Human Resource Management in the Digital Era and Competitive Advantage Factor Affecting on Business Performance in Vientiane Capital, Lao PDR

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Abstract: **Human resource management is a key area in the digital age, firstly in business. It is central to a business strategy, facilitates the attainment of competitive advantage and improves business performance.**

This research sought to examine the role of certain factors that affect competitive advantage, test these factors through Confirmatory Factor Analysis, and construct a model depicting the interrelationships between business performance in Vientiane Capital, Lao PDR. This research used quantitative research methods only. Data were obtained from a sample size of 256 SMEs in Vientiane Capital and were analyzed using Structural Equation Modelling for hypothesis testing. The research findings from testing the hypotheses shows that the Human Resource Management factors in this era of digitalization greatly impacts on competitive, with the t-value = 9.86, influence coefficient β=0.87, and P-value < 0.001, likewise, the factors of competitive advantage have a positive impact on firm performance in the case of Vientiane Capital, the hypothesis is accepted at the t-value of 2.1, influence β=0.36 and P-value <0.05, In addition, human resources management factors in this digital era also significantly impact the business performance in Vientiane Capital, the evidence for this is that t-Value is 2.88 with an influence coefficient β=0.54 and P-value <0.05. Further, with respect to business performance the SEM model has the following values: (χ^2/df)= 1.78; GFI=0.97; AGFI=0.93; CFI=0.99; RMSEA=0.05. Both factors account for business performance variance at R^2=0.76. The findings of the research underline the importance of Human Resource Management in the development of firm's competitive advantage and efficiency of business activity in rudimentary states regulating them within age. The evidence indicates that firms in Vientiane Capital should place more emphasis on their HRM practices in order to achieve greater competitive advantage and improved performance.

Keywords: Cost Strategy; Customer Value; Digital Human Resource Management; Learning and Growth; Vientiane Capital; Lao PDR.

I. INTRODUCTION

The fast pace at which the changes take place in the world, the economic digital era and technologically innovative of the world has developed by leaps and bounds. The Business organizations have to modify strategies to cope up with the changes and in the process see the advancement of human resource looking to be a crucial factor in pushing businesses towards a reformed international industry. Advancing organizational efficiency with the help of various digital technologies tools embodied in a business model for sustainable competitive advantage. Prior knowledge and experience do have the potential of bringing transformations at the institutional, as well as the economic and social levels (Runde et al., 2022; Tran & Nguyen, 2022; Achar et al., 2022). The human resource management (HRM) in the digital era can not be separated from the industrial era 4.0 and society 5.0 (Shaddiq & Irpan, 2023).The emergence of the digital economy provides a significant impetus for the increase of initiatives aimed at enhancing the interconnectivity of markets and the rapid spread of digitalization of nearly all spheres of the economy, especially for business expansion in the capital of Vientiane, Laos PR (Ministry of Technology and Communication, 2021). In developing, or

underdeveloped countries small and medium enterprises shall have a vital impact on the economic development in employment and job opportunities, contribution towards Gross Domestic Product (GDP) and growth of income which in turn helps improve the living standards and the social status of people around the globe, and general economic stability (Kumar, 2017; Ayyagari et al., 2011).

Small and medium-sized enterprises (SMEs) are the important business entities that can lead to economic growth for the Lao People's Democratic Republic (Viyaketh, 2010). They sustain the economy of Laos and also contribute towards consistent growth of all the three sectors that is trade, production, and service, and have the capacity to make profit, as it can balance the equation in the system, provide job opportunities for the people and contribute to the gross economic domestic product and business growth (Kongmanila, 2023; Minniti & Lévesque, 2008; Hisrich & Ramadani, 2017). Still the entrepreneurs are not skilled enough nor knowledgeable and capable with respect to products, and innovation development, the rules for the SMEs working are cumbersome, and the entrepreneurial abilities to establish and maintain relations and cooperation network with the state partners and between the SMEs are missing. Restricted the financial and marketing communication means to dispose of the products, absence of the entrepreneurial activity, and marketing management for formation of values for the clients resatisfaction, mostly in the most competitive economy system (Irjayanti & Azis, 2012; Pribadi & Kanai, 2011; Kyophilavong, 2008; Quang & Thavisay, 1999; Southiseng & Walsh, 2010).

Nevertheless, such a viewpoint is not absolute, because keeping in mind the state of the art review and a number of appropriate scientific publications, factors that affect the performance of the enterprises include state policies, technological acceptance, competition, and management of resources in the enterprise. As further analysis indicates, human resources management role in the digital era has significant impact on competitiveness and business performance. Consequently, learning the context, problems, and different aspects of human resource management in the digital age in the case of the Vientiane Capital, Lao PDR is important for the functioning of the business. This information can be very important to both government bodies as well as business practitioners in formulating human resource development models that conform to the changing social, economic and technological context of the current and future global economy. In the context of previous studies on entrepreneurs and small to medium enterprises in Lao PDR especially in the region of Vientiane Capital it has been established that there is still a poor level of awareness especially with regard to the concepts of human resource management in the digital age, competitive advantage and business performance. It is important to raise the level of knowledge and understanding among small and medium scale enterprises entrepreneurs in the capital city of Vientiane for their survival and healthy development in the present-day business environment and for them to be ready ahead of competition in the short time. Therefore, this study seeks to fill these voids in the literature by looking at how resource

management dimensions in the digital age, competitive advantage correlates with business performance. This study also intends to explore which dimensions of human resource management and competitive advantage in the digital age would be more dominant in explaining business performance.

II. LITERATURE REVIEW

The foregoing stems from a broad literature Exhaustion in human resource management in digital era, competitive advantage and business performance and the overarching objective focuses on establishing the variable that is able to help in splitting the mediating ties between the human resource management in digital era, competitive advantage and business performance.

A. Human Resource Management in the Digital Era

Management of human resource in this digital age is one of the critical areas and is of far greater importance in the context of developing Vientiane Capital, Lao PDR. In most cases, enterprises that use human resource management effectively and efficiently are said to achieve a sustained relative competitive advantage. This phenomenon may be explained in that human resources are regarded as one among the most significant resources within an organization. However, with this globalization and fierce competition, organizations are under constant pressure to find new ways of doing business and responding to the rapid changes occurring in the business environment (Shaddiq & Irpan, 2023; Dolan et al., 2022; Baykal, 2022).

Ten items and three factors focused on the concept of human resource management in the digital age were adapted from AlHamad et al. (2022); Shaddiq and Irpan (2023); Kongpradit and Kummadee (2020); Duangekanong (2021); Gaddi et al. (2024). These concept instruments have been validated before. Sample items include: Digital technological tools utilized during training and skills development; the use of digital technology in organizing technical seminars; making learning and knowledge management systems through the systems of digital HRM; searching for employees and placing job advertisements through social networks such as Facebook; dissemination of job applications information and conditions through accounting management systems of human resources (Berdykulova et al., 2024; Seipalla et al., 2024), broadcasting information on the selection of candidates for positions via the digital HRM system; and use of digital technology for payment of salaries, pensions, bonuses and benefits, medical treatment and medical examinations through the i-Banking.

In earlier studies, the linkages between human resource management factors in the digital era specifically human resource management practices such as training and development, recruitment and selection, compensation management and business performance have been well established (Alhamad et al., 2022; Chaiprasert, 2017; Halid et al., 2020; Giao et al., 2020; Elsawy, 2021; Kawapapong & Kokkaew, 2021; Kawapapong et al., 2022; Khashman & AI-Ryalat, 2015; Nurshabrina & Adrianti, 2020; Waheed et al., 2020). In the context of globalization, business organizations

are in need of developing human capital who possess knowledge, skills and tools of digital technology, creating values for products and services which meet the requirements of consumers and building the benchmarks of competitive advantages. This is in line with the outcome of Pham (2020); Alqarni et al. (2023); Yuwanda et al. (2023); Kruasom, 2017, and Amalia, 2024).

B. Competitive Advantage

The establishment of competitive advantage is said to be important for the effectiveness of a business in the long run as it helps in determining the strategy to adopt. It refers to a condition in which an entity has an advantage over its rivals in a given market. The idea of creating competitive advantage (CA) first emerged from Alderson's (1937) thesis which advocated for the creation of goods and services by the firms which are perceived by the consumers to be better than those offered by the competition (Hoffman, 2000).

The factors that contribute to competitive advantage have been explained in various ways such as the design, production, marketing, distribution, and maintenance of the products. Nevertheless, the most significant theoretical framework for competitive strategies presents itself in industrial organization (Rosli, 2012). Some experts of the firm level of competitive advantage have also made an effort to utilize strategy and business competitiveness in their research work. Depending upon the perspectives that guide competitive business practices, they can arise from cost leadership, differentiation and market niche (Porter, 1985) or customer value (Woodruff, 1997) which triggers competitive advantage. The increased attention to the analysis of firms individually in the last few decades has been the cause of the emergence and growth of what is called since then the Resource-Based View of the firm (RBV), which describes how a firm outcompetes its rivals by taking advantage of its unique internal resources and capabilities (Barney, 2000; Grant, 1991; Lado & Wilson,1994). Together with other explanations, a number of empirical studies provide evidence that competitive advantage influences business performance (Wijaya & Suasih, 2020; Wongsansukcharoen & Thaweepaiboonwong, 2023; Yusuf et al., 2023; Yuwanda et al., 2023).

C. Business Performance

Business performance is the parameter that measures the effectiveness of a firm in accomplishing its set business goals (Imran et al., 2018). There has been a number of studies in the literature that have sought to establish the link between digitalization of human resource management and competitive advantage factors with business performance.

Two major approaches have been applied in these studies: First is the subjective approach which considers the performance of the firm against its industry rivals. The second approach, which is rarely used, is the objective approach which looks at performance in absolute terms (Kara, 1988). It has also been noted that for most researchers who pursue this subjective approach, the definition of business performance is at best vague, with many resorting to using non-financial measures (Murphy, 1996; Kiyabo & Isaga, 2020). As indicated by Kaplan and Norton (1996), business performance can be measured from different perspectives such as that of customers, business internal processes as well as learning and growth perspectives. Classifying business performance, it seems to be dependent latent variable. Three constructs and ten items of business performance measures the business performance in Vientiane Capital, Lao PDR.

D. Research Variables

This research investigates the impact of Human Resource Management during the Digital Era, concentrating on E-recruitment, E-selection, E-training and Development and E-compensation. The literature on Human Resource Management is constructed by Baykal (2022), AlHamad et al. (2022), Shaddiq and Irpan (2023); Kongpradit and Kummadee (2020); Duangekanong (2021). The Competitive Advantage variables (Focus, Cost strategy and customer value) are explained through Porter's theory (1985), while customer value was driven by Woodruff (1997). In the context of business performance, three aspects, namely customer perspective, internal business processes, and learning and growth are taken into regard in accordance with Kaplan and Norton (1996) framework.

E. Research Hypotheses

Alqarni et al. (2023); Nurshabrina and Adrianti (2020); Obeidat et al. (2018) have confirmed a positive relationship between HR in digitalization and Competitive Advantage Moreover, Wijaya and Suasih (2020); Yuwanda et al. (2023); Wongsansukcharoen and Thaweepaiboonwong (2023) have confirmed a positive relationship between Competitive Advantage and business Performance Likewise, other researchers have also confirmed a positive relationship of HRM through digitization with business performance AlHamad et al. (2022); Elsawy (2021); Yusuf et al. (2023); Opoku (2024). The literature available indicates that this research is undertaken based on the following three hypotheses presented in Table 1.

Table 1: Proposed Hypotheses

	Hypotheses
H$_1$	The human resource management in the digital era positively affects Competitive Advantage
H$_2$	The Competitive Advantage positively affects business performance
H$_3$	The Human resource management in the digital era positively affects business Performance

F. Conceptual Framework

A conceptual framework to undertake a research related to HR in the digital era as an approach for gaining competitive edge and enhance business performance is provided below:
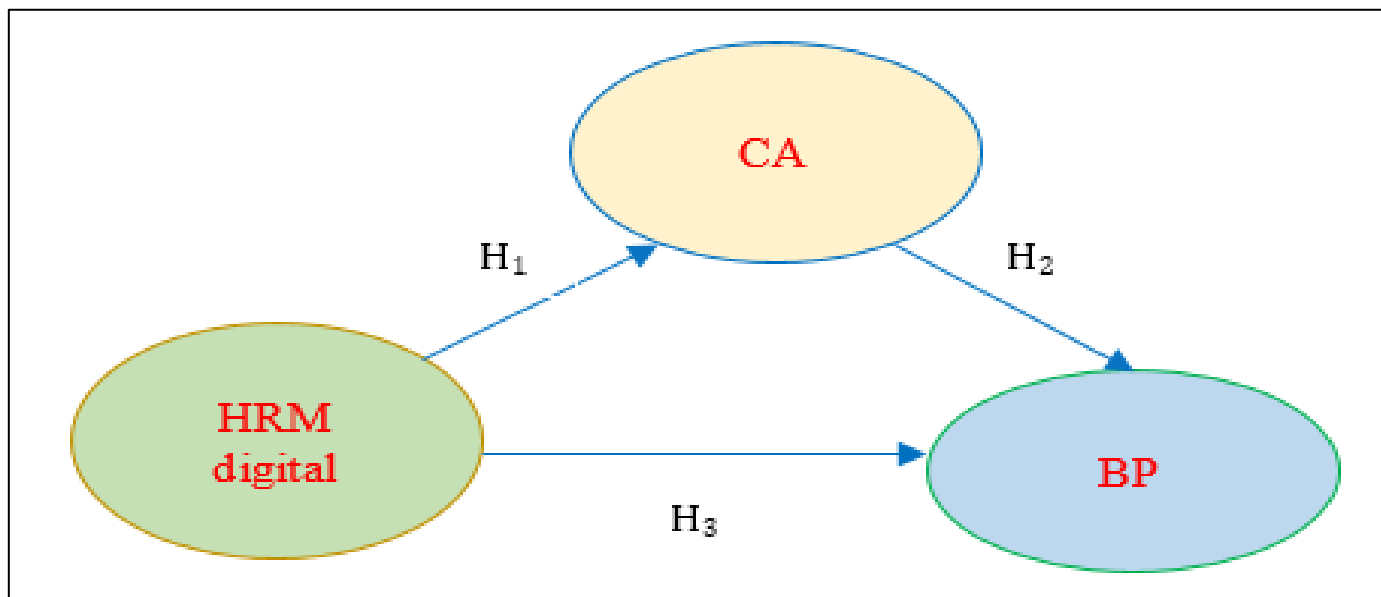

Fig 1: Proposed Conceptual Framework

- HRM- digital (Human Resource Management in Digital Era)
- CA- (Competitive Advantage)
- BP- (Business Performance)
- H_1: The human resource management in the digital era positively affects Competitive Advantage
- H_2: The Competitive Advantage positively affects business performance
- H_3: The Human resource management in the digital era positively affects business Performance.

III. METHODOLOGY

A. Research Design

Utilizing quantitative surveys to test the stated hypothesis this research examines the effect of HRM in the age of digitization on competitive edge and relevant business indicators within Vientiane Capital, Lao PDR. In relation to this business performance and the factors leading to competitive edge has been explored as well. The methodology entails gathering primary data in form of questionnaires from a sample population and then analyzing it using software in order to meet the goals of the research, validate the set hypotheses and conduct a Structural Equation Model (SEM) analysis.

B. Participants and Sample

This study looked into HR Management in the context of advanced technologies and the determinants of competitive advantage that impacted business performance in the area of Vientiane Capital of Laos People Democratic Republic. The scope of this study were the business unit's operators who are based in Vientiane Capital, the City is an epitome of a special economic enclave and a trading hub of the region. In this research, the sample size was 300 business units in Vientiane Capital, according to Hair et al. (2010), in SEM analysis, they

recommended a minimum sample of 250 selected and with a certain criteria of an observed variable <12. In the current research statistical descriptive and inferential analyses were performed to evaluate the data gathered, questionnaires were distributed to 300 business units (papers) in the area of Vientiane Capital and handed back their filled and complete answers about after the first quarter of the year 2024, with 256 respondents (85.33% response rate), in the light of Roth and Craig (1998) response rate acceptant about 49.6%.

C. Instruments and Measure

In this research, a quantitative survey was conducted, using the questionnaire as the primary instrument for collecting data. The questionnaire obtains both personal and business information including gender, age, level of education, position, type, duration, location and number of employees of the business. It also involves human resource management in the new era with 10 items, competitive advantage with 10 items as well as business performance with 10 items.

Human resource management in the digital revolution was evaluated through 10 items validated by AlHamad et al. (2022); Shaddiq and Irpan (2023); Kongpradit and Kummadee (2020) options. Sample items include training on knowledge and skills using the digital technology, Using digital technology for organizing seminars of a technical nature, Creation of a system of learning and knowledge management through a digital HRM system, Searching for personnel, and placing job offers via social networks such as Facebook, Providing instructions and requirements for job applications through digital media of HRM. Communicating the selected candidates through the HRM digital system, Automated transfers of pay and pensions through i-Banking services to beneficiaries, Bonuses and benefits directly deposited into an employee's account via i-Banking,

Payments related to medical treatment and quarterly health check-ups using i-Banking, Employees' salaries disbursed automatically through i-Banking.

The competitive advantage was measured by using 9 items adapted from Pham (2020); Alqarni et al. (2023); Yuwanda et al. (2023), and Friestad (2017), which have been previously validated. Sample items included the organization's capacity to select a specific target area, the organization's capability of offering goods and services required by each group, the organization's ability to seek the target market, which will be sufficiently profitable in the foreseeable future, the capability to employ workers at cheaper rates than competing firms, the capability to obtain raw materials at competitive rates, the capability to offer both goods and services at below cost prices, the capability to charge for goods and service that is reasonable in relation to what traders are intending to obtain, the capability to deliver goods and services that are superior as compared to those of other market players, the capacity of the firm to market its products by providing information to the customers and to distinguish itself from competitors.

We adopted a total of ten items from Murphy (1996), and Kaplan and Norton (1996) in the current study to address business performance basing on their previous validation. Sample items included the business has continuously increased customer satisfaction, the business has consistently increased sales, the business has a strategy to continuously attract new customers, the business is constantly developing new products for customers, the business consistently generates innovative ideas for products and services, the business has an effective internal management system, employees' skills, knowledge and expertise are continuously improving, employees are able to use the digital technology tools effectively, employees are motivated to carry out their duty with the aim of accomplishing the business objectives, employees are satisfied with the work they are doing.

The questionnaire was developed based on literature review of the relevant studies and its content validity was verified by using the index of congruence IOC by 3 experts in the study. The questionnaire had an IOC greater than 0.50 (Rovinelli & Hambleton, 1977). The credibility of the instrument was computed by Cronbach's Alfa. The computed alpha was 0.934 which is greater than the threshold of .7 (Nunnally, 1994). This research uses a quantitative survey approach, with a questionnaire as the primary tool for data collection. The questionnaire includes personal and business data (gender, age, education, position, business type, time, location, and number of employees). It also covers human resource management in the digital era with 10 items, competitive advantage with 10 items, and business performance with 10 items

The assessment of the measurement model was achieved through reliability and validity tests, factor loading values and model fit. Convergent validity was measured by average variance extracted (AVE), while the trustworthiness of the model was measured by composite reliability (CR). All factor loading values were above the cut off point of 0.5. The

study complied with the recommended thresholds for average variance extracted (AVE ≥ 0.5) and composite reliability (CR≥ 0.7) levels as per Hair et al. (2010), and Fornell and Larcker (1981). The construct variable of human resource management in the digital age was assessed using 10 items and 3 observed variables achieving convergent validity and reliability (AVE = 0.52, CR = 0.76). Competitive advantage variable was assessed through 9 items and 3 observed variables of which also achieved the requirements for divergent validity and reliability (AVE = 0.51, CR = 0.75). Last, business performance proved to be intervened or moderated (AVE =0.53, CR = 0.77).

IV. IMPLEMENTATION AND RESULTS

A. Demographic Information

This study was carried out in the business unit situated in the Vientiane capital. The Vientiane Capital is a region having central economic, cultural, educational, and political importance. It was noted that a total of 256 participants filled in a paper-based questionnaire which was dispersed from March to May, 2024. This study exhibits the demographic factors and business profiles of the participants with regard to sex, age, academic qualification, job ranking, the age of the business, category of the business and the size of the business located in the Vientiane City, Lao PDR. According to the data, the percent of male respondents is higher than the female respondents with a participation rate of 55.1% and 44.9% respectively. The most predominant group is the 36 to 45 age bracket forming about 41.4% of the respondents, followed by those aged 25-35 years at 32.0%. Most of the respondents have a first degree, that is about 64.8% of them. The number of respondents who are department heads is more than those who are business owners, and they form about 50.8% and 29.3% respectively. The age of most business units is between 5 and 10 years in existence representing 65.6%. There are more businesses that operate in the service sector than any other sector 65.2% and most of such businesses employ less than 50 employees constituting 62.1%.

B. Descriptive Analysis

The data for human resource management, competitive advantage, and performance indicators in the context of a digital era are presented in Table 2. The findings indicated that the means and standard deviations (SD) of each of the items ranged between 3.20 and 3.59 whilst the SDs ranged from 0.70 to 0.88. The importance level of human resource management factors in the digital era includes five key items: the use of digital technology for paying staff salary by the i-Banking system, the construction of a learning system and knowledge management system by means of a digital HRM system, the use of digital technology for paying bonuses and other benefits by way of i-Banking, job application information and requirements published by the HRM digital system and the announcements of candidate selections made through the HRM digital systems. Those mean scores which these items received indicated that they were of high importance level ranging between 3.41 and 3.47. Looking at the competitive advantage factors, those with high importance were: the able to price their goods and services

according to the real value that the traders expect to receive, the able to manufacture higher quality goods than the competitors, the able to assist the customers and the brand in differentiation from other companies, able to have a well-defined target market, able to supply or produce goods and services appropriate for every class, and able to identify other new markets that can sustain. The mean scores of these factors lay between 3.41 to 3.59 to aid illustration of table 2.

Table 2: Observe Variables

No	Observe Variable and Items	Mean	SD
	Human Resource Management in digital era-HR		
HR1	Training on knowledge and skills using digital technology.	3.35	0.72
HR2	Utilizing digital technology for organizing technical seminars.	3.33	0.72
HR3	Developing a learning system and knowledge management through a digital HRM system.	3.43	0.79
HR4	Searching for personnel and posting job opportunities through social media platforms (e.g., Facebook).	3.31	0.77
HR5	Providing job application information and requirements through the HRM digital system.	3.43	0.75
HR6	Announcing candidate selections through the HRM digital system.	3.41	0.76
HR7	Using digital technology for salary and pension payments via i-Banking systems.	3.38	0.78
HR8	Using digital technology to pay bonuses and benefits through i-Banking.	3.43	0.80
HR9	Using digital technology for payments related to medical treatment and health check-ups via the i-Banking system.	3.33	0.77
HR10	Using digital technology to pay employee salaries through the i-Banking system.	3.47	0.77
No	Competitive Advantage-CA	Mean	SD
CA1	The organization's ability to choose a clear target market.	3.53	0.88
CA2	The organization's ability to provide goods and services suitable for each customer group.	3.46	0.86
CA3	The organization's ability to explore new markets that can continuously generate profits.	3.41	0.74
CA4	The ability to provide labor at a lower cost than competitors.	3.21	0.85
CA5	The ability to source raw materials at a lower cost than competitors.	3.20	0.81
CA6	The ability to produce goods and services at a lower cost than competitors.	3.24	0.83
CA7	The ability to set prices for goods and services that reflect the value traders expect to receive.	3.56	0.81
CA8	The ability to produce products and services of higher quality than competitors.	3.59	0.77
CA9	The organization's ability to engage with customers and communicate differentiation from competitors.	3.56	0.80

C. Confirmatory Factors Analysis (CFA)

Among the exogenous variables is included the human resources management in the current digital setting, while the endogenous variables include the factors which constitute competitive advantages towards business performance. These factors are related to constructing competitive advantages together with business performance in Vientiane Capital, Lao PDR. The skewness values do not rise above either minus or plus 2 and the values of the kurtosis are less than 3. On the other hand, the tolerance values exceed the threshold of 1 while the VIF is below 10 and no pairs of variables correlate beyond 0.85 (Kline, 2005). A correlation strength of r<0.8 ensures that multicollinearity is absent between the variables. For conducting the data analysis, Confirmatory Factor Analysis (CFA) using SEM was performed. It was particularly important to verify the validity and reliability of the evaluation measurement model, the test for this was done with the use of construct reliability (CR ≥ 0.7) followed by the average variance extracted (AVE ≥ 0.5) (Fornell & Larcker, 1981; Hair et al., 2010). However, in this study, the tests for the reliability and validity confirm that the latent variable which deals with human resource management in the digital era convergently AVE = 0.52 and CR = 0.75, while competitive advantage added that AVE = 0.51 and CR = 0.76 convergently valid.

The items essentially all had factor coefficients in excess of 0.5 (Schumacker & Lomax, 2016). On the issue of model fit, the ratio of chi-square to degrees of freedom was worth noting (χ^2/df), as it was 1.66 which does not confirm the rule of three. From these statements, it can be concluded that the model fits well. The goodness-of-fit index (GFI) was 0.99 that is more than the set target of 0.92. The adjusted goodness-of-fit index (AGFI) was 0.95 that is also more than the threshold set at 0.90. The comparative fit index (CFI) was 0.99, greater than the required standard of 0.9 and root mean square error of approximation (RMSEA) recorded a relatively lower figure of 0.05 that was still lower than the maximum limit of 0.08 (Hair et al., 2010). Results from the Confirmatory Factor Analysis (CFA) all the values attained at least the minimum requirements set meaning the model fairly represent the empirical data which was collected among the businesses in Vientiane Capital. Hence, the model is fit for the purpose of measuring the structural equation model (SEM).

D. Structural Equation Model (SEM) Assessment

In this research, the assessment model utilized SEM with a maximum likelihood technique analysis. The evaluation of the Measurement Model as a test of the Convergent Validity and the reliability measures the confidence level of the measurement model (Construct Reliability) the level of Discriminant Validity of the

measurement model (Fornell & Larcker, 1981) whether or not the observable variable is fit to be an indicator of the component of the latent variable. The criteria used to consider the model from the weight value of the factors loading must be more than 0.5 but not more than 0.95 (Bagozzi & Yi, 1988; Hair et al., 2010). In addition, Hair also suggests that Construct Reliability: CR should be equal or more than 0.70 and the average variance extracted (AVE) should be equal or more than 0.50 (Hair et al., 2010). The results of the analysis further revealed that the factor loading values for all latent variables were between 0.66 and 0.87. All construct variables bore factor loading values of more than 0.5 and less than 0.95

as provided for by Bagozzi and Yi (1988) at a significant level of $p < 0.001$. When addressing the measurement model's reliability and validity, it was revealed that the following were true across all constructs of the model: AVE value of $\geq$ 0.50 and a CR of $\geq$0.70 (Hair et al., 2010). To be more specific, the digital human resource management factor had an average value of extraction of 0.52, and a construct reliability of 0.76 the same as the competitive advantage factor and business performance that had an AVE of 0.54 and 0.54 and CR of 0.75 and 0.77 respectively. Thus, in SEM analysis, it can be said that the model passes the required level of convergent validity as shown in Table 3.

Table 3: Reliability and Validity of the Model Measurement

	Construct variables	F-Loading	AVE	CR
	HR management in the digital era		**0.52**	**0.76**
HR1	E-recruitment and E-selection	0.66	-	-
HR2	E-training and Development	0.75	-	-
HR3	E-compensation	0.75	-	-
	Competitive advantage	**F-Loading**	**0.51**	**0.75**
CA1	Focus	0.80	-	-
CA2	Cost Strategy	0.73	-	-
CA3	Customers Value	0.84	-	-
	Business performance	**F-Loading**	**0.53**	**0.77**
BP1	Customer perspective	0.80	-	-
BP2	Internal business processes	0.87	-	-
BP3	Learning and growth	0.67	-	-

SEM also provided a good model fit. The model's goodness-of-fit statistics included a chi-square over degrees of freedom ratio (χ^2/df) of 1.78, a GFI of 0.97, an AGFI of 0.93, a CFI of 0.99, and a RMSEA value of 0.05. All of these

figures satisfy the predefined parameters for the structural equation model of business activities in Vientiane Capital, Lao PDR, as presented in Table 4.

Table 4: Good model fit

Parameter	Cut-off-Value		Calculated Value	
	Acceptable level	References	Results	Interpretation
χ^2	Insignificant	Hair et al. (2010)	P=0.012	Good fit of Model
χ^2/df	<3	Hair et al. (2010)	1.78	Good fit
GFI	>0.90	Schumacker and Lomax (2016)	0.97	Good fit
CFI	>0.90	Kline (2005)	0.99	Good fit
AGFI	>0.90	Schumacker and Lomax (2016)	0.93	Good fit
RMSEA	>0.07	Hair et al. (2010)	0.05	Good fit

E. Research Hypothesis Analysis Results (Hypothesis Testing)

From the statistical values, the research hypothesis (Hypothesis Testing), which was analyzed, is that there exist relationships between human resource management in the changing environment, business competitive edge, and business effectiveness. The results of the hypothesis analysis are summarized below in Table 5. The results show that human resource management in the digital era significantly enhances the competitive edge of a firm, as the coefficient is

high ($\beta = 0.87$, t-value = 9.89, and p-value = 0.001). The relationship between competitive advantage and business performance is also found to be relevant as it is positively significant with a coefficient of ($\beta =0.36$, t-value = 2.1, and p-value = 0.036). Moreover, the relationship between human resource management in the changing environment and business performance is also positive and significant with a coefficient of ($\beta = 0.54$, t-value = 2.88 and p-value = 0.004) as depicted in Table 5.

Table 5: Statistical Hypothesis Testing

Hypothesis	Latent Variables			β	CR(t-value)	P-value	Significant
H₁	HRM	→	CA	0.87	9.86	P<0.001	Accepted
H₂	CA	→	BP	0.36	2.1	P<0.05	Accepted
H₃	HRM	→	BP	0.54	2.88	P<0.01	Accepted

V. CONCLUSION AND DISCUSSION

A. Conclusion

This study highlights the role of human resource management (HRM) practices in gaining competitive edge and positive business results among selected organizations in Vientiane Capital in the context of digital economy. The results show the importance of being ready for the territory and digital practices whereby HRM practices inject competitive edge which has a direct link to business performance. Furthermore, the study extends the resource-based theory by illustrating how human resources and digital resources are important sources of competitive advantage. The results indicate that companies need to improve their employees' culture, digital capabilities and the use of technological instruments in order to enhance their international competitiveness. This HRM framework that involves recruitment, selection, training, and compensation systems is applicable in, among other sectors, manufacturing, services, and trade. Such knowledge is very relevant for organizations that would wish to attain enduring competitive advantage and business performance through best HRM practices in the present digital era.

B. Discussion

This paper endeavors to focus on the effective human resource management within the business in the context of the digital era for the city of Vientiane, to conduct factor analysis, and to evaluate business effectiveness for Vientiane using structural equation modeling. The first finding (H1) hypothesis of this study is accepted. The outcome emphasizes the relevance and significance of the HRM function in the digital age while demonstrating that HRM within the context of the digital age impacts positively on the competitive edge of firms within the Vientiane Capital city of Lao PDR. In practice, the efficient use of practices related to HR management in the digital age such as e-training and development, e-recruitment and selection, and e-compensation management has emerged as a key factor for competitive advantage. These conclusions are in line with previous research (Pham, 2020; Alqarni et al., 2023; Nurshabrina & Adrianti, 2020). In both localized and globalized dimension, the firm's marketing competition has driven firms to use technology tools in the management of human resources in order to improve performance. These practices promote new ideas and enable the companies to respond to changes faster in order to cope with stiff market competition in a dynamic environment.

A Foundation of CA has been found to Alderson's (1937) argument that it is a necessity for businesses to create products and services that are considered as better than those of their competitors (Hoffman, 2000). We also found support for the second hypothesis (H$_2$), as it was shown that competitive advantage has a significant effect on business performance. This two-way relationship is consistent with the theoretical framework in previous studies that posited that competitive advantage is a function of superior strategy in cost, niche market, and value to customers (Porter, 1985; Woodruff, 1997). It is in line with studies that suggest gaining a competitive advantage is fundamental to the strategic plan

of a business in the future. Several other studies have confirmed that CA has significant effects on business performance (Pham, 2020; Wijaya & Suasih, 2020; Yuwanda et al., 2023). This result is consistent with the logic that firms who developed good competitive advantage are bound to do better in terms of business outcomes. Access to good quality products and markets coupled with cost minimization allows businesses to increase profits, gain market shares, and grow sustainably.

The findings of this work are especially crucial in comprehending the gap between digital era human resource management (HRM) and business performance in relation to Vientiane Capital, Lao PDR. Ichester f vicinity intensity also, in substantive violence necessitated by perception, such practice (H3) is not sacrificed. Further, the research extends the work of Alqarni et al. (2023), and AlHamad et al. (2022) by showing how such business practices translate to better business performance (Wongsansukcharoen & Thaweepaiboonwong, 2023; Elsawy, 2021; Kawapapong et al., 2022). The key focus era can also be labeled as the e-business age, without doubt famous discrimination era led by the dot com era businesses over the world, during this era witching Vientiane Capital started to outpace other regions, HRM systems there including the main business structures started to evolve at a seismic pace. It is important in the prevailing digital age as businesses need to seek and incorporate emerging technologies in business operations as well as achieving competitive advantage and business growth.

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