

Providing a Mixed Model of e-Marketing Efficiency in the Context of Electronic Human Resource Management (e-HRM)

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ABSTRACT

Considering the shift of business structure towards electronicization, this mixed exploratory study was conducted to provide a mixed model of e-marketing efficiency in the context of electronic human resource management (e-HRM). The statistical population in the qualitative section included experts in the field of management models, e-businesses, e-marketing, and so on. The sample was selected by criterion sampling (criteria including expertise, operational history, teaching history, etc.) after interviewing 9 people and based on the principle of saturation. In the quantitative section, 385 employees of businesses based on e-marketing and e-HRM were selected based on Cochran's formula and participated in the study by purposive sampling. 147 open codes were identified based on the results of exploratory factor analysis in the field of variables affecting e-marketing efficiency in the context of e-HRM. Finally, 38 sub-themes and 5 main themes were identified by categorizing the most important categories. Semi-structured interviews indicated that 5 themes of innovative business model, experts in the field of e-models, marketing model personalization, marketing dynamics, and proper co-branding affected e-marketing efficiency in the context of e-HRM. A researcher-made questionnaire was then designed based on the identified themes and sub-themes, the content validity of the questionnaire was confirmed by experts, and the internal consistency of the test items was confirmed by Cronbach's alpha. According to the explanatory and inferential review based on structural equation modeling (SEM), the identified components significantly affected e-marketing efficiency in the context of e-HRM. The results and fit of the designed model suggested that this model could be used to implement e-marketing in innovative businesses based on e-HRM.

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1. INTRODUCTION

Companies and organizations today set specific goals to achieve market and profitability (Gaitan et al., 2019). Various institutions compete to use the latest innovations in organization and business management due to the significant advancement of information and communication technology (ICT). The fundamental principle in this structure is e-commerce (Jass, 2022; Forghani et al., 2022). The recent age is the age of technology and the digital paradigm in every field (Klara, 2020). The advent of the Internet has provided an easy and relatively cost-effective connection between a company and its customers and an opportunity to use IT to support customer service. As a powerful tool for improving government services, IT has provided new government facilities for governments and administrators to provide services to customers and their business activities (Danila and Abdullah, 2016: 576). So, traditional trade no longer meets modern needs. As a result, new methods must be employed that play an important role in the business success of companies. E-commerce has created significant changes in business activities that have changed the relationship between customers and suppliers and improved communication between them to increase the productivity of the e-model (Choshin and Ghaffari, 2017: 68). The rapid growth of e-commerce has created a new paradigm in worldwide commerce and is developing in a large part of the e-commerce market in China, Asia, and the Pacific (Xu et al., 2017: 245). The COVID-19 pandemic in recent years has necessitated more attention to this issue. Accordingly, the structure of e-commerce needs to be implemented digitally, and management and leadership are among the dimensions concerning this issue. In this regard, leadership must shift from conventional to digital due to the forced digitization of the workplace because the advancement of technology has provided the opportunity to work remotely. This is a great advantage to reduce the costs of offline workplace (Erhan et al., 2022). The world of work today is changing rapidly as digitization, thus posing challenges for managers. Electronic human resource management (e-HRM) is an important factor in managing these challenges (Zeike et al., 2019). E-HRM refers to the structuring of the electronic model in the digital context. One of the most important development structures is the use of e-commerce to reduce the time and cost of product and service providers, customers, and audiences (Hartmann, 2016). Competitive advantage in digitization is mainly about the technical issues of strategy, culture, and development (El Sawy et al., 2016). It is the tool on which the developed industrial countries base the important factor of growth and development. Export and trade based on the export model in this structure are important and vital issues. According to Hirshleifer et al. (2018), formulating a policy based on the correct management model of and e-marketing is an important factor in the growth and capability of international trade in an electronic platform.

Lin et al. (2017) defines organizational innovation as the use of innovative structures based on material creativity and resources and consider it as a key factor in achieving greater profitability. They argue that innovative design is a fundamental factor in the survival of the organization in the business world. Gomez-Suarez et al. (2017) suggest that optimal digital marketing in global business requires motivation to buy, love, and brand trust and that this structure is achieved through the application of psychological policies and the relevant model. They see marketing as a key factor in gaining sales market and business success. Given the above, e-marketing is a fundamental and vital issue. The increasing use of digital media by consumers has emerged as one of the most practical information technology innovations that drive digital marketing (DM) and business growth in the contemporary knowledge-based economy (Ahmad et al., 2015; Abro et al., 2020). The philosophy behind digital and interactive marketing is to create a competitive advantage in meeting customer needs, creating customer values, and strengthening developer-customer relationships and interactive links through digital distribution channels (Eze et al., 2021; Ciechanowski et al., 2019). However, no precise and structured model has been used in this field. Accordingly, this exploratory study provides an efficient model

in this area. According to the study, the importance of digital marketing model in business success lies in a deep knowledge of experts in this field.

2. LITERATURE REVIEW

2.1 Theoretical Foundations

Digitization positively affects the economy (75%), quality of life (67%), and society (64%) (European Commission, 2017). Digitization has greatly transformed people's daily lives and jobs in recent years, connecting more than 8 billion devices worldwide (World Economic Forum, 2018). This structure modified the information value and management and changed the nature of organizations, boundaries, and workflows (Lorenz et al., 2015; Vidgen et al., 2017). Scientific and practical development in all areas of human knowledge is happening at a tremendous rate. E-commerce are the relevant model are among the most important concepts of the recent era. The e-commerce model can play a significant role in planning and overseeing internal processes, increasing transparency and accountability at all levels of management, and increasing audience trust (Cortellazzo et al., 2019; Twizeyimana and Andersson, 2019). The e-commerce model provides sales security and greater access to services and provides organizational productivity and audience satisfaction. So, this study examines it from the perspective of e-HRM. According to Bandrak and Roel, e-HRM is a way to implement HR strategies, policies, and practices in organizations through guided and informed support with full use of web-based channels. In their next study, the researchers expanded the definition to include electronic human resource communications.

2.2 Innovation Businesses/Digitization

Innovative organizations can be established in any shape and size and have the initial flexibility and more innovation to do things (Kulkarni et al., 2020). A successful innovative company is usually more capable of growth than a well-established company, that is, it can have more labor or growth potential than well-established companies despite having less capital (Johansen and Clausen, 2011). Innovative organizations can be established in any shape and size. Investors are generally attracted to those innovative companies that have a high risk/reward ratio and are more scalable, thus having lower start-up costs, high risk, and high potential return on investment. A successful innovative company is usually more capable of growth than a well-established company, that is, it can have more labor or growth potential than well-established companies despite having less capital (Johansen and Clausen, 2011). Innovative companies need to raise capital for their rapid growth and have various alternatives ahead. Other companies or investors can help innovative companies start their operations by exchanging cash for shares. One of the most important aspects of innovation refers to electronization and proper structuring accordingly. Companies and organizations that have adopted a more appropriate business model than their competitors can survive in today's competitive world. One of the keys to excellence in competing is having a business model and evaluating it consistently (Hanell et al., 2019). The business model is a method of doing business in such a way that the company can guarantee its survival and, in other words, generate revenue (Leung et al., 2018). The recent era is the era of digitization. This model must be adopted to succeed in this era. This refers to the electronization of business. E-business is defined as the application of all information systems to strengthen and control business processes. These processes are being developed today using web-based technologies (Izogo and Jayawardhena, 2018). Today's business world needs digital leadership and management model due to increasing digitization (Zeike et al., 2019). The digital transformation is rapidly changing the widely accepted current situation. Accordingly, companies that have lost the digitization trend today will lag in the future and compete less successfully with the pioneers of the digital age (Zeike et al., 2019). With the advent of digital innovations, the leaders of the organization and, in general, the whole organization must change the way of doing things, the type of team thinking, organizational structure, etc. following digital changes to survive in these conditions. This model requires the development of a properly balanced structure based on organizational conditions for the proper use of electronic resources along with e-HRM.

2.3 E-Marketing

E-marketing is referred to as the use of electronic channels to communicate with customers to spread marketing messages. E-marketing is a term that generally means achieving the company's goals by meeting and exceeding the needs of customers better than competitors using digital Internet technologies. E-marketing is the process of establishing and maintaining mutually beneficial relationships with customers through online activities to facilitate the exchange of ideas, goods, and services to achieve the goals of the parties. This definition includes establishing and maintaining mutually beneficial relationships with customers, using the Internet in marketing activities, exchanging, and achieving the goals of the parties. E-marketing also refers to companies that are the members of marketing logistics networks that contain a flow of information about goods, services, experiences, payments, and credits (Rahimnia and Hassanzadeh, 2013).

2.4 The Importance of E-Marketing

E-marketing focuses on obvious areas of the e-marketing mix with respect to other mixed items. The analysis covers the entire e-marketing mix of companies and their customers and the marketing activities of companies operating in this field. E-marketing is defined as the application of information and programs that are used to plan and implement concepts, distribution, promotion, and pricing of goods, and services and will serve individual and organizational goals. E-marketing greatly affects traditional marketing operations, and e-marketing technologies transform many marketing strategies. Companies can offer the product to the customer at a lower cost when they reduce costs through e-marketing. E-marketing reduces costs by saving buyer time and facilitating purchases. Many business models can enhance customer benefits and value. E-marketing refers to the idea of how the Internet can be used alongside traditional media to serve customers. It addresses the issue of how internal and external marketing processes and communications can be improved through ICT (Habibi et al., 2015). E-marketing has several benefits for companies that use it, such as meeting the needs of specific markets. It usually costs less than traditional face-to-face marketing (Bolos, et al., 2016). E-marketing provides businesses with access to mass-market at an affordable price, enabling them to use personal selling techniques to satisfy such markets. It also allows companies to find new markets for their products and compete with small or reasonable investments. However, according to Onyeocha et al. (2015), e-marketing has its drawbacks. For example, having the skills and knowledge to run an e-campaign effectively is crucial before e-marketing (Mooya & Phiri, 2021). Otherwise, the valuable resources of a weak campaign are likely to be wasted. Accordingly, e-marketing needs a deep and efficient knowledge. This is possible due to the various dimensions that this study discusses based on the e-HRM model.

2.5 Literature Review

In a review study, Harms (2020) examined the conflicting evidence of business sustainability and assessed success in this field by simply using all available dimensions and an optimal business model. Balocco et al. (2019) argued that modernizing the management and corporate paradigm toward electronization and innovation is a process in which new investments are frequently engaged, especially in dynamic settings such as the digital industry. The results of a study by Casiasa et al. (2020) showed that proper organizational management is achieved according to an innovative model based on electronic models in the marketing dimension. Nurlina et al. (2020) analyzed the relationship between the

implementation of e-HRM and employee performance directly and indirectly through the intervening variable quality of human resource services both practically and theoretically. The study used structural equation modeling (SEM) and partial least squares test (PLS) regression to test the direct relationship between e-HRM and performance and the relationship adjusted by the quality of HR services tested on 200 government employees in five cases. According to the results, e-HRM has a significant effect on business structure and business marketing. Blom et al. (2019) examined how technological change affecting e-HRM can optimize and expand diversity. The findings suggest that disregard for e-HRM systems can lead to failure in developing countries and that technology must be integrated into diversity management and not just focus on operational efficiency. Ma and Yeh (2015) examined the importance of e-HRM, arguing that more organizations are replacing in-person HRM with e-HRM. With a review-analytical approach, this study stated that E-HRM facilitates human resource performance to create dynamic and operational capabilities, greatly contributes to HRM effectiveness, and plays an important role in improving organizational conditions and business success. According to Olson et al. (2021), the e-marketing management model is very important.

3. METHODOLOGY

This study has an exploratory mixed design in which qualitative data are collected first. The exploratory mixed design seeks to survey an uncertain situation. The main categories affecting efficient e-marketing in the context of e-HRM were identified using thematic analysis. The degree of effect of the categories and the relationships between them were then analyzed based on structural equation modeling (SEM).

3.1 Population and Sample

The statistical population consisted of two groups as follows:

1. The statistical population in the qualitative section included experts in the field of management models, e-HRM, e-marketing, etc. The sample was selected by criterion sampling (criteria including expertise, operational history, teaching history, etc.) after interviewing 9 people and based on the principle of saturation.
2. In the quantitative section, all employees of companies active in e-marketing were selected by convenience sampling.

The sample size in the quantitative section was determined using Cochran's formula as follows:

$$n = \frac{(1/96)^2(0/5)(1-0/5)}{(0/5)(1-0/5)} \approx 385$$

Concerning Cochran's formula, if the value of p is not available, a value of 0.5 can be considered for it. In this case, the formula would give the largest and most conservative number possible. The sample size of 385 was considered by including the data obtained from the sample and other indicators.

4. FINDINGS

The most important tool for data collection in this study was the interview. Robert Yin proposes the logic of repetition as the basis of this method to achieve this goal. The three following strategies were used to validate the findings:

- *Peer Review*: The researcher seeks the help of other researchers who specialize in this approach and the concepts under study to verify the accuracy of the process performed on coding, interviews, etc. based on their views using this strategy. To this end, the researcher studies the suggestions of others about how to conduct interviews or present the results and perceptions of researchers who have different views and decides which part of their views to include in the study. In this study, three experts who had research and executive backgrounds in the field were consulted and the necessary changes were made based on their opinions and criticisms.
- *Note-Taking*: One way to help build confidence is to take notes on how to follow the steps of the study. Notes in which the researcher records his or her thoughts while collecting and analyzing data allow the reader to see how the researcher has reached his or her conclusions. In this study, the researcher took notes during the interviews on emphasis, type of speech, and highlighting issues, and recorded other important points that could be used in the analysis of the findings.
- *Focus Group*: In this approach, a group consisting of samples participating in the study discusses to confirm the process resulting from the data analysis, and the researcher modifies and reviews the resulting process by summarizing their views on the process.

Each of the identified themes is discussed below.

4.1 The Initial Qualitative Section

The content of the qualitative section was obtained based on the interview model in which the themes concerning e-marketing efficiency in the context of e-HRM were examined through 7 questions. This step led to a summary of the data obtained from the interview and documents to the concepts and classifications that were similar. There are two methods for data analysis in theoretical coding. Some researchers analyze component by component, that is, they analyze texts and data line by line and word by word. Some only encode key points and themes because of the time-consuming nature of the method. Three sources are recommended for coding: a set of concepts in the relevant field or profession, words, and phrases used by experts or expressed by study participants. In this coding method, the resulting codes are analyzed using a live coding pattern (using the language and vocabulary of the interviewee) and naming the data (key codes and concepts that the interviewee extracts based on the concepts in the interview) according to the relevant pattern in open coding to convert data from the description level to the concept after identifying and recording the key points and assigning the code to it. Those codes that are related and refer to a common theme are then grouped and presented in the form of a specific concept. In other words, the inferred concepts are the result of grouping code with common elements. Thus, each of the references is reviewed separately, the key points contained in them are identified separately, and the code is assigned to it. The related codes are then combined and grouped and named as concepts. Categories are formed through several common concepts.

In this study, at the same time as reviewing the interview, all variables were extracted and codes concerning each category were analyzed. In the open coding phase, 147 initial codes were identified and grouped into 38 sub-themes and 5 main themes.

In this section, the axial codes inferred based on open codes are examined due to the multiplicity of identified open codes and the possibility of extracting and receiving all codes.

Table 1. Interview thematic analysis

Row	Main themes	Sub-themes	Repeatability of all sub-themes
1	Innovative business model	E-HRM, innovative strategies, multidimensional structuring, multidimensional business, digital leadership, high supervision, multidimensional supervision, personnel delegation strategy in dynamic process	69
2	Specialized personnel in e-model	Expert recruitment, stability and retention, adaptability, e-literacy, e-experience, academic knowledge, operational knowledge, up-to-dateness	65
3	Personalization of marketing model	Individual marketing, ethnic marketing, subcultural marketing, national marketing, psychological marketing, needs assessment, recognizing dimensions of consumer behavior, market recognition, job marketing, gender marketing, situational marketing	33
4	Marketing dynamics	تغيرا Executive changes, compatibility, changes in infrastructure model, technical evaluation, risk management in marketing cost presentation model, updated database, estimation of structure and reconstruction	50
5	Co-branding	Integration, multiple company, benefiting from brand reputation, benefiting from reputable brand advertising	70

Semi-structured interviews indicated the 5 themes of innovative business model, experts in the field of e-models, marketing model personalization, marketing dynamics, and proper co-branding affected e-marketing efficiency in the context of e-HRM.

A researcher-made questionnaire was then designed based on the identified themes and sub-themes, the content validity of the questionnaire was confirmed by experts, and the internal consistency of the test items was confirmed by Cronbach's alpha.

Table 2. Evaluation of psychometric properties of the researcher-made questionnaire

Component	Construct validity	Cronbach's alpha
Innovative business model	0.601	0.889
Specialized personnel in e-model	0.616	0.814
Personalization of marketing model	0.789	0.881
Marketing dynamics	0.652	0.792
C-branding	0.608	0.803

Since the AVE (average variance extracted) value for all concepts and dimensions is greater than 0.50 and convergent validity is confirmed when the AVE value is greater than 0.50, convergent validity was confirmed for all concepts and dimensions. Furthermore, the reliability of each component, which shows the internal consistency of the test items, is greater than 0.7, indicating the sufficiency of the researcher-made tool. In the next step, the relationships between the variables were examined.

Table 3. Correlation matrix of variables

	Innovative business model	Specialized personnel in e-model	Personalization of marketing model	Marketing dynamics	C-branding
Innovative business model	1				
Specialized personnel in e-model	0.68**	1			
Personalization of marketing model	0.62**	0.65**	1		
Marketing dynamics	0.79**	0.74**	0.81**	1	
C-branding	0.60**	0.58**	0.57**	0.67**	1

** $P < 0.01$

* $P < 0.05$

According to the results of the Pearson correlation, there was a significant correlation between all variables. Since the correlation coefficients of the variables were significant, the structural equation modeling (SEM) method could be used. In the SEM method, the standard model is used to determine the effect of latent variables on each other, a significance model is used to show the significance of these effects, and fitness indices are used to evaluate the model fit.

In the following, the SEM method is used to investigate the effect of the identified variables.

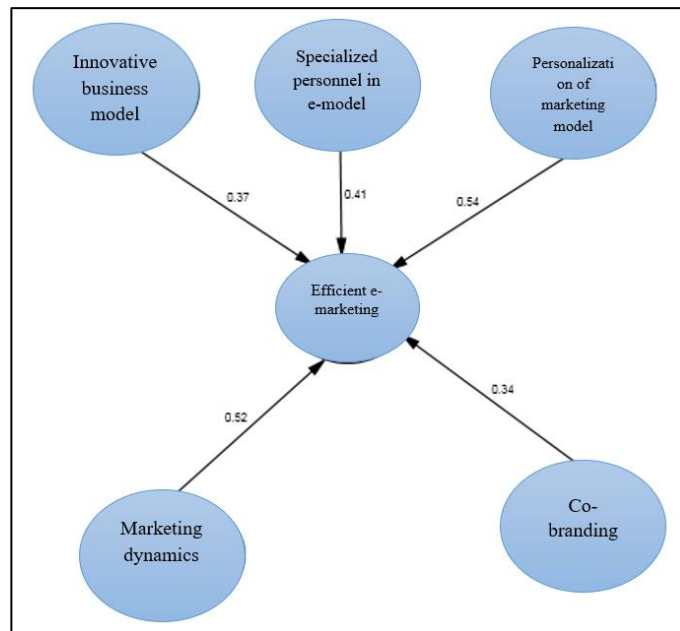


Fig. 1. SEM

Since the value obtained is above 0.3, the correlation between the variables is significant.

Table 4. SEM results

Row	Relationship Source: Independent latent variables (ζ)	Relationship Destination: Dependent Latent Variable (η)	Standard factor (β)	(t-value)
1	Innovative business model	E-marketing in the context of e-HRM	0.37	6.91
2	Specialized personnel in e-model	E-marketing in the context of e-HRM	0.41	8.18
3	Personalization of marketing model	E-marketing in the context of e-HRM	0.54	12.09
4	Marketing dynamics	E-marketing in the context of e-HRM	0.52	10.98
5	C-branding	E-marketing in the context of e-HRM	0.34	4.88

Since the significance factor is higher than 1.96 in all dimensions, the identified components have a significant effect on e-marketing efficiency in the context of e-HRM.

4.2 Evaluation of the Model Fit

The results of the model implementation can be seen in the table below.

Table 5. The model fit indices

Row	Model fit criteria	Abbreviation	Value	Desired limit	Result
1	The ratio of chi-square to the degree of freedom	χ^2/df	1.49	< 3	Desirable
2	Goodness of fit index	GFI	0.94	> 0.90	Desirable
3	Adjusted goodness of fit index	AGFI	0.94	> 0.90	Desirable
4	Normalized fit index	NFI	0.91	> 0.90	Desirable
5	Comparative fit index	CFI	0.90	> 0.90	Desirable
6	The root mean square error of approximation	RMSEA	0.029	< 0.08	Desirable

According to the fit indices presented in the table above, the calculated relative chi-square value is 1.49, which is less than 3 and desirable. Moreover, the RMSEA should be less than 0.08, which is 0.029 in the proposed model. The values of GFI, AGFI, CFI, and NFI should be more than 0.90, which are 0.94, 0.94, 0.91, and 0.90, respectively, in the model. So, it can be argued that the proposed model has a good fit and is efficient.

5. CONCLUSION

IT has overshadowed many aspects of social and organizational life. Organizations have realized that they need to determine their cost and capital allocation in IT at the highest and most strategic levels in a dynamic and competitive market (Kasemsap, 2018). The organization should first determine its current status in the field of e-readiness and e-business and determine the factors affecting the growth and development of this approach according to the type of services it provides to determine the highest levels of allocation (Yang et al., 2018). Digital transformation rapidly changes the widely accepted current situation. Companies that have lost the digitization trend today will lag behind in the future and will be less successful in competing with the pioneers of the digital age (Zeike et al., 2019). One of the most important issues in business electronization is marketing and the ability to attract audiences and customers in this structure. This raises the need for e-

marketing. All organizational dimensions must be in line with this structure. Managers of any organization, both public and private, today must provide the necessary infrastructure to expand digital leadership (Nguyen Van et al., 2021). Accordingly, this study was conducted to provide a mixed model of e-marketing efficiency in the context of e-HRM. The findings suggested that 5 themes of innovative business model, experts in the field of e-models, marketing model personalization, marketing dynamics, and proper co-branding affected e-marketing efficiency in the context of e-HRM. The quantitative model was then reviewed based on the identified themes and subthemes, and all the findings of the qualitative section were confirmed based on the quantitative section. Consistent with other studies, these results show that e-marketing in the context of e-HRM requires a comprehensive structuring in this field and that the first step is to employ specialized personnel who have learned the rules of work in the structure of innovative businesses. Personalized marketing model based on differences in terms of occupational, cultural, social, etc. is a structure that attracts more customers. In this way, more market share can be gained. Finally, a dynamic system must be implemented based on structured marketing to provide the basis for adaptation and application of changes as needed.

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