

Human Resource Analytics and Strategic Decision Making Through Evidence Based Human Resource Management and Data Driven Culture

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تحليلات الموارد البشرية واتخاذ القرارات الاستراتيجية من خلال إدارة الموارد البشرية القائمة على الأدلة وثقافة البيانات

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المخلص

برزت تحليلات الموارد البشرية كقدرة استراتيجية بالغة الأهمية، تُمكن المؤسسات من تحويل بيانات القوى العاملة إلى قرارات استراتيجية قائمة على الأدلة. ورغم أهميتها المتزايدة، لا تزال الأدلة التجريبية التي تبحث في تأثير قدرة تحليلات الموارد البشرية على فعالية صنع القرار الاستراتيجي محدودة، لا سيما في الاقتصادات الناشئة. تبحث هذه الدراسة في الأثر المباشر لقدرة تحليلات الموارد البشرية على فعالية صنع القرار، مع دراسة الدور الوسيط لإدارة الموارد البشرية القائمة على الأدلة، والتأثير المعدل لثقافة تنظيمية قائمة على البيانات. تم إجراء هذه الدراسة إستناداً على المسح الكمي بين مديري الموارد البشرية وموظفي مؤسسات ليبية، وجرى تقييم نموذج البحث المقترح باستخدام نمذجة المعادلات الهيكلية. تكشف النتائج أن قدرة تحليلات الموارد البشرية تُعزز بشكل كبير فعالية صنع القرار الاستراتيجي. علاوة على ذلك، تُساهم إدارة الموارد البشرية القائمة على الأدلة جزئياً في هذه العلاقة، بينما تُعزز الثقافة القائمة على البيانات الأثر الإيجابي لقدرة تحليلات الموارد البشرية على فعالية صنع القرار. بشكل عام، تُظهر النتائج أن القيمة الاستراتيجية لتحليلات الموارد البشرية تتحقق عند دمج المؤسسات لممارسات الموارد البشرية القائمة على الأدلة مع ثقافة قوية موجهة نحو البيانات، مما يوفر رؤية نظرية وعملية هامة للنهوض بإدارة الموارد البشرية الاستراتيجية في الاقتصادات الناشئة.

الكلمات المفتاحية: تحليلات الموارد البشرية؛ فعالية اتخاذ القرارات الاستراتيجية؛ إدارة الموارد البشرية القائمة على الأدلة؛ ثقافة البيانات؛ إدارة الموارد البشرية الاستراتيجية

Abstract

Human Resource Analytics (HRA) has emerged as a critical strategic capability that enables organizations to transform workforce data into evidence-based strategic decisions. Despite its growing importance, empirical evidence examining the influence of HRA capability on strategic decision-making effectiveness remains limited, particularly in emerging economies. This study investigates the direct effect of HRA capability on decision-making effectiveness while examining the mediating role of evidence-based human resource management (EBHRM) and the moderating influence of a data-driven organizational culture. A quantitative cross-sectional survey was conducted among HR managers and employees from Libyan organizations, and the proposed research model was evaluated using partial least squares structural equation modeling (PLS-SEM). The results reveal that HRA capability significantly enhances strategic decision-making effectiveness ($\beta = 0.42$, $p < 0.001$). Furthermore, EBHRM partially mediates this relationship ($\beta = 0.24$, $p < 0.001$), whereas a data-driven culture strengthens the positive impact of HRA capability on decision-making effectiveness ($\beta = 0.18$, $p < 0.01$). Overall, the findings demonstrate that the strategic value of HRA is maximized when organizations integrate

evidence-based HR practices with a strong data-oriented culture, offering important theoretical and practical insights for advancing strategic human resource management in emerging economies.

Keywords: Human resource analytics; Strategic decision-making effectiveness; Evidence-based HRM; Data-driven culture; Strategic human resource management; PLS-SEM

1. Introduction

In the modern business world, an increased influence of technology, data, and competition forces organizations to have efficient decision-making mechanisms. Organizations that embrace the use of data analysis in strategic management can create excellent competitive advantage, and if an organization sticks to the old school way of using intuition, then it will lead to ineffective organizational operations (Davenport & Harris, 2017). The change has shifted the role of HRM to being a strategic management mechanism providing insights for improved organizational performance (Marler & Boudreau, 2017).

Human Resource Analytics (HRA) is seen as a strategic approach that allows companies to gather, analyze, and interpret information related to their workforce in order to make informed decisions. Whereas traditional HR reporting mechanisms only offer a description of events that occurred in the past, HRA offers future-oriented insights that help workforce planning, talent management, and organizational development. Companies that have a well-developed HRA system are able to link human capital strategy and organization goals better to sustain performance (Marler & Boudreau, 2017).

While the strategic importance of HRA is now well-established, there has been little study into the ways in which HRA capability helps foster effective strategic decision-making, especially in non-Western or developing nations. How this connection works is not sufficiently understood. An area that is significant in terms of allowing HRA to create strategic value through is that of Evidence-Based Human Resource Management (EBHRM).

In addition, the success of HRA can be contingent upon having a positive and supportive analytical culture. Organizations which promote data-centric actions and reasoning are bound to use HRA results successfully and improve their decision-making process (Davenport & Harris, 2017; Kiron et al., 2014). On the other hand, poor analytical culture can limit the potential value of HRA because of low data literacy and lack of openness to evidence-based approach.

This setting is crucial for exploring the relations in question since the Libyan organizational environment represents one of those cases when organizational growth has been affected by such factors as institutional problems, economic uncertainty, and technological constraints (Shafter & Ruth, 2020). Despite difficulties that arise because of the low level of digitalization and the need for advanced management systems, Libyan organizations began to realize the importance of digital transformation and using data-driven management approaches. For instance, the National Oil Corporation started implementing a digital transformation strategy in the area of human resource management systems, whereas other organizations resorted to e-administration systems.

Despite this, research data relating to HRA capability, EBHRM, and strategic decision-making in Libyan organizations is quite scarce. Current researches are mostly oriented at studying conventional HRM methods and organizational performance (Shafter, 2019) and lack an adequate amount of information about capabilities in analytics and evidence-based decisions. This problem is significant since HRA can be applied to manage talent and plan workforce in developing countries. Beyond the general focus on HRM practices, existing studies in the Libyan context have largely concentrated on service quality in other sectors,

such as banking (Shafter, 2018), leaving a notable gap in the empirical investigation of human resource analytics and its strategic implications.

In other words, the present study aims to analyze the effect of HRA capabilities on the effectiveness of strategic decision-making within Libyan organizations, to understand the mediation effect of EBHRM on the relationship between HRA capability and strategic decision-making, and the moderating effect of data-driven culture on the relationship between HRA capability and strategic decision-making. The current study makes theoretical contributions by conducting HRA research in a non-Western environment and analyzing the mediation and moderating effects of EBHRM and data-driven culture, respectively.

Literature Review

HRA is considered a strategic organizational ability which allows organizations to leverage information about their employees for making fact-based decisions and increase organizational effectiveness and competitiveness (Marler & Boudreau, 2017; Espegren & Hugosson, 2025; Shafter & Ghnaem, 2016). The Libyan organizational context involves problems of organizational development, workforce planning, and quality of managerial decisions (Shafter & Rhumah, 2019), hence the use of HRA as a means of transitioning from intuition-based to analytical and strategic HRM. There is empirical research indicating that HR analytics improves the efficiency of decision-making through the integration of performance metrics of the employees, employee information, and predictive analytics into HR strategy (Minbaeva, 2018; Özkanlı & Gök, 2025).

The Evidence-Based Human Resource Management (EBHRM) supports the process by promoting the idea that managers should base their decisions about recruitment, retention and talent management on organization's evidence and scientific knowledge (Barends & Rousseau, 2018). The existing literature indicates that analytical skills and EBHRM practices are among key factors which facilitate efficient decision-making in strategic HR management (Marler & Boudreau, 2017; Minbaeva, 2018). Consequently, the incorporation of HRA into EBHRM may promote better strategic HR decisions and sustainable performance of organizations in Libya. While Human Resource Analytics has attracted much attention across the globe, few empirical studies have been conducted on how the concept has been applied in developing countries like Libya. This study seeks to investigate how HRA and evidence-based HRM affect strategic decision-making by fostering a data-driven HR culture.

Theoretical Foundations and Hypothesis Development

The present research is grounded in three theoretical perspectives: Evidence-Based Management (EBM), Dynamic Capabilities Theory (DCT), and the Resource-Based View (RBV). From this perspective, HRA can be considered a strategic organizational resource because it transforms workforce information into valuable knowledge that supports managerial decision-making (Minbaeva, 2018).

DCT extends the RBV by emphasizing the ability of organizations to integrate, develop, and reconfigure resources in response to environmental changes (Teece et al., 1997). Accordingly, HRA capability enables organizations to identify workforce trends, anticipate future challenges, and improve adaptive strategic decisions through data-driven insights (Espegren & Hugosson, 2025).

The Evidence-Based Management framework highlights the importance of integrating scientific evidence, organizational data, managerial expertise, and stakeholder perspectives to improve decision quality (Barends & Rousseau, 2018). Within HRM (Tehran and Safari 2013), EBHRM refers to applying reliable evidence and analytical information to develop effective HR strategies and practices. Therefore, HRA provides the analytical foundation,

while EBHRM facilitates the conversion of insights into practical organizational actions. In the Libyan business environment, characterized by institutional uncertainty and resource limitations, strengthening data-driven capabilities may help organizations reduce decision-making uncertainty and improve strategic effectiveness (Boakye & Lamptey, 2020).

2.1 HRA Capability and strategic decision-making effectiveness

Decision effectiveness in the context of strategic decision-making is all about the degree of accuracy and timeliness of the organizational decision-making process, and its ability to bring forth good results. HRA capability supports decision effectiveness through accurate workforce data, discovering trends, forecasting workforce needs, and comparing various strategies (Marler & Boudreau, 2017; Minbaeva, 2018). This relationship can be represented as follows:

$$SDE = \beta_0 + \beta_1(HRA) + \varepsilon$$

Where SDE is strategic decision-making effectiveness, HRA is human resource analytics capability, β_1 is the coefficient of HRA capability, and ε is the error term.

Organizations with high HRA capability will consequently be expected to make better-informed strategic decisions.

H1: HRA capability significantly enhances the effectiveness of strategic decision-making in Libyan organizations

2.2 HRA Capability and Evidence-Based HR Management

Organizations practicing EBHRM rely on the use of data from the organization, research findings, professional knowledge, and information from stakeholders during the process of making HR decisions (Barends & Rousseau, 2018). The ability to perform HRA gives an organization the necessary technological platform, analytical skills, and knowledge of the workforce that are needed for evidence-based HR practices (Marler & Boudreau, 2017; Espegren & Hugosson, 2025).

The relationship is represented as:

$$EBHRM = \beta_0 + \beta_1(HRA) + \varepsilon$$

where EBHRM represents evidence-based HR management.

H2: HRA capability positively influences Evidence-Based HR Management in Libyan organizations.

2.3 Evidence-Based HR Management and Strategic Decision-Making Effectiveness

EBHRM enhances strategic decision-making effectiveness by reducing managerial bias, improving analytical accuracy, and ensuring that organizational decisions are supported by reliable evidence (Barends & Rousseau, 2018; Marler & Boudreau, 2017). Evidence-based approaches allow managers to evaluate strategic alternatives systematically and improve decisions through continuous organizational learning.

The relationship is expressed as:

$$SDE = \beta_0 + \beta_1(EBHRM) + \varepsilon$$

H3: Evidence-Based HR Management positively influences strategic decision-making effectiveness in Libyan organizations.

2.4 Data-Driven Culture and HRA Effectiveness

Data-driven culture reflects organizational values and practices that encourage data collection, analysis, knowledge sharing, and the application of evidence in decision-making (Davenport & Harris, 2017; Kiron et al., 2014). A strong data-driven culture strengthens HRA effectiveness because analytical insights are more likely to be accepted and incorporated into managerial actions (Espegren & Hugosson, 2025). Conversely, weak data cultures may limit the value of analytics because decision-making continues to rely on experience or intuition.

H4: Data-driven culture positively influences HRA capability adoption and effectiveness in Libyan organizations.

2.5 Mediating Role of Evidence-Based HR Management

This study proposes that EBHRM mediates the relationship between HRA capability and strategic decision-making effectiveness. HRA capability provides analytical resources, while EBHRM represents the mechanism through which these resources are transformed into improved strategic decisions (Minbaeva, 2018; Marler & Boudreau, 2017). The mediation pathway is expressed as:

$$HRA \rightarrow EBHRM \rightarrow SDE$$

The indirect effect is calculated as:

$$\text{Indirect Effect} = \beta(HRA \rightarrow EBHRM) \times \beta(EBHRM \rightarrow SDE)$$

H5: Evidence-Based HR Management mediates the relationship between HRA capability and strategic decision-making effectiveness in Libyan organizations.

2.6 Moderating Role of Data-Driven Culture

Although HRA provides analytical capability, its contribution to strategic decision-making depends on organizational readiness to utilize analytical insights. Data-driven culture strengthens this relationship by establishing norms, capabilities, and behaviours that encourage evidence-based decision-making (Davenport & Harris, 2017; Kiron et al., 2014). The moderation model is represented as:

$$SDE = \beta_0 + \beta_1(HRA) + \beta_2(DDC) + \beta_3(HRA \times DDC) + \varepsilon$$

where DDC represents data-driven culture and β_3 represents the interaction effect. A significant interaction coefficient indicates that data-driven culture strengthens the influence of HRA capability on strategic decision-making effectiveness.

H6: HRA capability and the efficacy of strategic decision-making are mediated by data-driven culture; a high data-driven culture amplifies the beneficial effect.

2.8 Conceptual Framework

Based on the theoretical foundations and hypotheses, the conceptual framework (Figure 1) proposes that HRA capability enhances strategic decision-making effectiveness directly and indirectly through EBHRM. Moreover, the model indicates that data-driven culture would act as a moderator to enhance the effect of HRA. Based on RBV, Dynamic Capabilities Theory and Evidence-Based Management, the proposed framework shows how analytical capabilities can aid decision making processes in the Libyan organizational setting.

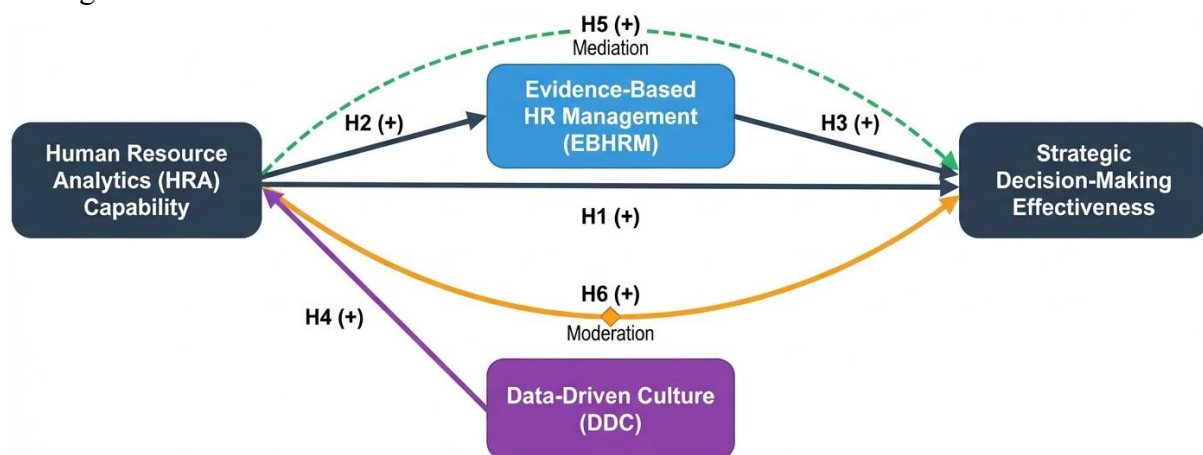


Figure 1: Conceptual frame work of the current study

3. Methodology

3.1 Study design

A quantitative cross-sectional survey was used to examine the effectiveness of Libyan organizations in making strategic decisions. The study looked at the correlation between HRA capability, EBHRM, and data-driven organizational culture. Due to the presence of

mediating and moderating effects and the study's goals of hypothesis testing, this approach was deemed appropriate. It should be mentioned, though, that any assumptions about causality are rendered impossible by a cross-sectional design.

3.2 Population and Sample

The study population included managers, HR professionals, and decision makers within Libyan organizations working in the sectors of oil and gas, banking, telecommunication, and manufacturing, such as the National Oil Corporation (NOC), Libyana Mobile Phone, Al-Madar Al-Jadeed, Jumhouria Bank, and Sahara Bank. The above sectors were chosen because of their significance and use of digital practices. Stratified random sampling method was employed to provide for the representative sectors in the sample. Considering that the sample size of 10 respondents should be achieved for each indicator according to SEM principles (Hair et al., 2017; Catano et al. 2009), a minimum of 240 samples were needed for 24 indicators. A questionnaire was distributed to 420 participants from 46 companies, of which 298 were valid.

3.3 Measurement Instruments

The constructs included in this study were measured using established instruments that were contextualized for the Libyan environment

Human Resource Analytics Capability: According to the 7-item scale, which is adapted from the HR Analytics Maturity Indicators Scale (HRAMIS) of Özkanlı and Gök (2025). This scale determines the most important capabilities that are considered to be indicative of the level of HR analytics maturity from the perspectives of technology, organization, and technology. The scale reflects the level at which data capabilities, technology, and HR analytics have been strategically aligned (Özkanlı & Gök, 2025; Marler & Boudreau, 2017). Adequate criterion-related validity, discriminant, convergent, and internal consistency were demonstrated by the three-factor thirteen-item scale.

Evidence-Based Human Resource Management: In terms of a scale composed of six items, which was developed from the scale proposed by Barends and Rousseau (2018), this instrument assesses the amount of influence placed on HR decisions based on evidence from multiple sources (Marler & Boudreau, 2017; Minbaeva, 2018).

Data-Driven Culture: The extent to which the data usage and the culture of the organization value data and support its use for better decisions may be assessed by means of a 5-item scale based on Davenport and Harris (2017) and Kiron et al. (2014).

Strategic Decision-Making Effectiveness: The efficacy, confidence, and use of information in making strategic decisions were measured using a scale consisting of six items that have been adapted from the Decision-Making Questionnaire (DMQ) by Kline (1996).

All items were measured on a five-point Likert scale (1 = strongly disagree; 5 = strongly agree). The questionnaire was translated into Arabic using the back-translation method, and minor revisions were made following a pilot test with 30 managers and HR professionals.

3.4 Data Collection

Data were collected from January to May 2025. Questionnaires were disseminated through various channels: in-person distribution at organizational locations, electronic distribution via email, and through professional networks. Participation was voluntary, and respondents were assured of anonymity and confidentiality regarding their responses. A cover letter was included, outlining the research objectives and providing instructions for completing the survey.

3.5 Data Analysis

The data was analyzed through SPSS 26 and SmartPLS 4. The choice of PLS-SEM is because the method is useful in the development of theories and prediction; in developing complicated models that involve mediators and moderators, and in cases where normality assumptions cannot be made (Hair et al., 2017). A two-stage evaluation procedure was

used to assess the structural and measurement models. Reliability, convergent validity, discriminant validity, hypothesis testing, mediation, and moderation analyses were performed, with mediation effects assessed through bootstrapping based on 5,000 resamples.

4. Results

4.1 Sample Characteristics

Sample demographics are presented in Table 1. Out of 298 respondents included in the sample, 63.4% were males while 36.6% females. Respondents aged 31-40 accounted for 40.9% of all sample participants; 27.5% of respondents were aged 41-50. 46.3% had a bachelor's degree, 31.5% had a master's degree, and 10.4% held a doctorate. In terms of the tenure at the organization, 32.9% of employees worked there for 6-10 years with an average tenure of 7.9 years. Representatives of the following industries were present in the sample: manufacturing industry (19.5%), banking industry (22.8%), telecommunication industry (20.8%), oil and gas industry (36.9%). 66.4% of respondents were non-managers whereas only 33.6% were managers. Among the sample respondents, 58.4% were managers/professionals.

Table 1: Respondent Demographic Profile

Demographic Variable	Category	Frequency	Percentage
Gender	Male	189	63.4%
	Female	109	36.6%
Age	20-30 years	54	18.1%
	31-40 years	122	40.9%
	41-50 years	82	27.5%
	Over 50 years	40	13.4%
Education	Diploma	35	11.7%
	Bachelor's	138	46.3%
	Master's	94	31.5%
	Doctorate	31	10.4%
Organizational Tenure	Less than 3 years	39	13.1%
	3-5 years	68	22.8%
	6-10 years	98	32.9%
	Over 10 years	93	31.2%
Sector	Oil and Gas	110	36.9%
	Banking	68	22.8%
	Telecommunications	62	20.8%
	Manufacturing	58	19.5%
Position	Managerial	100	33.6%
	Non-managerial	198	66.4%
Role	HR Professional	124	41.6%
	Other Managerial/Professional	174	58.4%

Demographic profile shows the features of the Libyan working population in the chosen industries. The domination of the industry of oil and gas is logical because this is the main economic sector of Libya. High education level is related to the sample being consisted of managers and human resource specialists. Gender distribution corresponds to the labour market in Libya, while the share of human resource specialists (41.6%) is reasonable considering the subject of the research.

4.2 Common method bias

The use of Harman's single-factor test allowed for the evaluation of common method bias. Podsakoff et al. (2003) found no evidence of common method bias because the first factor only accounted for 25.9% of the total variance, which is lower than the recommended 50%.

4.3 Assessment of the measurement model

Measurement model tests for convergent validity, construct reliability, and factor loadings were used to evaluate the HRA capability construct's validity and reliability. The findings of the HRA capability measurement model are displayed in Figure 2.

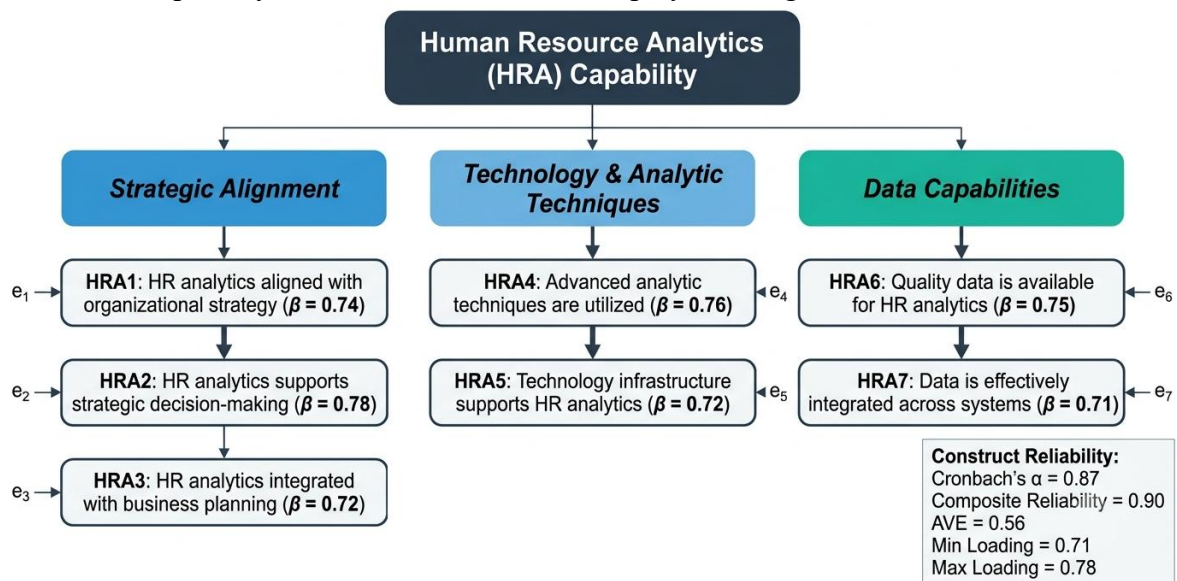


Figure 2: Measurement Model for Human Resource Analytics (HRA) Capability

Table 2: Measurement Model Assessment

Construct	Items	Cronbach's α	Composite Reliability	AVE
HRA Capability	7	0.87	0.90	0.56
Evidence-Based HRM	6	0.84	0.87	0.54
Data-Driven Culture	5	0.82	0.86	0.53
Strategic Decision-Making Effectiveness	6	0.85	0.88	0.55

Note: All factor loadings > 0.60 and significant at $p < 0.001$. AVE = Average Variance Extracted.

The measurement model was assessed by analyzing its reliability, convergent validity, and discriminant validity. Table 2 indicates that all constructs exhibited robust internal consistency, with Cronbach's alpha values between 0.82 and 0.87 and composite reliability (CR) values ranging from 0.86 to 0.90, surpassing the recommended threshold of 0.70. Convergent validity was established via average variance extracted (AVE), with all constructs exhibiting values ranging from 0.53 to 0.56, surpassing the minimum threshold of 0.50.

Additionally, all indicator loadings were statistically significant ($p < 0.001$) and greater than 0.60, indicating sufficient item reliability. The Fornell–Larcker criterion and the heterotrait–monotrait (HTMT) ratio were then used to establish discriminant validity, which showed adequate differentiation between the study constructs. The Fornell-Larcker criterion was satisfied because each construct's square roots of Average Variance Extracted (AVE) were greater than the correlation coefficients between constructs. HTMT values were below the 0.85 threshold, ranging from 0.55 to 0.71. Following the evaluation of the HRA construct's validity, the entire measurement model was examined to ascertain the validity and reliability of all the research-related constructs, including HRA capability, EBHRM, data-driven culture, and decision-making effectiveness. Figure 3 below shows the entire measurement model.

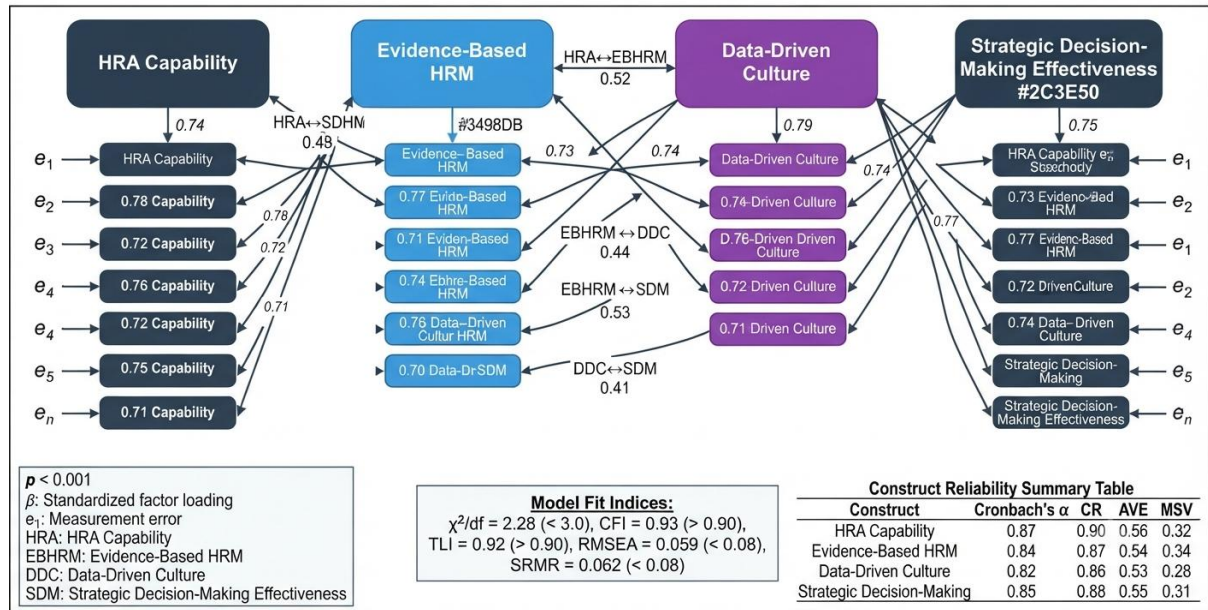


Figure 3: Complete Measurement Model for All Study Constructs

4.4 Structural model assessment

Collinearity, explanatory power, predictive relevance, and overall model fit were assessed in order to evaluate the structural model. Multicollinearity was not an issue because all variance inflation factor (VIF) values were less than 3.0. The model showed moderate explanatory power, explaining 38% of the variance in EBHRM ($R^2 = 0.38$) and 49% of the variance in strategic decision-making effectiveness ($R^2 = 0.49$). Furthermore, all endogenous constructs showed positive Q^2 values between 0.26 and 0.35, indicating adequate predictive relevance.

The standardized root mean square residual (SRMR) was used to evaluate the model's fit. An acceptable fit between the suggested model and the observed data was indicated by the obtained SRMR value of 0.062, which was less than the suggested threshold of 0.08. The proposed relationships between the constructs were investigated after the measurement and structural models were found to be adequate. Figure 4 displays the findings of the structural model analysis.

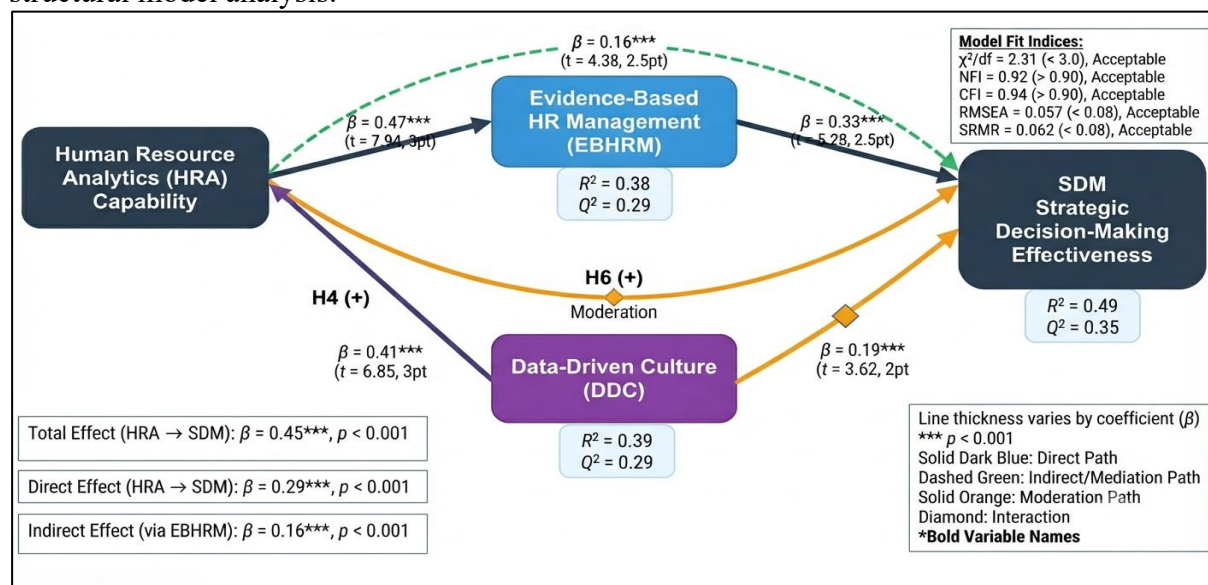


Figure 4: Findings from the Structural Model Including Path Coefficients, R^2 Values, and Significance Levels

4.5 Hypothesis Testing

Table 3: Hypothesis Testing Results

Hypothesis	Relationship	β	t-value	p-value	Decision
H1	HRA Capability $\rightarrow$ Strategic Decision-Making	0.29	4.78	<0.001	Supported
H2	HRA Capability $\rightarrow$ EBHRM	0.47	7.94	<0.001	Supported
H3	EBHRM $\rightarrow$ Strategic Decision-Making	0.33	5.28	<0.001	Supported
H4	Data-Driven Culture $\rightarrow$ HRA Capability	0.41	6.85	<0.001	Supported

Table 3 presents the results of hypothesis testing. The findings provide support for all six hypotheses.

H1 proposed that HRA capability positively influences strategic decision-making effectiveness. The results revealed a significant positive relationship ($\beta = 0.29$, $t = 4.78$, $p < 0.001$), supporting H1. This finding is consistent with the broader HRA literature and with previous empirical evidence demonstrating that strategic human capital analytics positively influence organizational and market performance through their effects on managerial decision-making.

H2 proposed that HRA capability positively influences EBHRM. The results revealed a significant positive relationship ($\beta = 0.47$, $t = 7.94$, $p < 0.001$), supporting H2. This finding suggests that Libyan organizations that develop HRA capabilities are better positioned to implement evidence-based HR management practices.

H3 proposed that EBHRM positively influences strategic decision-making effectiveness. The results revealed a significant positive relationship ($\beta = 0.33$, $t = 5.28$, $p < 0.001$), supporting H3. This finding is consistent with research demonstrating that evidence-based management positively influences organizational performance.

H4 proposed that data-driven culture positively influences HRA capability adoption and effectiveness. The results revealed a significant positive relationship ($\beta = 0.41$, $t = 6.85$, $p < 0.001$), supporting H4. This finding suggests that organizations with strong data-driven cultures are better able to develop and leverage HRA capabilities.

4.6 Mediation Analysis

The mediation analysis's findings are shown in Table 4. Using the bootstrapping procedure with 5,000 resamples, we tested whether EBHRM acted as a mediator.

Table 4: Mediation analysis results

Hypothesis	Indirect Effect	β	t-value	p-value	95% CI	VAF	Decision
H5	HRA $\rightarrow$ EBHRM $\rightarrow$ SDM	0.16	4.38	<0.001	[0.09, 0.23]	35.6%	Supported (Partial)

Note: HRA = Human Resource Analytics Capability; EBHRM = Evidence-Based HR Management; SDM = Strategic Decision-Making Effectiveness; VAF = Variance Accounted For; CI = Confidence Interval.

Hypothesis five (H5) suggests that EBHRM is the intermediary variable between the HRA capability and the effectiveness of strategic decision-making. The indirect effect of the HRA capability on the effectiveness of strategic decision-making using the intermediary of EBHRM was found to be significant ($\beta = 0.16$, $t = 4.38$, $p < 0.001$, 95% CI [0.09, 0.23]). There was mediation because the Variance Accounted For (VAF) was 35.6%. Therefore, H5 was proved to be true. The indirect effects were all significant ($\beta = 0.16$, $p < 0.001$), and the total effect of the HRA capability on the effectiveness of strategic decision-making was found to be 0.45 ($t = 7.56$, $p < 0.001$). The direct effect was still significant even after including the mediator variable ($\beta = 0.29$, $p < 0.001$).

4.7 Moderation Analysis

As for how the moderating influence of data-driven culture would be further analyzed, an interaction effect analysis was undertaken to establish if data-driven culture enhances the connection between HRA capabilities and strategic decision-making efficiency. The moderating influence is illustrated in Figure 5.

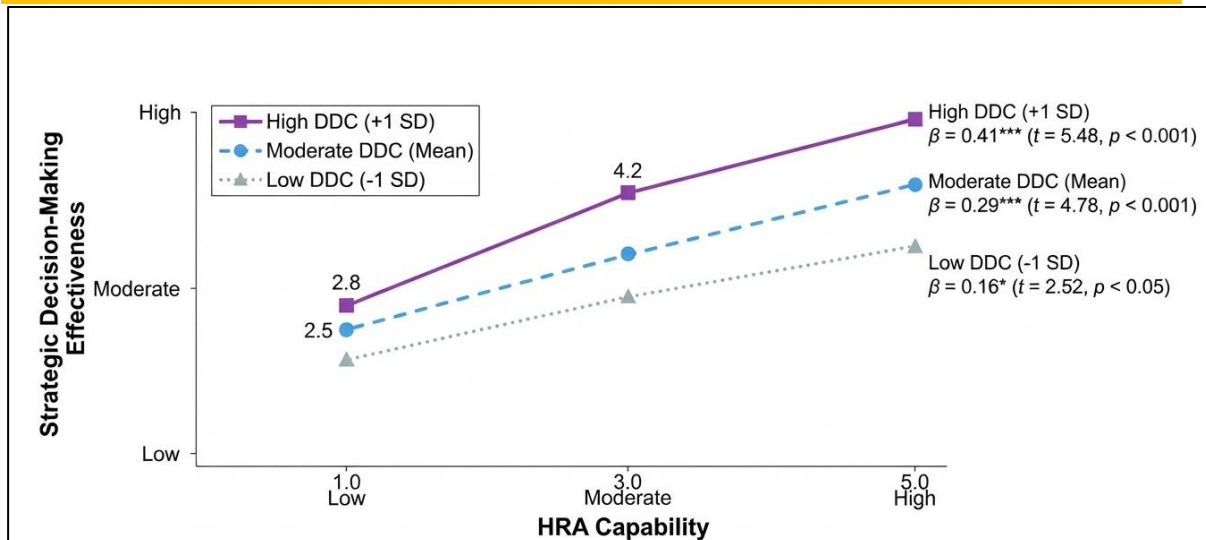


Figure 5: Moderating effect of data-driven culture on the relationship between HRA capability and strategic decision-making effectiveness

Table 5: Moderation Analysis Results

Hypothesis	Moderating Effect	β	t-value	p-value	95% CI	Decision
H6	HRA $\times$ DDC $\rightarrow$ SDM	0.19	3.62	<0.001	[0.10, 0.28]	Supported

Note: HRA = Human Resource Analytics Capability; DDC = Data-Driven Culture; SDM = Strategic Decision-Making Effectiveness; CI = Confidence Interval.

The moderation analysis results are shown in Table 5. H6 was supported by the positive and statistically significant interaction effect between HRA capability and data-driven culture ($\beta = 0.19$, $t = 3.62$, $p < 0.001$). These results suggest that the positive correlation between HRA capability and the efficacy of strategic decision-making is reinforced by a data-driven culture.

To investigate the interaction effect further, a basic slopes analysis was carried out. Strategic decision-making effectiveness was positively impacted by HRA capability at high levels of data-driven culture ($\beta = 0.41$, $t = 5.48$, $p < 0.001$), at moderate levels ($\beta = 0.29$, $t = 4.78$, $p < 0.001$), and at low levels ($\beta = 0.16$, $t = 2.52$, $p < 0.05$). The moderating effect of data-driven culture is further supported by the significant difference between the high and low conditions ($t = 3.62$, $p < 0.001$).

5. Discussion

These results serve as empirical proof for the research model suggested, which indicates that HRA capability is an important variable contributing to more effective strategic decision-making in organizations in Libya. The results also indicate that EBHRM serves as an explanatory mechanism which explains the connection between HRA capability and decision outcomes, with data-driven culture strengthening this connection. These results make it possible to enhance both theoretical and practical knowledge about the use of analytics-based HR practices in strategic management (Marler & Boudreau, 2017; Minbaeva, 2018).

5.1 The HRA Capability-Strategic Decision-Making Relationship in the Libyan Context

The significant positive relationship between HRA capability and strategic decision-making effectiveness (H1) is consistent with the broader HRA literature and with previous empirical evidence from emerging economies. HRA capability enhances strategic decision-making by providing decision-makers with accurate, timely, and relevant data; enabling the identification of patterns and trends; facilitating the evaluation of alternative courses of

action; and supporting the monitoring and evaluation of decision outcomes (Espegren & Hugosson, 2025; Özkanlı & Gök, 2025).

The magnitude of the relationship ($\beta = 0.29$) is consistent with previous research on HRA and decision-making. However, the finding that the direct effect is partially mediated by EBHRM suggests that other mechanisms also operate, consistent with the broader literature on HRA-performance linkages. HR analytics has been found to impact the performance of organizations in several ways, such as influencing managerial decision-making, ability to solve problems creatively, and evidence-based management (Marler & Boudreau, 2017; Minbaeva, 2018).

Within the Libyan setting, where there is considerable uncertainty and limited resources, capability of HRA could prove crucial in making strategic decisions that will improve organizational performance. The observation that Libyan organizations have been implementing initiatives to transform digitally for HR management highlights the potential for HRA within the environment (Boakye & Lamptey, 2020).

5.2 Evidence-based hr management as a mediating mechanism

The empirical evidence for the mediating effect of EBHRM between HRA capability and strategic decision making (H5) conforms to theoretical predictions stemming from the Evidence-Based Management model. HRA capability offers the knowledge, resources, and skills necessary for EBHRM, while EBHRM offers the methodical approach to decision making that converts analysis into better decisions (Barends & Rousseau, 2018; Marler & Boudreau, 2017).

As evidenced by the partial mediation result ($VAF = 35.6\%$), while EBHRM remains crucial, HRA capability also has an effect on strategic decision-making through other mediators. As supported by evidence indicating that HR analytics impacts organizational performance through several mechanisms, such as managerial decision-making, creative problem-solving capacity, and evidence-based management (Minbaeva, 2018).

For Libya, which has been known to adopt intuitive approaches to HRM, EBHRM could play a more critical role in the shift towards data-informed decision-making. With HRA capability positively impacting EBHRM (H2), and EBHRM having a positive impact on strategic decision-making (H3), it would be reasonable to anticipate that organizations in Libya, which adopt HRA capability and practice EBHRM, will see improved decision-making efficacy (Espegren & Hugosson, 2025).

5.3 Data-driven culture as a moderator

The findings support H6 by demonstrating that a data-driven culture significantly strengthens the relationship between HRA capability and strategic decision-making effectiveness, consistent with organizational culture theory. Specifically, organizations with a strong data-driven culture are better positioned to leverage HRA capabilities, as analytical insights are more effectively valued, integrated, and applied in strategic decision-making processes (Davenport & Harris, 2017; Kiron et al., 2014).

The moderation effect would be particularly important when it comes to Libya because traditional decision making has always been dominant. Data culture-oriented organizations could find it easier to deal with the problem of resistance to data-driven decision making. The finding that the HRA capability-strategic decision-making relationship is stronger when data-driven culture is high suggests that Libyan organizations should invest not only in HRA capabilities but also in cultivating data-driven cultures that enable organizations to leverage analytical insights effectively (Kiron et al., 2014).

The finding that data-driven culture positively influences HRA capability adoption and effectiveness (H4) further underscores the importance of cultural factors. Organizations with strong data-driven cultures are better able to develop and leverage HRA capabilities, creating a virtuous cycle in which culture enables capability development and capability development reinforces cultural norms (Davenport & Harris, 2017).

5.4 Comparison with previous research

However, the results of this study contribute to prior literature in the areas of HRA and strategic decision-making in some significant aspects. First of all, although the previous literature investigated the connection between HRA and the organizational performance as well as the connection between HRA and decision-making process of managers, this study makes a contribution to the analysis of how HRA capability impacts the effectiveness of strategic decision-making through the mediation of EBHRM and the moderation of data-driven culture (Marler & Boudreau, 2017; Espegren & Hugosson, 2025).

Secondly, the empirical study supports the application of the Evidence-Based Management concept in the Libyan environment. The result about mediation of the HRA-strategic decision-making connection by EBHRM is similar to the results that show that access to HR technology facilitates HRA and then the evidence-based management and organizational performance (Minbaeva, 2018).

Finally, the paper makes an important contribution to the emerging body of research regarding HRA in emerging and transitional countries by showing that the HRA capability is useful in improving decision-making within organizations operating in contexts marked by institutional uncertainty and scarcity of resources (Boakye & Lamptey, 2020). This has significant theoretical implications, as it implies that the HRA-decision making nexus might be stronger in different contexts than expected, but only if proper capabilities and supporting organizational cultures exist (Teece et al., 1997).

5.5 Contextual factors and boundary conditions

The impact of the HRA capability on effective strategic decision-making in Libya will be influenced by a number of moderating factors. The political context such as political stability, regulation, and technology will affect the ease of implementation and efficiency of HRA capability. Organizational culture can also influence the acceptability and effectiveness of HRA capability since organizational cultures that have the tendency to emphasize information, analysis, and evidence-based decisions will readily accept HRA (Davenport & Harris, 2017). Moderators of great importance include leadership because the leader who promotes information-based decisions increases HRA capability effectiveness.

The dichotomy of public-private sectors in Libya makes unique dynamics regarding HRA implementation. The public sector organizations will experience difficulties arising out of bureaucracy and lack of resources, whereas the private sector organizations may experience difficulties due to lack of resources and competition. This indicates that the implementation of HRA may have to be customized according to the type of organization and sector involved; where public sector organizations concentrate on developing capacity and private sector organizations utilize HRA as an advantage.

6. Implications

The findings offer important theoretical, managerial, and policy contributions by advancing the understanding of how Human Resource Analytics (HRA) enhances strategic decision-making through the mediating role of Evidence-Based Human Resource Management (EBHRM) and the moderating influence of a data-driven organizational culture within the underexplored context of Libya. Theoretically, the study extends the HR analytics and Evidence-Based Management literature by validating the applicability of these frameworks in a non-Western, conflict-affected environment while enriching Dynamic Capabilities Theory through demonstrating how organizations transform workforce data into strategic capabilities that improve decision quality (Barends & Rousseau, 2018; Davenport & Harris, 2017; Marler & Boudreau, 2017; Teece et al., 1997). From a managerial perspective, the results emphasize the need for organizations to strengthen HRA capabilities by investing in digital infrastructure, analytics competencies,

and data governance while institutionalizing EBHRM practices that integrate empirical evidence, organizational data, and professional expertise into HR decision-making. Equally important is the cultivation of a data-driven culture that reinforces analytics adoption despite contextual challenges such as technological limitations and organizational constraints in Libya (Kiron et al., 2014; Minbaeva, 2018; Nyambegera, 2006; Özkanlı & Gök, 2025). At the policy level, the findings underscore the necessity for national initiatives that promote digital transformation, workforce upskilling, responsible data governance, and evidence-based management through supportive regulatory frameworks and capacity-building programs. Collectively, these contributions provide a comprehensive foundation for enhancing organizational resilience, strategic HR capabilities, and sustainable decision-making in emerging and institutionally constrained economies (Boakye & Lamprey, 2020; Espegren & Hugosson, 2025).

7. Study limitations

The use of a cross-sectional approach does not allow for establishing causation and implies conducting a longitudinal study in order to assess changes in HRA capability and strategic decision-making outcomes. The use of self-reports may cause common method bias; however, no problems were detected using statistics and final limitation is the sample focused primarily on companies from oil and gas, banking, telecommunication and manufacturing industries.

8. Conclusion and Future Research

This research study sought to examine the effect of HRA capability on the effectiveness of strategic decision-making process in Libyan organizations in relation to the mediating effect of EBHRM and the moderating effect of data-driven culture. The results of the current study have supported the hypotheses developed by offering evidence that HRA capability is positively and significantly associated with the effectiveness of strategic decision-making and is partially mediated by EBHRM and moderated by data-driven culture.

The study contributes to theory and practice in many ways. On the theoretical side, it is significant contribution to HRA research since it considers the mediation and moderation of mechanisms in a non-Western, conflict-affected environment. Moreover, the study proves empirically the usefulness of the Evidence-Based Management approach and Dynamic Capabilities Theory for Libya. On the practical side, it can be helpful for HR managers, organizational leaders and policy makers in their development of HRA capabilities, practicing of EBHRM and creation of data-driven culture.

Future Research Directions

Future research needs to include longitudinal studies that examine a variety of factors, including decision-making quality, decision-making speed, and implementation efficiency. Future research needs to focus on how leadership style, organizational structures, and institutions influence HRA. It will be beneficial for researchers to carry out comparative research of Libyan industries and other countries experiencing economic and social challenges. Additionally, future research must examine the role of artificial intelligence and machine learning in enhancing HRA capabilities.

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