HR Analytics Competencies and Business Outcomes – The Mediating Effects of Motivation

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Abstract:
HR analytics has gained immense popularity among the consultants and practitioners in the field of HR management. However, it has not been subjected to scrutiny by academic researchers. The present study, therefore, investigates the role played by HR analytic competencies in improving Business outcomes and how this relationship is mediated by employee motivation. A descriptive design was adopted and data was collected from HR employees from Bangalore, who adopt analytics for various HR processes. The results showed that motivation partially mediated the effects of HR analytic competencies on Business outcomes. The analytical skills of employees which involves understanding, analyzing and interpreting data has a significant impact on the business outcomes of the organization in terms of improved decision-making and return on investment achieved. Further, motivating employees at work to generate and experiment with new ideas; to customize new ways to deliver products and services by analyzing data; to adopt and use creative analytics in any process; and to find satisfaction at work can further enhance the effectiveness of analytical skills on business outcomes. Based on these results, the study emphasizes the need for developing analytical skills among HR employees and motivating them to increase business outcomes.

I. Background

Human capital plays an important role in determining the effectiveness of an organization. Therefore, there exists a potential for the HR to play an important role in devising and implementing corporate strategies and to add value in organizations (Lawler &Mohrman, 2003).The role of HR management has emerged from being a mere administrator to a supporter of value creation and business strategy (Ulrich &Dulebohn, 2015). In order to becomea strategic partner and to influence business strategy, HR professionals must possess analytical and decision-making capability (Lawler III, Levenson, & Boudreau, 2004).With the help of analytics, HR professionals can understand the impact of policies and practices on organizational performance; thereby, add value to the organization.

HR analytics have been believed to answer the various challenges faced by the HR. It plays a role in every aspect of HR functions including recruiting, training and development, retention, succession planning, and providing compensation and benefits (Mishra, Lama&Pal, 2016). It transforms complex data into meaningful information to aid in decision-making and predict future business outcomes (Rasmussen & Ulrich, 2015). The main goal of HR analytics is "to gather and maintain data for predicting short and long-term trends in the supply and demands of workers

in different industries and occupations and to help global organizations make decisions relating to optimal acquisition, development and retention of their human capital"(Kapoor &Sherif, 2012, p. 1627) or as stated by Hotaand Ghosh (2013, p. 167) "to provide an organization with insights for effectively managing employees in order to achieve business goals quickly and efficiently." Thus, it can be implied that data-driven HRM can add value to the business.

The purpose of this paper is to deepen our understanding about the effectiveness of HR analytics competencies possessed by HR employees on the decision-making and return of investment (business outcomes) of organizations. The possible connections between HR analytic competencies and Business outcomes are examined.Researchers like Dobre (2013), and Ahamed, andSunderasan (2016) reported that performance of an organization depends on the motivation of its employees towards work. Hence, the paper also analyzes whether the impact of analytic competencies possessed by employees on business outcomes can be enhanced through employee motivation.

II.   Related literature

Analytics can be adopted for understanding the impact of HR practices and policies on the performance of the organization. Statistical techniques can be adopted to determine the causal relationship between particular HR practices and business outcomes such as return on investment, sales per employee and the profitability of particular business decisions (Lawler III, Levenson, & Boudreau, 2004).Mondore, Douthitt, and Carson (2011) stated that HR analytics can help the HR department to direct the money to be spent on beneficial employee initiatives that are key to influence business metrics and outcomes. Further, the impact of such investments on the top and bottom lines of business could be quantified with the help of analytics. Thus, HR analytics can

be adopted to make significant returns on the investments made on employees and employee initiatives. Levenson (2011) reported that analytics and metrics offer a great potential to make decisions regarding human capital issues in an organization. He found that along with statistical skills, time and resources will also be needed to make maximum utilization of the analytics to make decisions. Similarly, Mishra, Lama, and Pal (2016) also stated that organizations adopt HR analytics to gain better return on investments through data-driven decision-making.

van der Voort, Klievink, Arnaboldiand Meijer (2019) reported that big data provides ample opportunities for decision-makers and data analysts to make better decisions and perform their job well.Sousa (2018) suggested that analytic models can facilitate data analysis and better decision-making. Similarly, Gaur (2018) stated that HR analytics acts as a catalyst for organizations to make relevant decisions for the management and improvement of various businesses processes. He suggested that HR analytics can simplify the management of human resources in an organization by shifting from traditional operational HR department to a tactical data-driven decision-making. In addition to this, motivation of employees has been reported to play an important role in enhancing the performance of organization (Dobre, 2013; Ahamed, &Sunderasan, 2016). Since HR analytics play an important role in influencing the business outcomes of an organization in terms of improved decision-making and return on investment, the current study intends to identify whether the HR analytic *competencies* possessed by the employees affect the business outcomes of organizations through motivation. We expect that

Hypothesis:*Motivation of employees mediates the effect of HR Analytics Competency on Business Outcomes*

III. Methodology

The study adopted a descriptive research design to describe the effects ofMotivation on the relationship between HR analytics competency and Business outcomes. Accordingly, a structured questionnaire was developed and distributed among the research participants.The research participants were HR employees (n=180) who workedas data scientists or data analysts in various organizations in the city of Bangalore.The demographic profile of the participants can be studied from Table 1. The study sample included an almost equal proportion of male and female participants, with a majority of them belonging to the age group between 31 and 40 years. Further, a majority of the participants were found to be working in the IT sector. The research participants came with varying levels of experience; thereby, confirming their suitability for participating in the study.

Table 1: Demographic profile of participants

Demographic factors		Frequency	Percent
Gender	Male	99	55
	Female	81	45
Age	21-30	74	41.1
	31 -40	85	47.2
	41- 50	21	11.7
Education	UG	34	18.9
	PG	145	80.6
	PhD	1	0.6
Experience	1-5	80	44.4
	6-10	58	32.2
	11-15	22	12.2
	16 - 20	20	11.1
Working organization	MNC	71	39.4
	Small Indian Company (≥100)	29	16.1
	Medium size company	18	10
	(100-1000 employees)		
	Large companies (>1000 employees)	62	34.4
Type of sector	IT	93	51.7
	Manufacturing	20	11.1
	Services	46	25.6
	Others	21	11.7

IV. Results and discussion

Mediation analysis was carried out using Hayes and Preacher process method to assess the mediation effect of Motivation between HR Analytics competency and Business outcomes. The results are provided in Table 2. It can be seen that HR Analytics competency is a significant predictor of motivation (a-path), b=.459, SE = .056, p <.001 and also Motivation was found to be a significant predictor of Business Outcomes (b=path), b=.329, SE = .062, p <.001. The total effects between HR competencies and Business outcomes (c-path), b=.371, SE = .049, p <.001 and the direct effect through mediation by Motivation between HR competencies and Business outcomes (c'-path), b=.151, SE = .035, p <.001 were also significant. Hence, the variable Motivation acts as a partial mediator between HR Analytics Competency and Business outcomes.

The explanatory power of the independent variable over the dependent variable can be studied from Table 3. The explanatory power of HR Analytics competency over Business outcomes was found to increase from 24% (R^2 = 0.241) to 34% (R^2 = 0.347) due to the inclusion of a mediator (Motivation). Based on the above discussion, the hypothesis, "*Motivation of employees mediates the effect of HR Analytics Competency on Business Outcomes*" was only partially accepted.

Table 2: Mediatingeffects of motivation between HRA competency and business outcomes

	Co-eff	SE	t	p	LLCI	ULCI	Decision
HRC→ MOTVN	0.459	0.056	8.211	0.000	0.349	0.570	Supported
MOTVN→BO	0.329	0.062	5.354	0.000	0.208	0.451	Supported
HRC→BO (Direct effect)	0.371	0.049	7.513	0.000	0.273	0.468	Supported
HRC→MOTVN→BO (Indirect effect)	0.151	0.035			0.090	0.234	*Partially supported*

Table 3: R^2 values of the variables

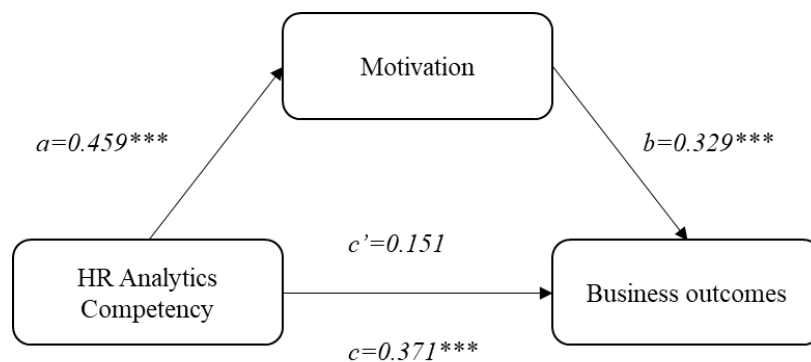|	R	R-sq	MSE	F	df1	df2	p
HRC→MOTVN	0.524	0.275	0.327	67.425	1	178	0.000
HRC→BO (Direct effect)	0.491	0.241	0.254	56.450	1	178	0.000
HRC→MOTVN→BO(Indirect effect)	0.589	0.347	0.220	46.945	2	177	0.000

Figure 1: Mediation effect of Motivation between HR Analytics competencies and Business Outcomes

The direct effects found that theanalytical competencies possessed by HR professionals have an impact on the decision-making and return on investments made by the business. This is in line with the findings reported by Sousa (2018), Gaur (2018) and Levenson (2011)who also suggested that data analysis provides improved and effective decision-making for organizations. Employees who can effectively analyze and interpret the data at hand, can effectively predict about the future and thereby help organizations to make accurate and data-driven decisions. Also, the analytical skills possessed by the HR employees can help them to make decisions related to issues of workforce and workforce efficiency based on evidence rather than acting upon instincts. Furthermore, similar to the current findings, a study by Mishra, Lama, and Pal (2016)and Mondore, Douthittand Carson (2011) also supports the claim that HR analytics models help

organizations to maximize the return on their investments.Thus, with the help of data and employees with analytical skills and competencies, organizations can make decisions and develop strategies to generate significant gains on the investment made.

Theeffect of employees'analytic competencies onbusiness outcomes has been found to be partially mediated by employee motivation. Motivation of employees will enhance their adoption of analytic techniques for decision making which in turn will increase the business outcomes. Thus, HR analytics competencies will help organizations to drive business outcomes through the use of analytics and employee motivation.

V.   Conclusion

The results of the study showed that employee motivation partially mediates the effects of HR analytics competencies on Business outcomes. The analytical competencies possessed by the employees can be largely adopted for enhancing Business outcomes by motivating employees to adopt creative analytics and apply the same in all processes. Employee motivation thus plays a crucial role in enhancing the effectiveness of employee competencies on business outcomes.Organizations must therefore motivate its HR employees to develop analytical competencies and utilize them to make informed data-driven decisions which in turn can maximize its return on investments.We found that implementation of HR analytics is a key initiative to making HR a strategic partner in any organization. Therefore, HR analytics must be available to business leaders to expand their impact on the organization.

VI.   References

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