



EDITTDA Approach for Agile Human Resource Performance in Bangalore Software Industry

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ABSTRACT: The present paper explores how EDITTDA approach measure agile HR performance in HR organizations, conducted in Bangalore based software industry, data collected from the HR professionals with structure questionnaire, 104 HR professionals participated. The study developed a theoretical framework for constructs and tested the hypotheses relationship in between the constructs. The study found that there is a relationship between the EDITTDA approach and agile human resources performance by using coefficients beta (β), t test and descriptive statistics were used. Also, found that by using EDITTDA approach can measure the agile human resources performance. This finding is expected to help agile organizations to align their practices. The study conducted in Bangalore based software companies does not covered all companies located in Bangalore city.

Keywords: Agile human resource, Bangalore, EDITTDA approach, performance and software industry.

I. INTRODUCTION

Digitalization and innovative economics allows companies to adopt agile methodologies to move quickly and respond to market needs and services; this is making business mainstream to select even the HR department to solve complex issues. In the competitive business world, demanding adaptability and responsiveness will be playing a significant role in changing customers needs. Every need of the customers can be resolved, if the managers of the organization act as an agile manner.

In general, any organizational circumstances are not much amicable to the HR managers to perform better. Therefore, the process is very slow like snail walk and cannot reflect on business demand especially in the process of feedback and learning.

The core idea of agile development is adaptability, transparency, simplicity and unity. The concept has been adopted since 2001 in the software industry. A small number of software professionals work together to develop better software development; this idea becomes popular all over the industry. Moreover, agile is promoting fast solution to customers needs. Cost-effective software development has been introduced, the same ideas are implemented in recent years in marketing, manufacturing and accounting. Terms of agile is reframed as per the requirement of HR, now agile HR is acquisition recognition as a means of helping the organization stay connected with current and aligned with the realities of competitive talent needs.

As suggested that agile principles are critical players in the continuous learning, continuous talent acquisition and transparent process that allow the organizations to attract, develop and engage talent for the organization [1]. Another piece of work by agile alliance stated that

agile could create and respond to change to succeed in an uncertain and turbulent environment [2].

The aim of the study is to measure agile human resource performance with EDITTDA approach and its explanation as follows, E: Experimentation - HR focused on experimentation, learning from mistakes, trying pilot projects & not seeking perfection; B: Breakdown - HR focus on breaking down large project, initiatives, problems into smaller, more manageable to address; I : Incremental & Iterative- HR focus on incremental change, taking small components, making small improvements, building upon those improvements in each iteration; T: Teams – HR promote and support the creation of self-guided work teams?; T: Time – HR focus on scheduling work to be completed in shorter duration, in between 2-4 week time intervals; D: Develop - HR focus on the development of a "Servant Leadership" leadership development model; and A: Always-HR always focus on engaging, getting feedback and adapting to key customers requirements & priorities.

II. LITERATURE REVIEW

In line with the research objective, the aim of the literature is to develop constructs for EDITTDA approach, for this purpose the review of literature has been searched in Scopus, Web of science, Elsevier, Emerald and Science direct to identify the relevant studies in the area, in addition to that industry reports, HR websites and Agile websites.

While working on literature following steps was adopted for information search process

(i). Used keywords for researching in leading various databases such as Scopus, Proquest, EBSCO, Science Direct, Emerald and Elsevier, Taylor and Francis, Springer and Wiley Inderscience were selected and used to cover complete literature. The keywords used

for the research include HR, agile, agile technologies, agile methodologies, agility, organizational agility, measuring agility, agile human resources, practicing agility, agile software development, India, Indian software Industry and Bangalore based software industry among others.

(ii) Internet search engines through google, google scholar, Microsoft Academic, Science.gov, Semantic Scholar and Baidu Scholar were utilized to identify and to access the relevant books, media reports, industry reports, working papers and blogs and presentations.

(iii) Periodic access and review of leading journals that have frequently published articles in agile human resource such as IEEE, Harvard business review, Information and software technology among others were conducted to include the most recent and up to date studies which could have been missed on the keywords search.

Each construct for the software industry identified from the literature are provided in Table 1. Which the construct identified that items are discussed in the following sections.

Table 1: Constructs and items identified from the literature.

EDITDA approach	References
E : Experimentation HR focused on experimentation, learning from mistakes, trying pilot projects & not seeking perfection.	[3]
B : Breakdown HR focus on breaking down large project, initiatives, problems into smaller, more manageable to address.	[4]
I : Incremental & Iterative HR focus on incremental change, taking small components, making small improvements, building upon those improvements in each iteration.	[5]
T : Teams HR promote and support the creation of self guided work teams.	[6]
T : Time HR focus on scheduling work to be completed in shorter duration, in between 2 4 week time intervals.	[7, 8]
D : Develop HR focus on the development of a "Servant Leadership" leadership development model and	[9,10]
A : Always HR always focused on engaging, getting feedback and adapting to key customers requirements, priorities	[5, 10]

According to the researchers "Agile is about educating employees to work quicker and smarter to meet the needs of customers and clients."

Agile technologies established across the functional areas, which industry is aiming for progressiveness. Adding the agility into human resources functions allows it to be quicker and helps create an organizational culture that's more responsive to the needs of customers. An agile organization is one that's able to change direction quickly and easily, and the human resource department needs to be responsive to the dynamic needs of such an organization. The

organizations have to facilitate experimentation by providing new rules leaning, learning from mistakes, trying with new experiments without any direction.

The human resource organization agile teams, individual responded as per the assigned work, which depends on their project and understands the problems of customers and will address accordingly. They are like macromanagers rather than micromanagers.

The aim of the agile is adopted in human resource to develop and enhance computer applications through a continuing, iterative and collaborative process that seeks to make incremental changes on an ongoing basis. Moreover, considering small changes, components and their development to build each iteration [12].

The human resource organizations should encourage and reinforce self-guided work teams which is comparatively a new concept and highly effective within the management. Human resource organizations should evaluate their preparation for being ready and potential systems of delivery that would suit their needs; the business leadership team started to see where similar ideas of agile could enable them to deal with the interest on HR activities, not simply on information technology alone. Resource management teams delivering effective job in recruiting process, training & development, induction, performance management, employee communications and compliance within the small groups. The concept of lean and agile also doing the same but prioritizing tasks and improving workflow.

Teams that are comparatively larger and that handles compensations, payroll, and benefits were able to manage handfuls of business projects each year as well as it determined that rolling-wave planning, mapping work back to strategic goals, and bringing visibility to their work could enable them to deal with the expectations of their stakeholders.

Embracing agile across the human resource could enable the team within a culture to facilitate effective decision making as well as collaborate to meet the requirements of the stakeholders in minimum time span with less bureaucracy.

Human resource organizations prioritize their work by keeping time frame of 2-4 weeks or in days depends on their availability of the resources. It will provide an effective and efficient work environment to meet the needs of the customers.

Creating environment in such a way that it will provide a servant leadership mindset that can result in the strong relationship, leadership and direct style of reporting, which can lead to higher degrees of loyalty, devotion, determination, dedication (3D) and productivity. The servant leadership aim is of serving employees, instead of giving directives to your team; it is leading from rear, sharing work among others with reliability and faithfulness. According to share ten attributes [9]. By incorporating the above concept into basic education it will enhance the enterprise leadership skill in employees.

Human resource organizations have to promote the two degrees of customer separation method that emphasizes the relationship between the customer and organization employees essential customers

requirement and their priorities. Human resource organization better promote how to lead by learning agile what a customer needs and requirements using experimentations, increments and feedback.

III. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

After careful observation based on literature, the theoretical framework provides a way to conceptualize these complex relationships to measure the agile human resource perform and has shown a positive relationship that has not been studied previously in the software industry, especially Bangalore based software industry. This attempt made us design our hypothesis.

H1: There is a positive relationship between HR experimentation and agile HR performance.

H2: There is a positive relationship between HR team members breakdown of work and agile HR performance.

H3: There is a positive relationship between HR incremental and iterative approach and agile HR performance.

H4: There is a positive relationship between HR self-directed teams and agile HR performance.

H5: There is a positive relationship in between HR time and agile HR performance.

H6: There is a positive between HR servant leadership model and agile HR performance.

H7: There is a positive between HR always focused on customers feedback and agile HR performance.

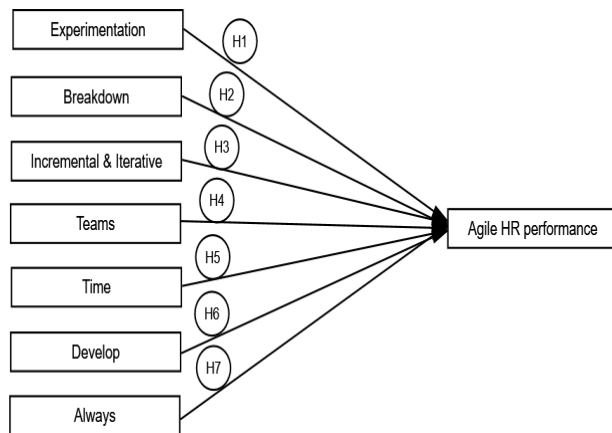


Fig. 1. Conceptual Framework.

The study hypotheses are conceptualized in the form of a framework in Fig. 1. In the next section the methodology developed for the study will be discussed.

A. Methodology

The survey-based research methodology was used to test proposed hypothesis in the study and the items with each construct identified from the literature Table 1 well-structured questionnaire was developed and five-point Likert measurement scale was used ranging from always (5) to never (1) and strongly agree (5) to strongly disagree (1) was used to evaluate the main constructs in the study. The study instruments was pre-tested with six experts (three from academicians and rest from the domain specialists). This met the condition outlined by

[13 who recommended that a questionnaire should go through a pre-test of at least three to five respondents. The pre-test process with proper questions was relevance, readability, terminology, clarity, understanding and the relevance of the items in the study in a real-world situation. At the time of pre-test suggestions taken, identified issues, that are addressed, and it's reflected on the final questionnaire and convenience sampling method deployed for selection of the companies.

The final questionnaire was prepared and circulated for the period of 5 months from December 2018 to May 2019 across HR professionals and used Question Pro survey system; authors have circulated the questionnaire link via their personal contact, LinkedIn and Twitter. Moreover, the list of the companies were chosen from the following sites <https://www.nasscom.in/nasscom-offices/bangalore> and <https://www.Indiadata.org>. After circulation of the questionnaire 200 respondents were received, after scrutiny, it was observed that 104 respondents filled questionnaire correctly and completed all the questions, 96 responses removed due to the incompleteness, questionnaire filled by the responses were considered for further analysis. Table 2 shows the demographic characteristics of the final answers.

Table 2: Demographic details of respondents.

	Responses	Percentage
Firm ownership		
Private companies	81	77.88
Holding companies	23	22.12
Total	104	100
Size (employees)		
Less than 100	76	73.07
101-200	20	19.23
Greater than 201	8	7.7
Total	104	100
Response experience (in year) in the software sector		
0-2	85	81.74
03-06	15	14.43
Greater than 06	4	3.84
Total	104	100
Respondents experience (in year) in the current organization		
0-2	86	82.7
03-06	10	9.62
Greater than 06	8	7.69
Total	104	100

Table 2 gives detailed information regarding the representation of companies in study among which were 81 private companies, 23 holding companies are involved, was received the breakdown of the firm size of employees, 76 responses from the than 100, 20 responses in between 101 to 200, and rest of the answers fall under greater than 201, Further, with regards to the experience of the responses in the software sector, 81.74 percentage had 2 years of experience, 9.62 percentage had in between 3 to 6 years of experience, only 4 responses more than 6 years of experience and in the current organization the response quality is high with regards to 2 years of experience, followed by 3 to 6 years of experience, 8 responses fall under more than 6 years.

IV. FINDINGS

Further discussion has been carried out with main analysis i.e testing of the hypothesis, moreover, it is very important to test the reliability of the items, which constructs considered in the study. Moreover, the SPSS 25 version application software has been used to get the desired results.

A. Construct Reliability

To check the reliability of the constructs, Cronbach's alpha is most widely used measure for reliability [14]. The values of the Cronbach's alpha ranges from 0 to 1, if the values are achieving higher values reliability. As per the acceptable threshold for reliability is 0.70 [15]. As observed in the study our constructs was well above 0.70, indicating there is a strong reliability of constructs, actual values of the study is 0.859, number of items 8.

B. Constructs mean and SD values

The study analyzed the means and SD's values split in between different scenario's the agile performance with regards to the HR focused on experimentation, learning from mistakes, trying pilot projects & not seeking perfection, the value of mean 3.14, SD 0.88 less than other ones. HR focus as on breaking down large project, initiatives, problems into smaller, more manageable to address is slightly more mean than HR focus on scheduling work to be completed in shorter duration, in between 2, 4 weeks time intervals.

HR focus on incremental change, taking small components, making small improvements, building upon those improvements in each iteration is more mean (3.37) and SD (0.92) values than the HR promote and support the creation of self-guided work teams mean (3.33) and SD (0.96). HR focus on the development of a "Servant Leadership" leadership development model and HR always focused on engaging, getting feedback and adapting to key customers requirements, priorities mean (3.40) and SD (0.97) is smaller than the HR always focused on engaging, getting feedback and adapting to key customers requirements, priorities, value of mean (3.52) and SD (0.98). In nutshell, all scenarios of agile human resource performance showing clear picture that, there is possibility to measure the agile human resource performance through EDITTDA approach. The below Table 3 shows the values and different means.

Table 3: Overview of the mean values.

Variable	Scenario	Mean	SD	N
Experimentation	Agile HR performance	3.14	0.88	104
Breakdown	Agile HR performance	3.25	0.87	104
Incremental & Iterative	Agile HR performance	3.37	0.92	104
Teams	Agile HR performance	3.33	0.96	104
Time	Agile HR performance	3.26	0.95	104
Develop	Agile HR performance	3.40	0.97	104
Always	Agile HR performance	3.52	0.98	104

C. Summary of findings and hypothesis test results

The study proposed seven hypotheses and tested, all hypothesis accepted, EDITTDA approach is showing significant relation in its measures agile human resource performance. The constructs that are covered in the EDITTDA approach, all of them support and shows positive result.

(H1) HR focused on experimentation, learning from mistakes, trying pilot projects & not seeking perfection significant ($\beta = 0.074$, $t = 6.254$, $p < 0.002$), (H2). The values of HR focus on breaking down large project, initiatives, problems into smaller, more manageable to address, significant ($\beta = 0.157$, $t = 5.348$, $p < 0.008$), (H3) HR focus on incremental change, taking small components, making small improvements, building upon those improvements in each iteration significant ($\beta = 0.135$, $t = 9.2740$, $p < 0.000$), (H4) HR promote and support the creation of self-guided work teams significant ($\beta = 0.081$, $t = 8.367$, $p < 0.023$), (H5) HR focus on scheduling work to be completed in shorter duration, in between 2-4 week time intervals significant ($\beta = 0.059$, $t = 7.367$, $p < 0.031$), (H6) HR focus on the development of a "Servant Leadership" leadership development model significant ($\beta = 0.110$, $t = 8.369$, $p < 0.001$) were mediated significantly on agile human resource performance and The values of (H7) HR always focused on engaging, getting feedback and adapting to key customers requirements, priorities on agile human performance is strong and significant ($\beta = 0.314$, $t = 7.358$, $p < 0.001$), In summary, all seven proposed hypothesis are supported and values are shown in the Table 4.

Table 4: Hypotheses test results.

Hypothesized relationship			β	S.E	t	p	Hypothesis Result
H1	Experimentation	Agile HR performance	0.074	0.103	6.254	0.002**	accepted
H2	Breakdown	Agile HR performance	0.157	0.218	5.348	0.008**	accepted
H3	Incremental & Iterative	Agile HR performance	0.135	0.198	9.274	0.000**	accepted
H4	Teams	Agile HR performance	0.081	0.123	8.367	0.023*	accepted
H5	Time	Agile HR performance	0.059	0.089	7.367	0.031*	accepted
H6	Develop	Agile HR performance	0.110	0.168	8.369	0.001**	accepted
H7	Always	Agile HR performance	0.314	0.487	7.358	0.001**	accepted

β - standardized coefficients; S.E. - Standard Error

Note: **denotes significant at 1% level, *denotes significant at 5% level.

V. DISCUSSION AND CONCLUSION

The study aim to understand how to measure agile human resource performance through EDITTDA approach. The study conducted to know how EDITTDA approach can be useful or not, but the findings clearly indicate that it is possible to measure agile human resource performance in Bangalore city-based software industry.

Our study showed that the HR professional prioritized their opinion on the measurement of agile technologies. First, HR always focused on engaging, getting feedback and adapting to key customers requirements, secondly, HR focus on breaking down large project, initiatives, problems into smaller, more manageable to address, HR focus on incremental change, taking small components, making small improvements, building upon those improvements in each iteration and HR focus on the development of a "Servant Leadership" leadership development model can be measured moderately, and the final priority is that HR focused on experimentation, learning from mistakes, trying pilot projects & not seeking perfection, HR promote and support the creation of self-guided work teams significant & HR focus on scheduling work to be completed in shorter duration, in between 2-4 weeks time is slightly low than other factors. The authors found new insights in this study that, this will contribute to the existing literature. Moreover, our study provides two main implications, first is that, it is a useful tool for the practitioners to measure their agile technologies and second to know the gaps in existing technology.

VI. FUTURE SCOPE

The study is not without limitations. The authors collected the data in Bangalore city only. The proposed model should be validated and tested in other part of India, There are other hi tech hubs cities such as Hyderabad, Chennai, Mumbai, Delhi-Noida and Gurgaon, Pune, Kolkata (Salt Lake), Ahmedabad and Gandhinagar (GIFT City) can be conducted by taking large data sample and also possible to make comparative study in between Tech companies and agile technologies. The researchers can conduct study using same framework in different countries.

Conflict of Interest. No potential conflict of interest was reported by the authors.

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