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Responding to the Clarion Call Of COVID-19: A study of impact of HR function and employee engagement on post-crisis organisation recoverability

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Abstract

This study is divided into two parts. Part A attempts to study the relationship between HR functions, employee engagement and post-crisis organisational recoverability during the COVID-19 crisis through quantitative methods. Part B adopts a qualitative thematic analysis approach to gain insights into the HR enablers that contribute towards its crisis-preparedness. The independent variables were (a) HR functions (HR communication, HR support, HR collaboration, HR agility, HR anticipation of crisis) and (b) employee engagement and the dependent variable was organisational recoverability as perceived by the employees. The study adopts a dual approach of gaining the employee perspective as well as HR perspective of ten organisations operating in the national capital region of Delhi, India. Causal survey design was adopted to gain employee perspective through analysis of quantitative data. In the second phase of the study, HR managers of the same ten organisations were interviewed to gain insights into HR function enablers during COVID-19.

The quantitative data was subjected to machine learning analysis (Rstudio, Random Forest) & qualitative data was analysed through content analysis. Employee engagement and three functions of HR – HR support, HR agility, & HR anticipation of crisis emerged as predictors for organisational recoverability. The emerging themes from content analysis of qualitative interviews were– HR empowerment, knowledge management and learning systems. These three emerged as HR enablers. The study has implications for organisation science research in a post crisis scenario.

1 Introduction

The COVID-19 pandemic threw up unsurmountable challenges in front of the organisations. Amidst the macabre dance of death and despondency stood Human Resource function (HR) trying to make a headway and help the baffled organisations come out of the raging fires of death, employee mental health, disruption of work systems & practices, declining investments and profit margins (Shen and Chen, 2020), labour retrenchments, supply chain issues (Kumar et al., 2020) and other problems. The huge proportion of challenges and the unique complexity of problems thrown by COVID-19 and the central role of HR in management of this crisis across the world, has brought forth the need to study the role of HR function as a facilitating partner in effective organisation recoverability. The role of HR in crisis management is different from the routine HR roles (Athamneh, 2017). Crisis management refers to the process of anticipation, identification, prevention, recovery

and learning (Mitroff, 1994). All organisations are prone to unexpected crises– both external and internal. The Human Resource Management Association defines it as “a low probability, high-impact occurrence that is often unexpected and unfamiliar, occasioned by organizational structures, people, technology, economics and natural disasters among others.” The emerging role of HR demands that it contributes to the organisational preparedness towards potential crises so as to be able to mitigate the impact of a crisis and help in organisational continuity and recoverability. The new multifarious HR roles require extensive knowledge and skills to ensure the organisational continuity, sustainability and recoverability (Athamneh, 2017). Research points towards a number of HR practices that can help in sustainability but there is very little literature that has documented specific HR practices contributing to crisis management. This study identifies various HR crisis management practices that have been mentioned in fragmented literature and attempts to put it into a coherent whole adopting the contingency approach.

2 Theoretical framework

Early on in HR research, (Schuler, 1992) proposed the 5-P Model (HR Philosophy, Policies, Programs, Practices, and Processes) of strategic HRM to stress on the importance of establishing a systematic link between the HR system and strategic organizational needs. (Rehmani and Raza, 2021) however remarks that “context” decides if the HR can assume a strategic position in an organisation. The RBV (Resource Based View) framework of HR proposes three approaches for HR practices– a) The universalistic approach, that adopts the stand that HR practices can be adopted universally across organisations and geographies (Boxall and Macky, 2009) (b) The contingent approach that recommends a strategic fit between the HR practices and the environmental or contingency demands (Lengnick-Hall et al., 2009) (c) The configurational approach, that adopts the stand that different HR elements work in an interactive configuration so as to impact organisational performance.

According to the resource-based view, the ‘configurational perspective’ can be used to explain why HRM practices may serve as a resource for sustainable organizational performance.

Bui and Footner (2016) go on to explain that the configurational approach can be adopted to understand the configurations of HR activities that help in catering to organisational needs and demands (Campbell et al., 2012). Thus, the Resource Based View approach of HR adopts a ‘systematic perspective’ and suggests that HR roles and activities work in a complementary fashion so as to maximise organisational effectiveness and performance (Jiang and Winkler, 2012; Campbell et al., 2012; Pak and Kim, 2018). The bundles approach of HR (Macduffie, 1995; Verburg, 2007) suggests that HR functions can be configured into different bundles (example – market bundle, commitment bundle, flexibility bundle & developmental bundle). This scientific investigation attempts to study the ‘flexibility bundle’ function (HR communication, HR support, HR collaboration, HR agility, HR anticipation of crisis) that prepare the HR to respond to unprecedented environmental demands.

3 Role of HR in Crisis Management

Andrianopoulos (2015) has divided crisis management in three major phases – pre-crisis, crisis and post-crisis phase. HR activities too can be configured around crisis management phases. For example -anticipation of potential crisis is an important HR function needed before a crisis and HR communication, HR support and HR collaboration are some of the functions needed during and after the crisis. This investigation attempts to study the role of these HR functions during and after three months of the COVID crisis.

The main role of the HR at the time of crisis is to anticipate whether the human resources are ready to tackle the challenges posed by the crisis (Athamneh, 2017). When the HR is agile, the ability to predict and respond to any situation is enhanced (Baird and Zorbas, 2020). Anticipation of crisis by the HR is the step towards finding whether the employees and the leadership are able to adapt themselves to the new changes. HR can enhance the adaptability through trainings and by providing all the necessary support for easy transition (Honigmann et al., 2020; Akhmetshin et al., 2019; Sharma, 2022). Communication is considered as a key in this regard, and when HR follows an empathetic communication during the crisis, it helps in building trust and positive employee affect (Honigmann et al., 2020; Maurer, 2012). HR also needs to collaborate with employees across departments or may be with other companies for innovative solutions to sail through the crisis (Bingham, 2020). Fast and innovative action by management and the engagement of employees are two critical goals that HR needs to manage during a crisis. The employees who are engaged and feel connected with the company would never want their organization to fail (Akhmetshin et al., 2019) and thus put in their collective best.

Thus the important research questions that this study is seeking answers to are–

- Q1. What role did the HR functions play in achieving organisational recoverability after the COVID-19 crisis?
- Q2. Did employee engagement contribute to organisational recoverability?
- Q3. How did HR prepare itself for a potential crisis? What are the HR-enabling initiatives in organisations with above-average recoverability?

The authors hoped that this would help tap the latent energies of HR and prepare it for a stronger role in the changed post-COVID world.

4 Review of Literature

In today's competitive world disruptions are inevitable (Sheffi, 2007; Sajko and Buyl, 2020). In order to survive, it becomes important for the organisations to be vigilant and be prepared to adapt and reconfigure their strategies for each stage of disruption. Organisational recoverability refers to the capability to bounce back to its original state from any disruptive situation (Rai and Singh, 2020; Sawik, 2013). In simpler terms, organisational recoverability means that the organisation is back on its previous spot or to an upgraded one, as if nothing has happened as a result of crisis (Chowdhury and Quaddus, 2017; Brusset and Teller, 2017); (Pettit and J., 2013).

Some of the drivers that facilitate the organisation recoverability process are - flexibility, responsiveness, robustness and organisational resources (Ambulkar and Grawe, 2015); (Brusset and Teller, 2017; Chowdhury and Quaddus, 2017; Hosseini et al., 2019). Many researchers have verified the importance of agility or flexibility in organisational continuity and recoverability (Chowdhury and Quaddus, 2017; Soni and Kumar, 2014; Christopher and Peck, 2004). Rai and Singh (2020) propose three correlates of recoverability - anticipation of the crisis, agility and robustness. Anticipation of crisis starts when the organisations have a learning culture where data related to each and every disruption is collected, stored and disseminated amongst the organisation members so that they are prepared for any upcoming shock (Sheffi and Rice Jr., 2005). Organisational agility or responsiveness refers to the quickness of the organisation to respond to any disruption.

Recoverability of organisation is developed through increasing resilience by enhancing HR enablers - example - HR skills, HR learning, training and development to respond robustly in the face of crisis like COVID-19 (Lengnick-Hall and Lengnick-Hall, 2011). The body of knowledge on HR enablers and organisation recoverability is fragmented and a huge gap still exists in the understanding of how HR enablers actually helped the company in their recovery process.

5 Part A of the study: HR Functions, Employee Engagement and Organisation Recoverability

5.1 Communication and organization recoverability

Research has pointed at the significant impact of organisational communication on crisis management (Mazzei and Ravazzani, 2014; Frandsen and Johansen, 2016; Ravazzani, 2016; Liu and Fraustino, 2014; Kim, 2020). HR acts as an effective internal channel of communication during a crisis, as it provides financial and emotional support to employees and provides information and resources to them. Various initiatives were taken by HR during COVID-19, such as- employee wellness programs, vaccination drives, dedicated COVID-19 support teams etc. (Duncan, 2020) warns that all the new and innovative initiatives would go waste if not communicated properly. Empathetic communication of HR during the crisis shows that organisations care for the employees and this helps in increasing trust and engagement levels (Honigmann et al., 2020). Communication is the key to any disaster recovery (Maurer, 2012; Parsi, 2016). Thus the review of literature lead to the development of the following hypothesis:

Hypothesis 5.1. *There will be a significant relationship between the HR communication and organization recoverability.*

5.2 HR collaboration and organization recoverability

Changing collaborations and network formation and resorting to participatory approaches and collaborations have proven to be successful in crisis management (Torfing, 2019). The intelligent expansion of already existing networks and collaborations is considered as a 'reaction strategy' (Schomaker and Bauer, 2020). The involvement of all members of the organisation is a priority in crisis-situations when the tasks become more complex and diverse, and uncertainty about their effectiveness increases (Löffler and Van Ryzin, 2015). Successful crisis management is achieved through interaction and communication with the relevant intra-organizational actors as well as with inter-organisation actors. There is better access to information, knowledge and resources as a result of communication along the intra and inter-organisational networks (Bovaird, 2007). This leads to innovative problem solving and appreciation of collaborative approach for co-creation and co-production (Ostrom, 1996). This lead to the development of following hypothesis:

Hypothesis 5.2. *There will be a significant relationship between HR collaboration and organization recoverability.*

5.3 HR support and organization recoverability

In the pursuit of organisational recoverability and employee wellbeing during an organisation crisis, HR plays a crucial role in providing employee support, facilitating leadership development, managing work shifts, developing strategic collaborations and planning pay and benefits (Shen and Chen, 2020). HR support plays a very important role in managing the emotions of the employees (Duncan, 2020; Honigmann et al., 2020; Akhmetshin et al., 2019; Sharma, 2022). During COVID-19, HR supported the efficient transition of employees from physical offices to work from home by arranging necessary IT and other technical assistance. Apart from that, HR actively provided financial and mental support to the employees during COVID-19, for example, initiating employee wellness programs, organising vaccination drives, establishing dedicated COVID-help teams, building hospital alliances, etc. (Duncan, 2020). This lead to the formulation of the following hypothesis:

Hypothesis 5.3. *There will be a significant relationship between HR support and organization recoverability.*

5.4 HR anticipation of crisis and organization recoverability

Organizational ability to anticipate and absorb external disruptions is the need of the hour in the contemporary world of continuous flux. Organisations which are continuously learning and evolving can have a significant impact on the ability to bounce back (Orth and Schuldis, 2021; Barasa et al., 2018; Witmer, 2019). Anticipation of crisis is dependent upon the organisations' learning culture where data related to each and every disruption is collected, stored and disseminated amongst the members so as to be prepared for any disaster (Sheffi and Rice Jr., 2005). The important role of HR in recoverability is related to organizational change preparedness through crisis anticipation, management of data security and employee security, safety of organisation, training for unprecedented situation and resource allocation before the crisis deepen (Athamneh, 2017). This lead to the development of following hypothesis:

Hypothesis 5.4. *There will be a significant relationship between HR anticipation of crisis and organization recoverability*

5.5 HR agility and organization recoverability

The response of the HR to crisis can be based on either established coping method or innovative responses - which may or may not require disruptive adjustments of procedures and structures. Prescriptive models of crisis management would suggest traditional procedures (Peters et al., 2011) but contingency approach provokes questioning of the "traditional" procedures which paves the way for timely frame-breaking innovative changes (Czada, 2001; Duit, 2016). The ability to innovate is understood as the agility of the organization and its employees to apply new approaches (Anderson and Zhou, 2014) or new processes (Westley and Antadze, 2010) and thereby produce new results (Damanpour and Schneider, 2009). Adaptation of work processes, flexible work models and personnel changes by the HR play an important role in this direction. This means that fast and innovative action by the management on one hand, and commitment and flexibility of employees on the other are essential qualities that HR facilitate in the crisis. This lead to the development of the following hypothesis:

Hypothesis 5.5. *There will be a significant relationship between HR agility and organization recoverability*

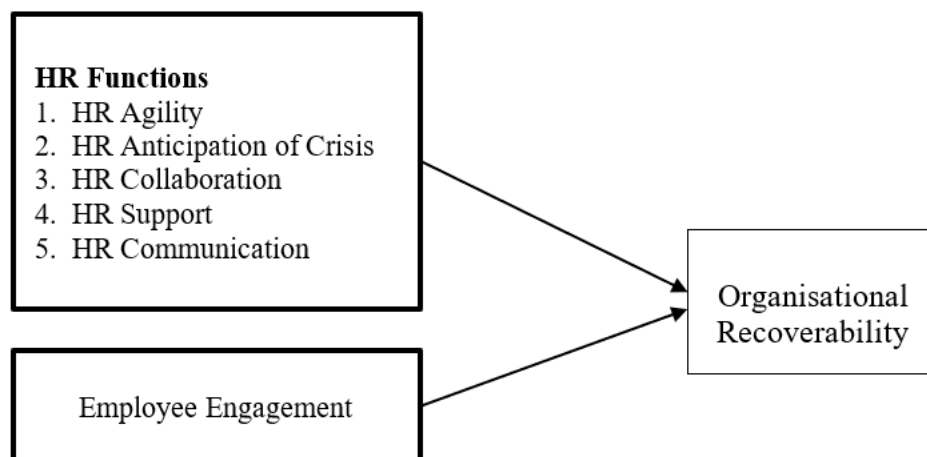


Figure 1. Conceptual Model

5.6 Employee Engagement and Organisational Recoverability

Employee Engagement has been an ever illusive concept with varied definitions offered by researchers. Researchers agree that during a crisis an employee maybe in a psychological state that may manifest itself through emotional engagement, cognitive engagement or physical engagement (Macleod and Clarke, 2011). According to (Armstrong and Taylor, 2014), "The term engagement can be used in a specific job-related way to describe what takes place when people are excited about their jobs, exercise discretionary behaviour and are motivated to achieve high levels of performance". (Kahn, 1990) in his extensive work on employee engagement had put forth many work related attributes as drivers of employee engagement, for example- task characteristics, job qualities, interpersonal dynamics, leadership style etc. Employee engagement facilitates the organisations in their recovery process (Akhmetshin et al., 2019; Sharma, 2022). The employees who are

engaged would never want their organization to fail as they are emotionally, socially and even spiritually connected with the organisation and identify with the organisational mission and goals (Akhmetshin et al., 2019). As per a study conducted by Gallup, the organisations with higher employee engagement are more adaptable to volatile economy and are able to prepare their organisations to respond to market tumult (Sorenson, 2013). This led to the formulation of following hypothesis:

Hypothesis 5.6. *There will be a significant relationship between employee engagement and organization recoverability.*

6 Part B of the study: HR innovation-enablers for crisis-preparedness

HR needs to adopt a continuous learning approach so as to be prepared for eventualities. (Schomaker and Bauer, 2020) propose three reaction strategies to cope with organisational crisis – 1) Innovative Adaptation 2) Collaboration & 3) Learning. While organizations are often resistant to leave traditional routines, crisis often force them to do so (Peters et al., 2011). As pointed out by (Ripamonti and Benozzo, 2020), researchers working in the area of critical reflexivity (Cunliffe, 2003; Alvesson, 2003; Ripamonti and Galuppo, 2016; Ripamonti and Scaratti, 2018) and (Caetano, 2015) have emphasized the role of organizational learning. Creating learning systems for HR thus becomes imperative because not only does the HR need to find out where it went wrong but also needs to correct it (single loop learning) and enhance systems so as to prevent these mistakes (double loop learning). It also needs to critically evaluate its learning mechanism which is referred to as triple loop learning (Argyris and Schön, 1978).

HR would occupy a key role in this scheme of developing adaptive capacity during a crisis through continuous triple loop learning (questioning the way we learn) and double loop learning (questioning the reasons of disruption). The negative entropy (Katz and Kahn, 1996) or buffer to survive a crisis and capability to ride the waves of change can be facilitated by learning systems. A lot has been researched and written (Brassey et al., 2019; Gould et al., 2019; Alipour and Karimi, 2018) on developing learning systems for the core functions of an organisation but not much has been written on developing a case for evolving learning systems for the HR functions. If HR has played a pivotal role in riding the organisations out of the storm, then we need to address the need of developing robust systems of learning in the HR function. This would not only enhance the role of HR but also help HR to study its own structure and structuration (Giddens, 1984), triggering an inner quest of not only identity but also sustainability.

(Gerdeman, 2020) stresses on the role of emergence perspective of HR in helping it survive the ravages of market uncertainties, disruptive technologies and environmental demands. Emergence perspective of HR focusses on developing open systems, dialogue, cross-pollination of ideas and systems like collaboration, employee support, learning and knowledge management. This perspective borrows from complexity science that is an amalgamation of general system theory and principles of living systems (Dooley, 2004). Colbert (2004) proposed the CAS (Complex Adaptive System) theory that helped understand how HR helped “achieve sustainable competitive advantage by generating causal ambiguity and social complexity in human resources”. Thus continuous learning initiatives would not only help the HR be more prepared during a crisis but also help it assume its role as a strategic partner even more effectively.

Sustainability of the organisation is also dependent upon the quality of manpower talent and this manpower is required to undergo continuous learning to build up new knowledge in order to adapt to the changing needs of the industry (Kumaraswamy and Chitale, 2012). Knowledge and information is something which moves along with the organization's journey in many ways. Knowledge gathering and sharing is a key element to anticipate risks and build preparedness for unforeseen events and stabilize the organisation's sustainability (Sheffi and Rice Jr., 2005; Germain, 2010). Knowledge management is one of the main drivers in the recovery process of organisations (Hanizah and Magiswary, 2018; Sabherwal and Becerra-Fernandez, 2003; Noruzy et al., 2013). Knowledge management when integrated with human resource management, would produce effective management of knowledge innovation (Fengwei, 2011). For example, by looking at metrics of which HR function accessed the knowledge management system most or which files are most viewed can be a good source for HR teams to see where additional training or clarification may be needed in HR functions (Bollman, 2019).

7 Research Methodology

This empirical investigation adopted a two-pronged approach. In part A of the study, a causal survey based design was adopted and quantitative data was collected from the employees to – a) study the relationship between role of HR functions and organisational recoverability and b) To study the relationship between employee engagement and organisational recoverability. In part B of the study, qualitative approach was adopted to gain insights on various learning mechanisms of the HR department for itself. The data was collected from HR managers of high recoverability organisations and content analysed.

India and the city of Delhi in particular had been the epicentre of the devastating second wave of COVID 19 during April- May 2021. Employees had barely emerged out of the crisis when this data was collected in June 2021. The emotions, experiences and the learnings shared by employees and HR managers couldn't have been fresher than this.

7.1 Sampling for Part A of the study (Quantitative data)

Sample: The sample consisted of 338 employees of 10 organisations. The organizations were selected randomly from the list of executives of different organizations enrolled in an MBA-Executive Program. HR managers of 15 organisations were

approached for the survey out of which 10 organisations finally agreed on condition of anonymity. The employees of these organisations were selected on the basis of convenient and snowball sampling. Each organisation had at least 30 employee responses.

7.2 Sampling for Part B of the study (Qualitative data)

Qualitative data was collected through semi-structured interviews of Senior HR managers from 10 organisations from different industries operating in India. The time duration of interviews ranged from 30 minutes to 70 minutes. In five cases the managers were interviewed a second time to gain in-depth understanding or for the sake of clarity on certain nodes. The organisations were divided into three categories on the basis of their quantitative score of organisation recoverability as attained from the quantitative data obtained from the survey of employees. The HR managers of organisations with above average (2.5/5) score of organisational recoverability were interviewed for part B of the study. From amongst these above average recoverability organisations HR managers (N=10) were selected for interview, on convenience sampling basis.

- High recoverability-organisations: organisations that scored above 4.1,
- Good recoverability-organisations: organisations that scored between 3.5- 4.0,
- Moderate recoverability-organisations: organisations between 2.5 -3.5, and
- Low recoverability-organisations: organisations below 2.5.

The Interview schedule focussed on the following six aspects (based on the two pilot interviews and review of literature)

- i. How did HR facilitate organisation recoverability?
- ii. What were the strongest enablers for the HR function to be able to deliver?
- iii. How do you see the role of HR in the new normal and how can it be further enhanced?
- iv. What are the knowledge management initiatives for HR function?
- v. What are the learning initiatives for HR employees and how did it aid during the crisis?
- vi. How empowered is the HR department to take different initiatives?

Data Analysis: The interviews were initially coded according to content, and then organized into thematic units that were continually re-visited and revised. Analysis and data collection occurred simultaneously, with a constant comparative method utilized to ensure an iterative approach. Analytic induction was also employed with themes being identified that helped design the quantitative questionnaire and revisit interview questions.

The main themes of analysis or deductive codes were derived from the theoretical models of HRM, learning organizations and knowledge management and the sub themes or inductive codes were derived from an iterative analysis of the qualitative data (grounded research).

Quantitative Data Analysis: The quantitative data was subjected to stepwise Regression analysis using SPSS to arrive at the predictors and then the data was further analysed using Rstudio and machine learning tool (Random Forest) to arrive at the highest contributor variable for the dependant variable of organisational recoverability

8 Measurement Tools

Questionnaires: To measure the constructs, adapted versions of standardised questionnaires were used for - Human Resource Support, Employee engagement, HR anticipation of crisis and Organisation Recoverability. We have used self-authored questionnaire for - HR communication based on (Bishop, 2006) communication model, HR agility based on HR's agility framework by (Baird and Zorbas, 2020) and HR Collaboration based on studies by (Liker and Choi, 2004) and (Bukhamsin, 2015). The reliability for different questionnaires (cronbach's alpha) along with the tools is shown in Table 1

Table 1. Measurement Tools used in the quantitative surveys of employees

Construct/Items	Source	Mean	SD	Alpha
Human Resource Support (HRS)				
How well did your HR understand the job problem of employees and their needs during covid?		3.88	1.08	0.85
Did the HR used his position to solve problems of employees during covid?	LMX by (Graen and Uhl-Bien, 1995)	3.88	1.07	0.84
Did HR go out of its way to help employees during covid?		3.79	1.17	0.85
Rate your working relation with your HR during covid		3.92	1.07	0.86
HR Anticipation of Crisis (HRAOC)				

HR was able to forecast the regular disruption to operations		3.84	1.18	0.80
HR has collected the data of even small disruptions so as to help	(Rai and Singh, 2020)	3.79	1.21	0.83
HR has shared the disruption data with other departments to seek help and collaboration (for example, lack of resources, lack of manpower, supply issues, etc.)		3.76	1.22	0.87
HR has invested in an information system that can predict the new turbulence and challenges as a result of covid		3.74	1.25	0.78
HR was able to predict the impact of the first covid on market/industry/economy before it had hit our operations		3.66	1.28	0.76
HR was able to anticipate the upcoming challenges when the pandemic was at a very early stage		3.70	1.24	0.73
Recoverability (REC)				
We are recoverability from the losses that occurred during pandemic and lock-down	(Rai and Singh, 2020)	4.00	1.01	0.82
We are flexible enough to find out to cope with the changing market requirements		4.07	0.96	0.86
We can redesign our offerings according to changing requirements		4.09	0.95	0.83
We are able to arrange alternative sources to minimize supply disruptions		4.09	0.95	0.79
We are able to respond faster to the changes		4.08	0.96	0.81
We have flexible manpower that can cope up with changes		4.03	1.01	0.84
We collaborate with other organizations to speed up the recoverability process		3.93	1.03	0.84
HR Agility (HRAC)				
How quick your HR was in terms of taking care of employee's health and safety?		4.04	1.04	0.78
How quick your HR was in terms of taking innovative initiatives for uninterrupted functioning of different units?	Self- authored	3.91	1.12	0.75
How quick your HR was in terms of continuity of deliverable of the company (services or products)?		3.99	1.04	0.80
How quick your HR was in terms of planning for future requirements in the uncertain scenario?		3.89	1.13	0.81
HR Communication (HRCOM)				
HR effectively communicated during covid		4.01	1.11	0.82
HR was accessible in need during covid		4.01	1.06	0.90
HR properly listened to employee concerns	Self – authored	3.94	1.09	0.79
HR acted upon employee concerns in a timely manner		3.89	1.09	0.84
HR tried best to maintain positivity during covid		4.01	1.08	0.87
HR Collaboration (HRCOL)				
HR reached out to different departments for information and ideas before taking initiatives		3.66	1.21	0.83
HR took informed decisions during covid	Self – authored	3.93	1.11	0.86
HR worked in a collaborative way with different departments to work out polices/strategies during covid		3.82	1.13	0.84
Employee Engagement (EE)				
a) Vigor				
Despite the covid scenario all around, I feel full of energy at my workplace	(Salanova and Peiró, 2005)	3.87	1.06	0.83
Despite the covid scenario all around, I feel strong and vigorous in my job		3.91	1.03	0.85
Despite the covid scenario all around, I feel like logging for work in the morning		3.94	1.03	0.84
b) Dedication				
Despite the gloomy scenario around, I find my work full of meaning and purpose		3.93	1.02	0.74

I am enthusiastic about my job	4.13	0.96	0.79
My current job inspires me	4.04	1.01	0.80
I enjoy the work I am currently doing	4.05	1.02	0.78
c) Absorption			
Despite the gloomy scenario around, I am immersed in my work	4.04	0.98	0.80
When I am working, I forget everything else around me	3.99	0.98	0.83
Despite the covid scenario all around, I feel happy when I am working intensely	4.01	1.02	0.78

9 Results

Quantitative Result

Table 2. Employee Demographics

		Percent
Age	Between 20-35	61
	Between 36-45	28
	Above 45	11
Gender	Male	76
	Female	24
Manager level	Lower level manager	42
	Mid-level manager	50
	Top level manager	8
Organisation Type	Private sector organisation	82
	Public sector organisation	18
Employment Type	Full-time	95
	Part-time	5
Headquarter	India	58
	Foreign	42

Table 3. Categories of the company on the basis of organisational recoverability score given by employees

On a scale of 5	Number of organisations
High recoverability-organisations (above 4.1)	2
Good recoverability-organisations (between 3.50- 4.00)	6
Moderate recoverability-organisations (between 2.5 -3.5)	2
Below average recoverability-organisations (below 2.5)	0
Total	10

There were no organisations which had a score below average in recoverability, i.e. below 2.5. The probable reason was that all were big organisations with a revenue of greater than \$1 billion and employee greater than 1,000.

Table 4. Linear Regression of organizational recoverability and its predictor analysis using R studio

Call:					
glm(formula = REC ~HRS + EE + HRA + HRAOC + HRCOL, data = train_1)					
Deviance Residuals:					
Min	1Q	Median	3Q	Max	
-2.02346	-0.20666	0.08018	0.19726	1.87832	
Coefficients:					
	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	0.77991	0.13830	5.639	4.22e-08	***
HRS	0.19088	0.07221	2.643	0.00868	**
EE	0.34601	0.04783	7.235	4.61e-12	***
HRA	0.18698	0.06639	2.817	0.00520	**
HRAOC	0.07248	0.04291	1.689	0.09231	.
HRCOL	0.03163	0.04745	0.667	0.5559	
- - -					
signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1					
(Dispersion parameter for gaussian family taken to be 0.2339069)					
Null deviance: 214.653 on 281 degrees of freedom					
Residual deviance: 64.558 on 276 degrees of freedom					
AIC: 398.52					
AIC: 398.5					

Table 4: Shows the entire response that was split into 90:10 into the training & testing data set and generalized linear model was run on the training data set. On the basis the model analysis, the RMSE value of the model came out to be 0.0589871 which was obtained as the optimal value after performing regression analysis and eliminating insignificant variables. The variable selection was conducted on the basis of the p-value of the variable obtained & their intercept value from the regression model. A significance level of 0.05 was taken for determining the significance of the predictors. Significant predictors for the recoverability were Employee Engagement, HR Agility & HR Support and HR Anticipation of Crisis in the decreasing order of their p-values.

Table 5. Random Forest of organizational recoverability and its predictor's analysis using Rstudio (Results with relevant hyper-parameters, error metrics and leading features)

Error Metrics(at mtry = 2)	MAE	0.3721539
	RMSE	0.542445
	Rsquared	0.6169901
Hyper-parameters	mtry(Random variable selected)	(2,3,5)
	No of trees(ntree)	500
	min_samples_leaf	2
	min_samples_split	1
Significant predictors	Most significant variable	HR Agility
	Second most significant variable	Employee Engagement
	Third most significant variable	HR Support
	Fourth most significant variable	HR Anticipation of Crisis
Model Accuracy	Correlation between testing & training data	0.8503339

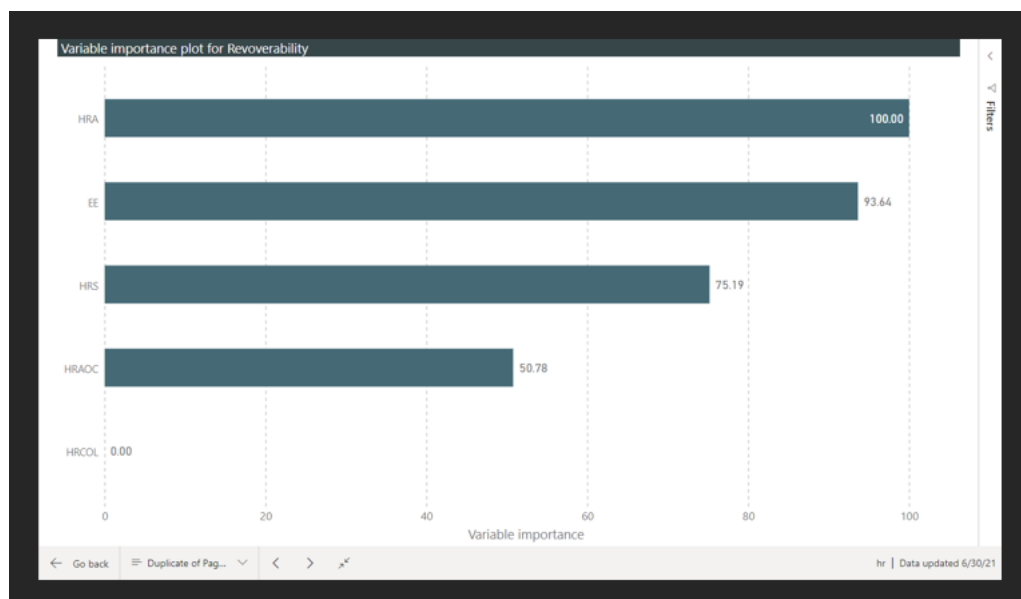
A total of five predictors were taken in the model & the model was trained on 90 percent of the data with 10 percent of data for testing. Out of the multiple hyper-parameters, two parameters were basically needed to be optimized in the RandomForest model; the total number of regression trees built in the model (ntree, the default value of which was taken to be 500) & the number of predictors to be taken as input per node. For this the default value to be taken is 1/3 of the total number of predictors in the data. Thus, the default value of 5/3 ~ 2 was taken. Along with this other values of mtry was also tested out with (mtry = 3&5) but the RMSE & Rsquared value were not optimum. Thus after multiple iterations, the ntree & mtry value which yielded in the lowest RMSE value was opted for. The RMSE value obtained for these different mtry values were as; (mtry = 2, RMSE = 0.542445; mtry = 3, RMSE = 0.547775; mtry = 5, RMSE = 0.556129). The optimal value of mtry value was taken to be 2 since it yielded the lowest RMSE value (Wang et al., 2016). The Rsquared value obtained in that was 0.6169901. The significant predictors for the Organisational Recovery were Employee Engagement, HR Agility & HR Support. HR Anticipation of crisis emerged as a predictor but not a very strong predictor. The Rsquared and the RMSE value for the model and the variation of RMSE & Rsquared is also shown in the Table 5.

Table 6. Random forest model fit & error metrics of organizational recoverability using Rstudio

282 samples 5 predictor			
No pre-processing Resampling:Bootsrapped(25 reps) Summary of sample sizes :282,282,282,282,282,.....			
Resampling results across tuning parameters:			
mtry	RMSE	Rsquared	MAE
2	0.5424450	0.6169901	0.3721539
3	0.5477751	0.6117275	0.3722716
5	0.5561292	0.6025875	0.3763630

Once the model performance was adjusted, the important variables were plotted which showed the relative importance of the variables. The Figure1 shows the Variable importance plot obtained from the Random Forest model analysis. The significant predictor variables were as the same as obtained in the linear regression model and the values which were a significant predictor for the organisational recoverability were Employee Engagement, HR Agility & HR Support. HR Anticipation of crisis emerged as a predictor but not a very strong predictor.

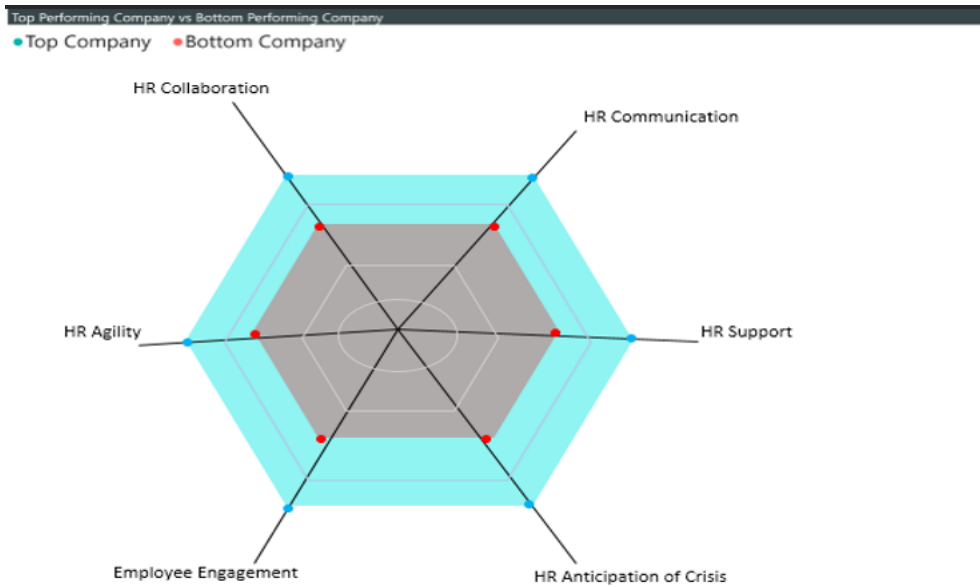
In terms of the model selection, both Random Forest & linear regression were deployed on the dataset. Primary visualization suggested a linear trend among most of the variable but some plots showed a dense concentration of data across a particular quadrant. This may lead to a certain non-linearity among the dataset. Also, since the variable were homoscedastic (the variability in the response variable is the same at all levels of the explanatory variable), linear regression was chosen. Since Random Forest is more able to uncover the hidden relationships among the variables, it was deployed to provide a list of important predictors affecting the independent variable.



- Figure 2: Random Forest Analysis showing the highest contributor of variance in organisation recoverability.
- Figure 2 shows that significant predictors for the organisational recoverability were Employee Engagement, HR Agility & HR Support. HR Anticipation of crisis emerged as a predictor but not a very strong predictor.

10 Qualitative Data

Qualitative Data from Interviews of senior HR managers (N=10) seeking answers to following questions revealed the following themes (shared in ??). Senior HR was interviewed from the company operated in the following industries: IT, Consulting, Healthcare, FMCG, Real Estate, Financial Services, Consumer Durables, Industrial Manufacturing, Oil and Natural Gas and Power sector.



- Figure 3: shows a significant comparison between High recoverable organisations with the low recoverable organisation across all parameters in study
- Top company is a company with the highest organisational recoverability score on a scale of 5 while Bottom Company is a company with the lowest organisational recoverability score on a scale of 5.

Table 7. Themes emerging in qualitative data

Themes	Sub themes	2 High Recoverability organisations (Score: 4.1/5 and above)		6 Good Recoverability organisations (Score: 3.5/5 and above)		2 Avg Recoverability organisations (Score: Below 3.5/5)	
		No. of organisations in this category 2		No. of organisations in this category 6		No. of organisations in this category 2	
		Yes/No	Initiatives	Yes/No	Initiatives	Yes/No	Initiatives
HR Initiatives	Health & Wellness initiatives		Promote Medical assistance, Creation of wards in organisational facilities, Doctors on board, Tie-up with hospitals, Medical Supplies, Health of not just local employees but local community too, Mental health webinars, Stress management webinars, Employee Assistance Programs, Paid Covid leaves, loans		Promote Medical assistance, Creation of wards in organisational facilities, Doctors on board, Tie-up with hospitals, Medical Supplies, Health of not just local employees but local community too, Mental health webinars, Stress management webinars, Employee Assistance Programs, Paid Covid leaves, loans		Medical assistance, Doctors on board, Medical Supplies, Employee Assistance Programs, Paid Covid leaves, loans at low interest
	Cyber safety and security		Special efforts for cyber security, Special devices, Firewalls, Purchased additional security tools		Online Security measures were just as earlier	X	None

Table 7. Themes emerging in qualitative data

Themes	Sub themes	2 High Recoverability organisations (Score: 4.1/5 and above)		6 Good Recoverability organisations (Score: 3.5/5 and above)		2 Avg Recoverability organisations (Score: Below 3.5/5)	
		No. of organisations in this category 2		No. of organisations in this category 6		No. of organisations in this category 2	
		Yes/ No	Initiatives	Yes/ No	Initiatives	Yes/ No	Initiatives
	Technology enhancement		Enhanced servers to take the heavy load, Cloud enhancement, purchased new laptops, Zoom/ online platform licenses, Data cards, Other supporting infrastructure to support work from home		Enhanced servers to take the heavy load, Cloud enhancement, purchased new laptops, Zoom/ online platform licenses, Data cards, Other supporting infrastructure to support work from home		Enhanced servers to take the heavy load, Cloud enhancement, purchased new laptops, Zoom/ online platform licenses, Data cards, Other supporting infrastructure to support work from home
	Employee engagement activities		Online Team-building Activities- Employee competitions/games/tournaments		Online Team-building Activities- Employee competitions/games/tournaments	X	Negligible
	Skill mapping and training		Skill mapping for the new normal and new businesses started in 2020. Brainstorming sessions and surveys to identify new competencies for the digital work environment and for the new businesses. Online certification courses for skill up gradation of all employees. Various types of trainings Emotional training, skill training, online influence training, digital quotient training were some of the new initiatives		Online certification courses for skill up gradation of employees, Online trainings as per the schedule, demands of the business and surveys.	X	Routine online trainings, No up gradation of skill requirements, No future skill mapping, training for operational purposes
	Working on flexible systems (remuneration)		Flexible time Flexible place (Work from home) Flexible work arrangements Flexible remuneration system for people opting out to be freelancers		Flexible time Flexible place (Work from home)		Hybrid model
	Leadership training		leadership conflict digital leadership adaptive leadership empathetic leaderships		Routine leadership trainings		Reduced soft skill training budget, only technical training

Table 7. Themes emerging in qualitative data

Themes	Sub themes	2 High Recoverability organisations (Score: 4.1/5 and above)		6 Good Recoverability organisations (Score: 3.5/5 and above)		2 Avg Recoverability organisations (Score: Below 3.5/5)	
		No. of organisations in this category 2		No. of organisations in this category 6		No. of organisations in this category 2	
		Yes/ No	Initiatives	Yes/ No	Initiatives	Yes/ No	Initiatives
Knowledge Management of Human Resource as an enabler during COVID	Knowledge Acquisition in HR department		HR training programs Contribution to blogs and research by HR employees, research papers Consultation from strategic partner Rewards for knowledge acquisition Business knowledge is mandatory for HR employees, (knowledge of customer, products, market, talent, customer, skills) Competitive processes and HR systems, Existing blueprint of crisis, Knowledge from competitors, Mandatory membership of HR communities for seniors ex. SHRM, Courses from Labour institutes (Example ILR, Cornell), HR executive coaching Knowledge from existing documents of strategic partners, reports from strategic business meetings, Mentorship program of junior HR employees, Learnings from HR audits, MBA programs for higher HR professionals, HR personnel are part of Knowledge teams, Learning and Development imperative for HR department, knowledge network	X	Routine up-gradation of manuals, Meetings, Standard operating procedures	X	Routine manuals, trainings

Table 7. Themes emerging in qualitative data

Themes	Sub themes	2 High Recoverability organisations (Score: 4.1/5 and above)		6 Good Recoverability organisations (Score: 3.5/5 and above)		2 Avg Recoverability organisations (Score: Below 3.5/5)	
		No. of organisations in this category 2		No. of organisations in this category 6		No. of organisations in this category 2	
		Yes/ No	Initiatives	Yes/ No	Initiatives	Yes/ No	Initiatives
	Knowledge Dissemination in HR department		SPECIFIC to HR- In-house Knowledge management platform, Group collaboration systems, ERP/SAP for real time data for HR, codifying every piece of data into meaningful data or information Rewards for knowledge sharing within the department and at organisational level, Non-judgemental platforms of sharing views, opinions, contact lists, negotiation histories of vendors, clients and suppliers, community contacts for routine and crisis, consultants database for various crisis.	X	Online sharing of blogs, articles, views, interational platforms for all employees not just HR. Nothing specific to HR	X	Online groups of HR employees, joint forums, informal committees,
	Storage of codified knowledge related to HR department		Knowledge Repository for routine matters and exigencies Crisis Management blueprint Crisis Communication blueprint Knowledge editors convert information into knowledge	X	Storing platform, online portals, manuals, magazines, blueprint	X	Manuals and documents
	Knowledge Application in HR department		Knowledge related to HR and vital issues of business becomes a part of trainings, SOPs, research in the HR department. Knowledge to innovation of HR processes audits, Innovation MAPs for other departments as well as HR department, Value institutionalisation, HR knowledge sharing culture, HR-business partnership Proper documentation in in-house Knowledge management support platforms KM implementation road maps- short term as well as long term Continuous audit of KM repository	X	Training, Documents up gradation, Manual up gradation	X	Training, Documents up gradation, Manual up gradation

Table 7. Themes emerging in qualitative data

Themes	Sub themes	2 High Recoverability organisations (Score: 4.1/5 and above)		6 Good Recoverability organisations (Score: 3.5/5 and above)		2 Avg Recoverability organisations (Score: Below 3.5/5)	
		No. of organisations in this category 2		No. of organisations in this category 6		No. of organisations in this category 2	
		Yes/No	Initiatives	Yes/No	Initiatives	Yes/No	Initiatives
HR Empowerment	Empowerment at local level		Very high, 100% Empowerment during crisis Management Treats HR as business enabler and partner Respect of HR department Growth initiatives for HR department, Chief People officer, part of power groups and strategic groups		Empowered only up to a certain extent but during crisis was given empowerment, could take decisions up to reasonable limits	X	Not empowered
Learning of HR department	Single loop learning (correct the mistake)		Immediate correction of any and every issue concerning HR		Attend to all problems immediately		Attend to all problems immediately
	Double loop learning (Correct and eliminate causes)		HR metrics followed to measure the pre-intervention and post-intervention changes, training for repeated issue handling (negotiation skills workshops, bargaining skillsworkshops, labour laws workshops), HR certification and other courses Encouragement of sponsored research in collaboration with Scholars, consultants and experts, documentation of every issue, correction and reasons, Assessment Committees for HR critical incidents		Unearthing the causes, established system of annual assessment of HR performance, training of different aspects, collaboration with consultants on vital HR issues	X	Routine attention to regular problems, Culture audits, Consultation of established procedures and HR manuals
	Triple loop learning		HR scorecards 720 degrees feedback of performance and systems of HR, Suggestion Schemes for all employees regarding improving HR processes Questioning the processes as an institutionalised way -Post covid assessment of lacunae in the system.		Annual assessment of systems, Audits of processes, Exposure to new knowledge	X	Negligible

11 Discussion

The COVID-19 pandemic has disrupted the normal working of the companies and they had to face lot of challenges in continuing the operations when the entire world economy and markets were pushing into lockdown (Shen and Chen, 2020). There was a sudden shift from offline working place to work from home. HR not only helped the organisations in

managing the crisis but also acted as a facilitating partner in achieving recoverability and continuity.

The research questions were inspired from personal experiences of the authors which culminated into a serious scientific enquiry fuelled by contemporary research. The investigation segregated the organisations on the basis of recoverability and positive affect of employees (High, Good and Moderate). The web diagram Figure 3 shows that there is a stark difference between top organisation and bottom organisation on the basis of recoverability score given by the employees across all the parameters. Results supported all the hypotheses (H1- H6). Regression analysis with Rstudio and Random Forest showed that organisational recoverability had four predictors: Employee engagement, HR agility, HR support and HR anticipation of crisis.

Employee engagement is one of the predictors of recoverability and this was validated by a comment from one of the HR managers 'The hero of the crisis was not HR but the employees'. Another HR manager pointed that the biggest strength was how everyone collaborated, got together, helped each other and despite the crisis kept rowing the boat'. Employees felt encouraged by the relentless efforts of HR. The results support previous research where employee engagement is considered as facilitator of organisational recoverability (Akhmetshin et al., 2019; Sharma, 2022).

HR Agility and high responsiveness was the call of the day. Not only was the HR agile in responding to employee wellness and assistance, it was agile in other spheres too. As pointed by a senior manager of a high-recoverability organisation, the immediate imperative of HR was 1) saving lives 2) saving business. For this they needed to provide full medical assistance and support and also enhance the IT systems, servers, tools etc. They needed to imagine all possible logistical problems – like 'providing a new laptop cord to an employee residing in another city during the lockdown' to 'collecting the official laptop with confidential data, during the lockdown from an employee who had left the organisation and was in a remote location'. Tying up with express services, local administrative agencies and seeking special permission to collect or deposit was just one of the multiple daily challenges of the HR department. The results support previous research where agility is a driver of organisational recoverability (Chowdhury and Quaddus, 2017; Soni and Kumar, 2014; Christopher and Peck, 2004).

The next predictor is HR support. The result is supported by previous research which proved that in crisis, HR support plays a very important role in managing the emotions of the employees (Duncan, 2020; Honigmann et al., 2020; Akhmetshin et al., 2019; Sharma, 2022). Kubler-Ross (1969), in her book- *On Death and Dying* examines the rollercoaster of emotions that employees go through while undergoing any kind of change and most of all when the change is disruptive. Crisis triggers negative emotions and employees look up to their leaders for nurturance and support. HR support was the top most priority on the HR agenda as not only was it related to employee wellness but also continuity of the organisation during crisis.

The fourth predictor is anticipation of crisis. Knowledge management and learning systems of HR department emerged as important central themes of the qualitative interviews which increases their ability to anticipate the crisis and its impact on organisations. High recoverability organisations expended a lot of effort in knowledge acquisition, storage and sharing for HR employees which contributed to their learning. According to (Argyris and Schön, 1978), the systems can evolve only when they question their own learning systems. When the HR department grows and evolves it becomes the strongest ally and facilitator of the business engine. The HR manager of the high recoverability organisation shared an impressive list of initiatives towards knowledge management and learning systems which they see as not as 'wasting' resources on HR but 'investing' resources on HR. Anticipation of crisis helps the organisation in their recovery processes as showed in many previous researches (Rai and Singh, 2020; Hosseini et al., 2019).

Qualitative interviews threw up interesting themes related to HR learning. One of the themes that emerged from the qualitative interviews was 'HR learning systems'. Learnings can be fuelled by collaboration with employees as well as external agencies (Schomaker and Bauer, 2020). Duplication of work and errors can be avoided by documenting previous experiences, reflecting on past and future working methods and situations is therefore crucial for effective crisis management (Duit, 2016). If information is made available to different bodies, synergy potentials can also be better exploited. The ability to supervise and monitor, i.e. the analysis of own structures and processes, enables the administration to optimally shoulder new types of tasks. By analysing inefficient or ineffective processes, lessons can be learned for future crisis situations (Carmeli and Schaubroeck, 2008). As pointed out by two managers of the high-recoverability organisation, the 'existent blueprint of crisis management' helped pave the way for the initial steps. Data related to inter-crisis learning was there in the form of what their company had done during the 2007 crisis and it helped a lot by reaching out to old team mates of the previous crisis. Agencies were contacted and collaborations were sought. Thus, it can be seen that the creation of learning systems for HR department is necessary as HR directly deals with the human assets of the organisation and requires to find out where it went wrong and how it could be corrected or prevented in the future. Apart from creation of its own learning systems, HR is also a channel of providing training, learning and development programs for employees. During the pandemic, HR had to shift to digital learning platforms entirely to impart knowledge and reskilling as the number of employees working remotely had increased (Kshirsagar et al., 2020). One of the HR manager explained that sharing best practices from across departments through HR further enriches its repository of tactics for crisis management. This concept of 'repository' of knowledge points towards an effective 'management' of this knowledge which HR has garnered over the decades through experiences of crisis. Thus knowledge management of HR practices becomes as important as in other departments because it provides the valuable insights into organizational health and potential risks (Bollman, 2019).

Another important theme emerging in the content analysis was HR empowerment. The knowledge generation- innovation cycle can be propelled only when employees are empowered to experiment with ideas. It would be a true wastage if

after all the knowledge-management initiatives and learning initiatives, HR personnel are not empowered to experiment and take their own decision (Snell and Chak, 1998).

12 Conclusion

The pilot that is flying the burning plane out of the crisis towards recoverability is the revenue generator but the enabler is the flight engineer on board managing all the systems. The results of this study point at the important role of HR function (HR agility, HR anticipation of crisis, HR support) and HR enablers (Knowledge Management Systems, departmental learning and HR empowerment) in the recoverability of the organisation in any crisis. Employee engagement is another predictor of organisational recoverability. The more the employees are engaged, the more are the chances of organisational recoverability.

The road ahead is always leading to an uncertain future but also holds a promise of myriad possibilities. Future uncertainties can be fathomed only by creating systems that repeatedly introspect and question their design, processes and outcomes and in the process, reinvent themselves. The enablers of departmental learning would help the HR be agile and prepared for eventualities. Like the eagle that goes back onto the mountain-top and diligently plucks out its old feathers to grow new and stronger feathers for the future, the HR needs to indulge in the unlearning of the old processes and create learning systems for itself to fly back to the future.

13 Future Research and Implications

The results of the study would lend insights to organisations in dealing with organisational crises and recoverability. It diverts the attention from the core HR functions to emerging HR functions and its enablers. The study shifts the focus from the 'enabling function of HR' to the 'enablers of HR'. The study draws the attention to the 'preparedness' of the HR department for any potential crisis (Athamneh, 2017) and also to the factors that would contribute to that preparedness. Studies done during a crisis are able to tap on attitudes and emotions that are specific to the context of crisis and thus this study helps tap the employee attitude (employee engagement) of high and average recoverability organisations. The results of the study present the practices of organisations with above-average recoverability that helped them survive the ravages of a pandemic. Future research can be done across industries or geographies to identify and explore the enabling factors of an organisation that can be institutionalised as practices for strengthening the functioning of the departments. There is a dearth of literature on learning mechanisms of HR and enabling factors of HR. Future research can borrow from the structuration theory and CAS theory and focus on research towards enabling of HR.

14 Limitations

No research can be without limitations. First, the sample of our study included only big organisations, however the magnitude and response strategies for a pandemic like COVID-19 would be different for small and medium sized companies. Second, our study has taken quantitative data from employees. Quantitative data from HR executives would have increased the generalizability of the study. Third limitation is social desirability factor.

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