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MANAGEMENT MATTERS



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Analysis of Social Capital Development Initiatives in IT Sector

Lucas M¹ and S. Rajamohan²

Abstract

Social Capital is the most focused area which is a part of Human Capital (HC). The previous literature review identified the significance and relationship of the Human capital and social capital. There were sufficient evidences available in connection with social capital. There are lots of research study undertaken from the Indian context to find out the connectivity between Social capital and Employees performance. The main objective of the research was to study and analyse the significant influence of Social capital development initiatives on employees' performance in IT sector in Bangalore. The independent variable is Social Capital and the dependent variable is employees' performance. The sample for this study was collected from the middle level executives from IT sector in Bangalore. The research discovered that there are positive and strong relationship between Social capital and employees' performance.

Keywords

Social capital, human capital, employees performance, influence, initiatives

INTRODUCTION

Social Capital (SC) is one of the integral parts of HC. It is a visible capital which means promoting the impact at workplace on employees' performance. It represents the close understanding of network among employees at workplace. It is a human social network which connects the employees through creative and innovative thoughts and the future opportunities through the web of network. From the business point of view, it is the most powerful contribution for the organizational growth and development. It contributes for building the personal relationships among employees in companies, helps to build trust and respect among the employees. It leads to enhance both organization and employees performance.

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Social capital comprised in the background of standard of relationships, interpersonal trust and norms, behavior, interconnection between individuals which are guarantee about condition for the development of organization (Anklam, 2002; Felício et al., 2014) individual level with the various factors. There were few studies which have been carried out on social capital effect to employees performance (Felício et al., 2014) how the intra organization social capital influence to employee performance (Hador, 2016)

The concept of social capital has developed progressively popular in an extensive choice of social science disciplines (Adler & Kwon, 2002). Therefore in the debates about social capital it is often claimed that there is no inclusive agreement on the definition of the concept. Though relatively few studies have examined social capital as an organizational phenomenon, the number of researchers examining the concept of social capital in organizational settings is increasing rapidly (Sahin, 2010).

It is the concept revolutionized by enabling the workforce connecting to number of social connections. It builds ultimately a sense of shared values and mutual respect among the employees. It deals with the fourth development initiatives process of the SC such as networking of relationship among employees, shared norms, shared values, feeling of trust and safety, cooperation and reciprocity, based on social capital. The prevailing policies, practices, initiatives and procedures are analyzed through the data collected from the respondents.

Problem Statement

The paper extend to examine and analyse the association of the variables such as Social capital and employee's performance. This study has implications in the new normal scenario. The new normal is generally referred to as the situation which prevails after a crises has occurred. It is also a time when governments, societies, communities and organizations innovate or improvise on existing practices to function effectively in the new scenario. Social capital assumes a lot of significance here. Work from home altered the mindset of the employee. All of a sudden employees felt different unable to work from their physical work setting. This also included their face to face meetings and interactions. Strengthening of Social capital can establish strong ties which can help employees feel less insecure and work effectively even during crisis.

Originality

This research paper tries to find out the influence of social capital on employees performance. There are lots of research studies were conducted earlier in the same field of research, but this study is something unique by itself because it tries to figure out the influence of intellectual capital and its relationship with various unique variables on employees' performance in IT sector.

Applied Aspect

Performance factors are the key factors for the success of the organization and it is the foundation for all the functions. There is always high spirit in which every organization want to compete with other firms better than the others. It shows the competitive advantage and the edge at the market level conditions. Among all these factors, the social capital, initiatives, practices and applications can have a major effect on the performance of the employees in IT sector. It is really crucial for the top management, managers to initiate in social capital initiatives, practices so that these can have a major interventions to achieve the expected performance of the employees of their desired goals.

The structure of the research study deals with initial Introduction, statement of the research problem, significance of the research study and scope of the study. The review of literature is carried out with recent reviews up to 2020. The research methodology is presented with research questions, sample framework, Sample size and population for the study and with sample design. Analysis of social Capital Development Initiatives in IT sector was tested with one sample t –test statistical tool for the objective 1 and 3. Correlation coefficients statistical tool is used to measure how strong a relationship is between these two variables for the objective 2.

Review of Literature

Thompson (2005) wrote his work on “Proactive Personality and Job Performance: A Social Capital Perspective”. The study used 126 employee-supervisor dyads (relationships) and examined a mediated model of the relationship between positive personality and job performance. The model suggests that proactive employees gain performance benefits by means of emerging social networks. It provides them the capital resources and freedom to chase high-level initiatives. SEM revealed and recommended that the association between proactive personality and job performance is interceded by network building and initiative taken on the part of the employee.

Krebs (2008) in his research study titled, “SC: the Key to Success for the 21st century organization” – made a conceptual framework study on SC and focused on the followings and critically analyzed how SC builds the powerful network within the organization. It comprises communities of practice, knowledge interactions, information flows, interest groups, social networks and other developing connections. The emerging growth and development are accentuating among employees, suppliers, regulators, partners and customers. SC connects various forms of HC. The several designs of influences that yield benefit for one group, and restrictions for another. In the interaction of interacted economy, the one with the best network gains and wins. The term “social capital” is used in discussions about organizational efficacy.

Ofori and Sackey (2010) in their research study “Assessing SC for organizational performance: initial insights from Ghana”, - measured the meanings and purposes of SC within Ghanaian organizations. It defined the designs, causes and factors of SC used in organizations and discovered how SC gives to firm performance by a sample

frame of firms listed in the Ghana Club 100. The outcome showed that it is precarious to knowledge sharing in the Ghanaian organization. It supports getting things done and helps in the accomplishment of organizational aims. The results recommended three specified variables of SC such as reciprocity, trust and institutional ties, have the most important positive affiliation by organizational/employees performance. In view of this, the research study endorses that firms take a proactive approach towards promoting, building and upholding feasible social network system within their arrangements in order to originate supreme advantage from it.

Choudhury (2011) in his research article titled, “HR configuration, social capital and organizational performance - theoretical synthesis and empirical analysis” critically explains the outline and connection between SC and employees performance. The purpose of this research which produced more than 466 respondents from various Indian information technology (IT) organizations were randomly chosen. It was to classify and examine the HR designing and HR architecture. The compound objective of the study was to inspect whether the present HR practices and procedure of the organizations are acting as enabler or not. The study focused to create, nourish and influence SC of the organizations and to find out the role of SC in organization performance. The study led basically with the help of a well calculated questionnaire on the basis of on line survey. From the survey, it was found that, both democratic HR formation and a collaborative HR configuration create communicating and collective and shared culture within the organization. It nourishes organizational wisdom and is positively and significantly related to organizations level of SC, which again is contributory for improvement of organization performance.

Hudaykulov and Hongyi (2015) in their research paper, “The effects of SC on team performance: A study of R and D departments in Uzbekistan” – investigated and explained the influence of several proportions of SC on employees’ collaboration and performance. In the effort of this research, the study created a research ideal by applying SC concept. Finally collaboration and cooperation in research and development teams in textile industry in Uzbekistan was evaluated. Results suggest that there is a great positive influence of SC on cooperation and performance. Therefore, the study approves the value of SC in explanation of employee’s cooperation. The study helps managers and team members to better understand the importance of SC generation on projects and in organizations.

Basu et al. (2016) in their study “ SC and Job performance : the moderating role of HR practices” - emphasized that today in business people are found to be giving importance to inimitable factors , like culture, knowledge and HC in organizations. The research study explored the concept of SC and its relevance in employees’ performance. In this context, researchers have envisioned the concept of SC as a metaphor as advantage. SC is the ability of individuals, to gain benefits or advantages by virtue of social networks among the employees. These kinds of network positions determine the advantage among employees getting over others. In an organizational context, some employees who are in strategic social networks can leverage such network relationship for influencing their job performance. Keeping this in view, the research study explores the relationship between SC and employees’ performance. It also explores the possible role of SC practices like trust, interpersonal skills, in the relationship between SC and employees’ performance.

Hador (2016) in his research paper titled, “How intra-organizational SC influences employee performance” contributed to the rising research study area on the topic of intra organizational SC plus its effect on employees performance. The variables that stood quantified are IOSC, stamina, self-efficacy, and a manager report concerning employee performance. The research outcome specify and specify a mediation-moderation model in which the connection between IOSC and employee performance is facilitated and mediated by vigor and moderated by self-efficacy. Though the sample contains employees from a single organization, collecting data from diverse sources within the organization allowed to overcome this restrictions and limitations. Mostly, the present results highlights the significance of the communication between environment and personality. Moreover, the blend between helpful and supportive atmosphere and personality traits can nurture employee performance.

Pudawawan and Sutarlan (2017) in their research article, “Improving Employees’ Performance through SC” state that how the increase of work performance through SC is achieved. The performance quality level determines the HC in the organization. SC can be a substitute or a complement to other resources. It needs routine maintenance and must be reformed to have more power of employees’ performance. Here in this research paper, it is addressed as capital, because SC investment and its development are shown by measurement tools.

Hador (2017) in his research study with the title, “Three levels of organizational SC and their connection to performance” – explored the mechanisms through SC which functions in organizations stands extremely significant for both academic investigation and practitioners. By way of theoretic conception, the character and functions of SC in organizations are outlined in several means and methods but not evidently sufficient. Practitioners would alike to realize and comprehend how the associations strengthen performance. Total aim of this study is to understand the instruments well over, how SC effects and effects performance in organizations. A theoretical outline for diverse stages of SC in organizations has been established and offered, as well as the intentions concerning the recommended influence of every level on performance quantified and specified. The illustration on a variability of writings and works, remain debated that there stays three levels of SC in organizations. These are such as personal, intra-organizational, and external. All stages has inimitable structures and benefits. Therefore it is recommended that all SC level fortifies additional mechanisms of performance.

Pudawawan and Sutarlan (2018) in their research paper “Improving Employees’ Performance through SC” –attempted to know whether there is an increase of work performance through SC. The authors have investigated and examined that the performance quality level which determines the service to the society at large. The authors have studied that the SC needs routine maintenance and must be reformed in order to enhance employees’ performance. The authors further emphasized that if there is no performance, all functions of organization cannot be achieved. Employees’ performance is made as evaluation material by leader or manager. Performance is something that is achieved and the achievement is shown through work performance. Performance is a work result which is seen through SC.

Perera and Weerakkody (2018) in their research study, “The Impact of HC and SC on Employee Performance” - A Study of Employees in Small Scale industry enterprises in western province of Sri Lanka focused on the SC factors on employees performance. The authors investigated the relationship between SC on employees’ performances. They identified that there are significant effects from SC to employees’ performance. Therefore the unit of study and examination of analysis was at the individual level. The data investigation confined inside univariate and multivariate examination. The exploration exposed and revealed that there was a optimistic robust impact of HC on employee performance. And also there were positive reasonable impact of SC on employee performance in small scale industrial enterprises in Sri Lanka.

Agarwal et al. (2018) in their article written for deloitte university press titled, “The growing importance of SC: Global HC Trends” - a deep change facing corporate leaders universally, the fast increase of what is called the social enterprise. ***This change replicates the rising*** reputation of SC in determining an organization’s drive, managing its associations with shareholders, and prompting its final success or failure. In 2018, the business was observing enormous alterations in the workforce. It is believed that a fundamental change is ongoing. Organizations are no longer evaluated based only on outdated metrics such as economic performance, or even the excellence of their goods or services. Organizations nowadays are progressively judged on the source of relations with workforces, clients, and their communities.

Clausen et al. (2019) in their research article titled, “Does SC in the Workplace Predict Job Performance, Work Engagement and Psychological Wellbeing? A Prospective Analysis” - examined the potential association amongst SC in the workplace and self reported job performance. SC was examined at the individual-level accumulated and combined team-level variables. Individual-level SC foretold self-reported job performance, and mental wellbeing. Changes in individual-level and team-level SC were meaningfully connected with self-reported job performance. SC in the workplace is linked with pertinent results for work organizations. Workplace involvements to increase SC are suggested.

Methodology

This research study is an empirical research based on survey method. It is blend of both the descriptive and the analytical method of study. The structure questionnaire was prepared for finding out the prevailing level of Social capital development initiatives and its impact on employees’ performance in respect to IT companies in Bangalore

Objectives

1. To analyse the impact of Social Capital Development initiatives in IT sector.
2. To identify the factors influencing SCDI.
3. To find out which SCDI variables are most preferred by the employees.
4. To propose recommendations based on the findings of the study.

Research Questions

1. What are the different practices and initiatives of social capital in IT companies?
2. How far the organization is familiar with the concepts of social capital at workplace?
3. How to identify the factors influencing social capital development initiatives?
4. Which are the social capital initiatives mostly preferred by the employees?

Table 1

Reliability of the Interview Schedule

S.No	Social Capital Development Initiatives	Initial	Extraction
1	Company believes in Bonding and Mutual Trust with each other.	1.000	.817
2	Employees' workplace social network connects each employee in their occupational role.	1.000	.833
3	Company works on Linkages: Links to people or groups further up or lower down the social ladder.	1.000	.834
4	Company works on building Groups and Networks.	1.000	.841
5	Company is Trustworthy and has Solidarity since existence.	1.000	.878
6	Company believes in Collective action and Cooperation.	1.000	.846
7	Social Cohesion and Inclusion is very prompt.	1.000	.859
8	Information and Communication is dependable.	1.000	.841
9	People trust each other in this organization.	1.000	.855
10	There is a high sense of community Building among employees.	1.000	.868
11	Good Interpersonal relationship and Team Spirit builds the Bond among employees.	1.000	.858
12	Employees feel energized at workplace by their relationships and interactions with others.	1.000	.840
13	Employees in the organization are helpful to each other.	1.000	.801
14	The norms of positive reciprocity and the social capital enhance employees' performance.	1.000	.873
15	Team –oriented reciprocity is good. Team spirit is high order in this organization.	1.000	.842
16	The firm's Social Capital Development initiatives enhance the employee's performance on the whole.	1.000	.879

Source. The authors

The above table 1 displays the result of principle components analysis which indicates the second stage in exploratory factor analysis. In this, the proportion of each variables variance has given under communalities, and it is defined as the sum of squared of factor loading variables. The initial values are indicating the diagonal of correlation matrix and the extraction values indicate the proportion of each variables variance and it helps to determine retained variables.

Sample Framework

Sample Size and Population for the Study

The study is limited to five leading IT companies in Bangalore. The research scholar having made several visit to the IT companies, went through the various records with the help provided HRD Department. The staff strength (population) of employees in these organizations is as follows:

There are 200 IT companies in Bangalore as per the statistical data collected from the entire Bangalore city, the silicon valley of India. The research was carried out in five leading IT companies in Bangalore. The researcher has found that the HC concepts and its applications are practiced in these firms. So these five companies are selected for this study.

Data Collection

The research study is grounded on both the primary and secondary data. The research scholar collected data from the respondents through a questionnaire of likert scale measurement and administered to 500 IT middle level executives working in five different IT Companies

Data Processing

After finishing the data collection, a detailed check was made. All the 500 questionnaire responses were treated for coding the data in computer system. Then the cross tables were arranged by using R software / SPSS version 23.0.

R Software Calculation

$$N = Z^2 * Sd^2 / E^2$$

Z = Z value based on Z distribution at 5% level is 1.96

Sd = 1.14 which is obtained from the pilot study

E = margin of error, which is fixed as 10% or .10

This computation obtained the sample size of 500

Sample Design

Five hundred IT executives working in five standard MNC IT companies were selected, comprising different department activities such as software development department, energy department, Techno Giants department, Quality assurance department and

insurance/ service department by using stratified random sampling method. Moreover, convenience sampling was adopted to collect data from the executives of the IT companies.

Table 2

Social Capital Factors - Reliability Analysis

Particular	Mean	SD	Cronbach's α	McDonald's ω
Scale	3.99	0.79	0.98	0.98

Source. The authors

The above table 2 displays that Cronbach's alpha is 0.98 which indicates a higher level of internal consistency of items of social capital. The above Table shows that reliability of SC variables which indicates different measures such as Cronbach's alpha is 0.98 and McDonalds omega value is also 0.98, value of standard deviation is (SD) 0.79 therefore it indicates a high level of internal consistency of items of social capital. Reliability Analysis is used to find out the level of internal consistency of items.

Social Capital Development Initiatives in IT Sector - One Sample T - Test

SC represents the close understanding of network among employees at workplace. It builds ultimately a sense of shared values and mutual respect among employees. The IT sector has developed the practice of several HCIDI for enhancing the employees performance. There are various reasons of SC enhancing the employees performance. In order to know the substantial level of the entire 15 variables which are the contributing factors of making the employees performance. The one sample t test is applied and the result is shown in the Table 1.

One sample t test is the parametric test. It is used to measure the mean variance between the sample and well known value for the population mean. The "t" value denotes the computed mean value. Degrees of freedom are calculated by subtracting the value of one from the total sample size. The test value is 3 and the scaling technique is five points. The lower and the upper limit ranges are useful to determine the mean differences. It controls the two end potentials of either mean value is better than three or fewer than three.

Table 3

Descriptive Statistics of Social Capital

Descriptive	N	Mean	Std Deviation	Min	Max
Social capital	500	3.99	0.79	1	5

Source. The authors

The Table 3 depicts the result of descriptive statistics of social capital development initiative factors. The Social capital has achieved the highest mean score of 3.99.

Table 4

SC Initiatives in IT Sector - One Sample t -test

S. No	SC Factors	t - Value	D. F	P - Value	Mean difference	95 % of confidence interval of the difference	
						Lower	Upper
1	Company believes in Bonding and Mutual Trust with each other.	63.842	499	.000	2.568	2.49	2.65
2	Employees' workplace social network connects each employee in their occupational role.	65.045	499	.000	2.484	2.41	2.56
3	Company works on Linkages: Links to people or groups to further up or lower down the social ladder.	60.691	499	.000	2.496	2.42	2.58
4	Company works on building Groups and Networks.	61.304	499	.000	2.436	2.36	2.51
5	Company is Trustworthy and has Solidarity since existence.	56.274	499	.000	2.504	2.42	2.59
6	Company believes in Collective action and Cooperation.	61.130	499	.000	2.508	2.43	2.59
7	Social Cohesion and Inclusion is very prompt.	59.886	499	.000	2.520	2.44	2.60
8	Information and Communication is dependable.	62.172	499	.000	2.476	2.40	2.55
9	People trust each other in this organization.	57.972	499	.000	2.500	2.42	2.58
10	There is a high sense of community Building among employees.	61.771	499	.000	2.504	2.42	2.58
11	Good Interpersonal relationship and Team Spirit build the Bond among employees.	60.552	499	.000	2.484	2.40	2.56
12	Employees feel energized at workplace by their relationships and interactions with others.	61.879	499	.000	2.520	2.44	2.60
13	Employees in the organization are helpful to each other.	60.658	499	.000	2.476	2.40	2.56
14	The norms of positive reciprocity and the social capital enhance employees' performance.	59.561	499	.000	2.452	2.37	2.53
15	Team -oriented reciprocity is good. Team spirit is in high order in this organization	60.740	499	.000	2.492	2.41	2.57

Source. The authors

The Table 4 portrays the "t" values like 63. 63.842, 65.045, 60.691, 61.304, 56. 274, 61.130, 59.886, 62.172, 57.972, 61.771, 60.552, 61.879, 60.658, 59.561 and 60.740 are positive values that means sample means is above with the population mean of test value of three. Hence it is statistically very significant by one percent level and all the "t" values are positive with consistent standard deviation. Hence it is decided that all these factors are powerfully agreed by the respondents and it indicates that these SC factors have a major influence on employees performance.

Table 5
Factors of Social Capital – Correlation Matrix

Correlation Matrix	sc1	sc2	sc3	sc4	sc5	sc6	sc7	sc8	sc9	sc10	sc11	sc12	sc13	sc14	sc15	sc16
sc1	—															
sc2	0.76 ***	—														
sc3	0.79 ***	0.70 ***	—													
sc4	0.73 ***	0.79 ***	0.74 ***	—												
sc5	0.70 ***	0.65 ***	0.69 ***	0.73 ***	—											
sc6	0.68 ***	0.75 ***	0.65 ***	0.78 ***	0.75 ***	—										
sc7	0.70 ***	0.66 ***	0.70 ***	0.69 ***	0.74 ***	0.79 ***	—									
sc8	0.63 ***	0.70 ***	0.63 ***	0.73 ***	0.70 ***	0.74 ***	0.75 ***	—								
sc9	0.70 ***	0.65 ***	0.69 ***	0.67 ***	0.79 ***	0.75 ***	0.73 ***	0.76 ***	—							
sc10	0.64 ***	0.73 ***	0.63 ***	0.72 ***	0.75 ***	0.70 ***	0.63 ***	0.72 ***	0.75 ***	—						
sc11	0.73 ***	0.72 ***	0.73 ***	0.72 ***	0.72 ***	0.70 ***	0.75 ***	0.73 ***	0.79 ***	0.77 ***	—					
sc12	0.68 ***	0.74 ***	0.67 ***	0.75 ***	0.69 ***	0.73 ***	0.71 ***	0.72 ***	0.71 ***	0.77 ***	0.78 ***	—				
sc13	0.71 ***	0.63 ***	0.67 ***	0.67 ***	0.71 ***	0.68 ***	0.72 ***	0.69 ***	0.76 ***	0.70 ***	0.78 ***	0.78 ***	—			
sc14	0.69 ***	0.73 ***	0.64 ***	0.71 ***	0.67 ***	0.75 ***	0.71 ***	0.76 ***	0.69 ***	0.74 ***	0.73 ***	0.77 ***	0.77 ***	—		
sc15	0.72 ***	0.66 ***	0.70 ***	0.63 ***	0.66 ***	0.71 ***	0.73 ***	0.67 ***	0.76 ***	0.66 ***	0.73 ***	0.73 ***	0.78 ***	0.76 ***	—	
sc16	0.62 ***	0.67 ***	0.62 ***	0.67 ***	0.70 ***	0.75 ***	0.71 ***	0.75 ***	0.74 ***	0.73 ***	0.69 ***	0.75 ***	0.74 ***	0.80 ***	0.76 ***	—

Note. * p < .05, ** p < .01, *** p < .001

Source: The authors

The table 5 shows the correlations analysis of social capital; all the items are positively and strongly correlated. The table shows the correlations analysis of social capital; all the value of all items is more than 0.7. It indicates that all variables of the social capital are positively and strongly correlated. The table shows the correlations analysis of social capital and all the items are positively strongly correlated. Correlation coefficients are used in statistics to measure how strong a relationship is between two variables

Descriptive factors of Social capital that is from Sc 1 to Sc 16 which are mentioned above in the correlation matrix table are as follows:

Table 6

Descriptive Factors of Social Capital

SC1	Company believes in Bonding and Mutual Trust with each other	SC9	People trust each other in this organization.
SC2	Employees’ workplace social network connects each employee in their occupational role	SC10	There is a high sense community Building among employees.
SC3	Company works on Linkages: Links to people or groups further up or lower down the social ladder	SC11	Good Interpersonal relationship and Team Spirit builds the Bond among employees.
SC4	Company works on building Groups and Networks.	SC12	Employees feel energized at workplace by their relationships and interactions with others
SC5	Company is Trustworthy and has Solidarity since existence	SC13	Employees in the organization are helpful to each other
SC6	Company believes in Collective action and Cooperation.	SC14	The norms of positive reciprocity and the social capital enhance employees’ performance
SC7	Social Cohesion and Inclusion is very prompt.	SC15	Team –oriented reciprocity is good. Team spirit is high order in this organization
SC8	Information and Communication is dependable.	SC16	Provides employees with power, autonomy, and responsibilities within the workplace.

Source. The authors

Discussion of Findings

The t value for all 15 variables are positive and the results of such variables are 63. 63.842, 65.045, 60.691, 61.304, 56. 274, 61.130, 59.886, 62.172, 57.972, 61.771, 60.552, 61.879, 60.658, 59.561 and 60.740. The sample mean is above the population mean of test value of three; hence it is statistically important by one percent level besides all the “t” values are positive with consistent standard deviation. Hence it is decided that the SC factors have major influence on employee’s performance.

It is observed and noted from the correlation matrix analysis of SC all the items are positively strongly correlated. The correlations analysis of social capital and all the value of all items are more than 0.7. It is found through correlation matrix that there exists highest relationship between the following items. (Sc16) Provides employees with power, autonomy, and responsibilities within the workplace and (sc14) The norms of positive reciprocity and the social capital enhance employees' performance (0.80). (Sc3) Company works on Linkages: Links to people or groups further up or lower down the social ladder and (sc1) Company believes in Bonding and Mutual Trust with each other (0.79). (Sc4) Company works on building Groups and Networks and (sc2) Employees' workplace social network connects each employee in their occupational role (0.79).

The findings are from correlation matrix is showing accurate results. All the criteria of statistical process and analysis are fulfilled.

The need for improvement is required for the firm in working on linkages, especially linking people or groups further up or lower down the social ladder. Humans are social animals; so having meaningful interaction with other employees is necessary at workplace. Therefore it is suggested that the software companies continue to work on these factors by encouraging employees to interrelate and build the communication preferences.

Collective action and cooperation is a rational behaviour at workplace. It is telling that group of individuals are working together. The company believes in collective action and cooperation is still needed to be improved to the next level for a better cooperation by mobilizing various groups at workplace for a better atmosphere and making the organization stronger in collective action and collaboration.

Connecting with people and understanding people at workplace is a very important factor in these days. Therefore the company needs to improve the existing status to the next level by encouraging employees to discuss ideas, asking questions and sharing links. All employees must feel involved by making them feel more connected is a future success for the organization.

Building a bond and mutual trust with each other at workplace is the most important function in these days in the business organizations. In this connection, building trust inside the team, feeling safe with each other, getting acquainted, and the stronger bond is the success formula of any organization. Hence it is advised that the firm takes it seriously and continuously monitors this social trust and bonding throughout by encouraging and creating a deep bond of believability that motivates the employees to give their best.

Managerial Implication

Social capital plays more imperative role in business organization. The above results then findings calls for the appropriate action in the new normal scenario. The Managers and the business leaders have a great task ahead. A collaboration focused work environment and trust have to be created for a better social capital development initiatives. The Social capital requires and involves working closely with the colleagues. The managers need to create the confidence, trust, collaboration and cooperation among the employees in the days

to come and create the best social network among the employees, where the employees fearlessly pursue their career growth and personal development. The managers need to focus more of agile work approach culture especially in these days. The Himalayan task would be in realigning the present working environments of trust building, collaboration, cooperation and corroboration can create the best social capital practices . The social bond, mutual trust should make the employees feel at home. The managers must make sure that the Social capital should fill up the compassion, trust, hope and stability. The leaders and managers in the new normal business context, have to focus on the team building support, and guide the teams as they proceed with astute goal setting in the future workplace. The managers have to become the social architect in initiating the creative social capital development initiatives such as taking care of the employees, hearing their voice, building team support, team spirit and transparent communication especially the collective opinions of the employees must be encouraged.

Conclusion

SC is the part of HC development initiatives. It is the process of social network among the employees in the organization in order to achieve the expected performance. The term SC is increasingly becoming popular in many business organizations these days. SC initiatives are analyzed and interpreted and it has revealed that there is a positive and strong corealtnship between all the items. Positive associations and relations between leadership capital initiative factors taken by the IT firms has revealed the meaningful relations and impacts on the employees' performance through these analyzed data. The social capital factors such as social groups, interpersonal relationships, participation, sense of belonging, network of bonding and bridging, shared sense of identity among the employees, feelings of trust and safety, cooperation, reciprocity have powerful impact and dependency and correlating with 15 factors of variables. In this analysis, social capital development initiatives have been found to be positively linked with the strong support of the data that was revealed through the respondents.

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Appendix

Questionnaire: Social Capital Development Initiatives

Network of Relationship among Employees (Social Capital = Social Groups, Interpersonal Relationship, Participation, Sense of Belonging, Network (Bonding and Bridging) Shared sense of identity, Shared Understanding, Shared norms, Shared values, Feeling of Trust and Safety, Cooperation, reciprocity, Reactivity and Diversity)

S.No	Measurable factors	5	4	3	2	1
		SA	A	M	D	SDA
1	Company believes in Bonding and Mutual Trust with each other.					
2	Employees' workplace social network connects each employee in their occupational role.					
3	Company works on Linkages: Links to people or groups to further up or lower down the social ladder.					
4	Company works on building Groups and Networks.					
5	Company is Trustworthy and has Solidarity since existence.					
6	Company believes in Collective action and Cooperation.					
7	Social Cohesion and Inclusion is very prompt.					
8	Information and Communication is dependable.					
9	People trust each other in this organization.					
10	There is a high sense of community Building among employees.					
11.	Good Interpersonal relationship and Team Spirit build the Bond among employees.					
12.	Employees feel energized at workplace by their relationships and interactions with others.					
13	Employees in the organization are helpful to each other.					
14.	The norms of positive reciprocity and the social capital enhance employees' performance.					
15.	Team –oriented reciprocity is good. Team spirit is in high order in this organization					

Employee Experience during Covid-19: A Remote Work Perspective

Abisha Aseervatham¹ and Madhava Priya D.²

Abstract

The outbreak of the novel corona virus in 2019 resulted in several changes which impacted the way organisations function in varying magnitudes. One major change that took place across various industries (with the exception of essential service providers) was the shift to a remote working model. This paper attempts to investigate the major changes that have affected the work life of employees and understand how employees and organisations are coping up with the shift to a virtual work environment. The literature review for this study consists of relevant studies conducted during the time period of March 2020 – November 2020. The study followed the grounded theory approach which was based on an inductive-interpretivist philosophy in which data was first collected and then studied to arrive at the findings. A qualitative research was conducted to gather primary data in order to understand individual employee experiences. The data for which was collected through semi-structured interviews. 10 Professionals from various organisations were interviewed to provide us insights into how employees and organisations are coping up with the changes in their work environment specially keeping in mind the shift to a remote working model. The study revealed different aspects of their work life that were greatly impacted as a result of the shift to a remote working model. This included their work environment, work-life balance, work focus, task, and time efficiency. Comprehending these changes can help HR Leaders and talent managers to better understand challenges faced by employees and help them build more conducive work environments and work policies to support their employees during such challenging times. The findings of this study will also prove to be of great value in developing a quantitative scale to measure employee experiences.

Keywords

Coping, organisational change, virtual workplace, remote work, employee experience

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INTRODUCTION

World Health Organisation declared Covid-19 a global pandemic on March 11, 2020. Soon, governments across the world were forced to restrict public movement and all forms of economic activities to contain the spread of the virus. The restrictions on movement forced organisations to switch to remote working models. This shift has led to an increasingly complex work-life balance. This new way of working has shown how professional work is trickling down into the personal lives of employees and how employees are struggling to navigate between this blended work-life world. Lack of physical boundaries between professional work and personal work in a remote working model makes it challenging for employees to maintain a good work life balance. This was just one of the many challenges that employees faced during this pandemic. Apart from the blended work-life and struggle to strike a good work-life balance, The global pandemic has posed several challenges to organisations around the world such as restrictions on social gatherings, challenges in public mobility, legal enforcements obstructing the flow of goods and services to name a few. To sustain business activities, organisations had to adapt to several other changes to align themselves with the changes in the business environment.

While many organisations have taken note of the various changes that the pandemic has brought about, efforts are being made to help employees cope with these changes. Various strategies and policies are now being implemented to help employees' transition to the new normal at the workplace. The current study is aimed at understanding the employee experience at an individual level by gathering and aggregating individual employee's opinions about the overall work experience, support from their employers and workplace challenges they face during this period. Further investigations also revealed how some employees are coping up with these changes. This study will provide HR Leaders, People managers an account of the challenges and obstacles employees have been facing during this period of remote work. The present study is an open-ended qualitative analysis that aims to gather insights about the various changes that the pandemic has brought about at the workplace and how employees are coping up with these changes. The study seeks to examine the changing nature of the workplace, employee attitudes and motivation as employees adapt themselves to the 'New Normal'. By carefully examining these changes in the workplace, the study also simultaneously attempts to examine how employees and organisations are coping up with the changes observed

Employee Experience: Concept and Definitions

With an increasingly competitive landscape for the acquisition and retention of talent, the war for talent continues even amidst the pandemic. Organisations today aren't just looking for people, they are looking for the best people. The war for talent is not just about getting the best people on board, but also retaining them in the organisation. As the struggle to attract and retain talent becomes complex and harder, Organisations have flipped their marketing views internally, to provide employees customer-grade experience (Erkmen, 2018). By creating positive employee experiences, Organisations can bring together

employees to create synergy within the organisation (Yildiz et al., 2020). Employee Experience can be defined as the perceptions of employees about their organisations that is derived from all the activities, behaviours, and procedures they run across while working in the organisation (Plaskoff, 2017). Employee Experience is often seen as one of the main conditions to retain talent and improve performance (Rasca, 2018). An empirical study by Yildiz et. al. designed a model for HR leaders that will help them create positive employee experiences. The integrated model consisted of two phases – The first step consisted of evaluation of several factors affecting positive employee experiences by applying the hesitant fuzzy analytic hierarchy process (HFAHP) and the second step was to develop a practical scoring procedure to help companies with their self-assessments by using the fuzzy simple additive weighting (FSAW). The literature review from the study determined the criteria affecting positive employee experiences and the tools helped in identifying the weightage of each factor. The findings of the study revealed 16 sub-criteria that were grouped into 4 criteria including Leadership, Human Capital Development Opportunities, Positive Organisational Culture and Communication.

Building positive employee experiences can benefit the organisation in the long run. A descriptive study by Shenoy and Uchil on the influence of cultural environment factors in Employee Experience reveals that there is a strong significant relationship between organisational climate, internal policies, and leadership as variables of Employee Experience. Employees with positive experiences were also shown to exhibit higher engagement levels and were physically, cognitively, and emotionally attached to their work roles (Shenoy, Uchil, 2018). Employee Experiences play a significant role in determining the Job satisfaction levels among the employees. A highly positive correlation was found to exist between Job Satisfaction and Employee Experience (Soni et al., 2017).

Employee Experiences during Covid-19: Trends and Patterns

MetLife conducts annual U.S Employee Benefit Trends Study and the insights from data collected during the Pre-Covid and Covid phases clearly reveal changing workplace dynamics. While 4 in 10 employees stated that they struggle to navigate the demands that come with today's more flexible work life mode before the pandemic, this number drastically increased with 7 in 10 employees stating that the Covid-19 Pandemic has impacted their daily work routines. The report shares how employees saw the positive aspects of a blended work-life and a flexible routine prior to the pandemic but the same routine has now caused increased stress during the pandemic period (MetLife, 2020). With professional work now taking up their personal time, employees struggle to switch off and set boundaries. The legal enforcements have made working from home the new mandate. This change has caused a major shift in employee motivations, behaviours, and routines. A Study by PR Newswire has revealed that eight in 10 remote workers admitted to slacking off at work during Covid-19 Lockdown (PR Newswire a, 2020).

Several studies have shown that there has been a significant drop in the productivity levels of employees, and this remains one of the biggest challenges in workforce management during this pandemic. According to the Employee Pulse Surveys by TriNet

and The Harris Poll, about 62% of Employers in small and medium sized business have observed a drop in productivity levels. However, A study by the Boston Consulting Group on Employee Sentiments reveals that productivity can be maintained surprisingly well in a virtual or hybrid work environment. The study collected responses from 12,000 employees in US, Germany and India and revealed some interesting insights. BCG found four factors that correlate employee productivity on collaborative tasks, which includes Social Connectivity, Mental Health, Physical Health and Workplace Tools. Of the four factors, Social Connectivity emerged to be the strongest factor in influencing Employee Productivity. The results of the study showed that employees with satisfactory social connectivity are up to three times more likely to maintain or improve productivity on collaborative tasks. While those employees who maintain satisfactory mental and physical health are likely to be only two times more productive than their counterparts.

Employee Well-being was yet another factor that has gained significant role in shaping overall employee experience during the pandemic. The pandemic in itself has led to a huge global healthcare crisis but the prolonged uncertainties and restrictions have also caused significant mental and emotional stress among people. According to a survey by McKinsey, employees are four times more likely to feel engaged and six times more likely to have a positive sense of well-being when they feel their employer cares about them. In spite of employers demonstrating care and empathy to their employees, there has been a huge gap in the way employees perceive such actions. This disconnect is evident in the study by Businessolver which has revealed that 97% of CEOs believe that they have been empathetic towards employee well-being but only 69% of the employees agree.

Flexible and Remote Working: Concept and Trends

One of the major factors that shaped the employee experience during the period of this study was the shift to a work-from-home environment often characterised by flexible working options as a result of the Covid-19 pandemic. Several studies have been conducted in the past to understand how Employee Experience, Productivity, Job Satisfaction, Work Performance etc vary in a remote working set up but what makes the remote work during Covid-19 different is that, employees are left with no other choice but to work from home. In a study conducted in Indonesia during the pandemic period, the survey from 330 employees revealed that employees experienced a greater level of motivation, satisfaction, better performance while working from home (Susilo, 2020).

The concept of workplace flexibility started gaining popularity during the 2000s when many organisations and consultancies started propagating its advantages. Though a popularly advocated practice, workplace flexibility has been defined by many scholars from varying angles guided by contrasting underlying assumptions. Studies which discuss the positive aspects of workplace flexibility mainly understand the concept from an Employee's perspective where workplace flexibility is used as a tool to help them in achieving work-life balance and a better wellbeing. While most studies have explored and analysed positive aspects of flexible working arrangements from an employer's perspective, one of the major gaps in existing literature is that all these studies were

conducted during a pre-pandemic era. The present study aims to address this gap by understanding and comprehending employee experiences from a remote work perspective during the ongoing Covid-19 pandemic.

Research Methodology

The study is a grounded theory research guided by the interpretivist philosophy which utilises an inductive approach. The current study gathers information through a qualitative analysis of data collected from 10 Professionals from various industries based in Hyderabad. The sample consisted of five men and five women. The data collection was completed as soon as we achieved the level of saturation in the responses. The data for the study was collected through semi-structured interviews from Professionals from the industry who are currently working remotely through a virtual medium. (A cohort research design). The employees belonged to diverse industries such as Offshore recruitment, IT, ITES, Technology, Finance and Taxation to name a few. The scope of the study is currently limited to the experiences of corporate employees from Hyderabad during the time period ranging between March 2020 – October 2020.

Findings

The interview transcripts from working professionals revealed a very interesting pattern of concurrent opinions. Though there were minor differences in the individual work experiences, most respondents struggled in certain areas of their work. The opinions shared by the employees were transcribed, coded, and analysed. The analysis revealed four common areas that greatly influenced an employee's remote working experience. These areas included – Work-life balance, Work Focus, Time & Task Efficiency and Support from the Employer.

Work-Life Balance

Work-life balance is a very important aspect of a positive employee experience. This was definitely one of the most common challenges which the employees shared while describing their experience of working from home during the pandemic. This imbalance between personal and professional life stems from various attributes including the working hours, working environments, personal and social obligations. One of the respondents shared his challenge in maintaining this balance. He said,

“When we are at office and once, we leave, we are not bothered by work after that. But now when we work from home, there is no difference between the work life and personal life anymore”.

The mandatory shift to working from home has saved the time employees usually lose in transit but at the same time it has removed the presence of physical distinctions between the workspace and home. Legal enforcements that forced individuals to stay at home also had an adverse impact on work. Such restrictions increased expectations

on availability of employees. Employees were expected to be available for completion of their tasks at any part of the day. This eventually led to the work taking over their personal time. While maintaining a work-life balance was a challenge, some individuals also shared how they have been trying to maintain this balance. A HRBP who works at an IT company shared that he completely cuts contact with anything related to work on weekends. He said,

“Weekends are those two days that I leave completely for myself. Unless there are critical cases like insurance cases, I do not attend any work-related calls or mails”.

Work Focus

Focussing on work in a different work environment was definitely a challenge for a good number of employees. The shift to a remote working environment came with a lot of distractions. Female employees in general seemed to have shared bigger concerns about being able to focus on work. Traditionally, women in Indian families play the role of care takers for the families. So, while they work from home, they also have the additional responsibility to ensure that their home and family is also well-taken care of. Some of these responsibilities have become major sources of distraction from work. A female respondent shared that the family should also be supportive and understanding so that they can give in their best at work. With every meeting and discussion being done through online platforms like Zoom, it is difficult to ensure that you have a quiet and peaceful environment around you on an everyday basis. Another respondent shared how personal commitments and obligations come in his way of focussing on work. While you work from home, you are often expected to run a few errands and offer help in all the household chores. Balancing between these personal commitments and professional work can often get difficult and a big challenge when working from a remote environment.

Time and Task Efficiency

The shift to a remote working environment has had a very damaging impact on the time and task efficiency of work. Many employees shared their work experiences during the pandemic which was frequently characterised by extended working hours. An enquiry into the cause behind the stretched work routine led to some interesting discussions on response rates, unsaid virtual etiquettes, challenging peer collaborations. An associate from a leading tax firm told us,

‘Even though we have all facilities for communication, the availability of senior staff and managers have become inconvenient. They have their own schedules, work meetings, work with clients’.

Another tax associate shared similar concerns,

'Earlier I could just walk up to a friend's desk and get my doubts clarified or work done. Now I have to ping them, find out their availability, write a mail and schedule an appointment for small tasks. I never receive instant or fast replies. By the time, they reply, and we complete the scheduled meeting I would've wasted a lot of time in clarifying something I could've easily done in office'.

This waiting time and a long process results in longer lead times and lesser efficiency. Given the fact now employees work from home and no longer have to travel, they are expected to complete all their assigned tasks even if it requires them to work beyond normal working hours. This eventually takes up their personal time. Another financial analyst tells us,

'If a task usually takes us 15 mins, it could take up to 45 mins to complete while we work from home. That is an additional 20 mins per task. Imagine having to complete ten tasks in a day, the number of extra hours we have to put in per day'.

Support from Employer

Organisations have been working hard to ensure that the needs of their employees are met in spite of the narrow stream of resources that are currently available to them. While one of the respondents claims that the assurance given by their employer about the Job Security is very consoling, some others state that they have been given only minimal support. Different respondents have shared with us that their employers have been very generous in terms of providing them with the right infrastructural facilities. Some of them have been provided with laptops, additional monitors, power backup, wireless internet facilities, office furniture, and audio-visual gadgets to name a few. While employees seem to be very appreciative of the physical infrastructural support provided, they have shared mixed feelings about the emotional support and engagement activities that have been planned for them. Most of the respondents have claimed that some kind of engagement activities and mental health support has been provided to them, but they don't seem to have been effective in engaging the employees. A respondent shared with us, "We have multiple engagement activities. I'm also a part of the virtual engagement core team also. So, we conduct different events including fitness events, online games. We have photo contests. We have also had an application to monitor employee health." While engagement activities are planned and executed, their effectiveness is questionable. Several respondents shared how they didn't have an impact on them. One employee shared with us about the lack of variety in the Zoom routines itself was unengaging. Another employee said that, mandatory participation in these activities add additional pressure on their work since as they are left with lesser time to complete their tasks.

Conclusion

While the spread of the virus is slowing down and recoveries are overtaking the infections, the remote state of work is expected to continue for a longer time in the near future. Many big names like Microsoft and others are considering making remote working a permanent option for a part of their workforce while several other organisations will continue to offer flexible remote working options for a considerable time in the foreseeable future. Offering work from home option to employees is a very economical option for organisations as it saves them a lot of fixed expenses and overheads associated with space and infrastructure but at a micro level, prolonged periods of remote work can prove to be problematic. Employees slowly get disengaged, productivity levels fall, and processes become less efficient. Understanding the challenges individuals face while working from home can help talent managers and leadership teams in organisations tailor policies and schedules that can help. From helping employees balance their professional and personal lives, Helping them maintain productivity, Improving work focus and wellbeing initiatives – There is a lot of scope for HR Managers to tweak, and revamp their existing policies in place to ensure that they are still relevant, practical and purposeful during turbulent times as these. With a global pandemic that can adversely affect the business of several organisations and a very narrow stream of resources that are available to business, organisations are under pressure to demonstrate care and concern to their employees. Therefore, policies and plans prepared for the new normal should reflect the organisation's concern and care for their employees. The results of this study can prove of great help to leaders in the field of HR to gain an understanding about the challenges faced by employees working in a remote environment.

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Gamifying Awareness of Covid-19: A Review of the Gamified Apps Using Octalysis Framework

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Abstract

Gamification is defined as the utilisation of game mechanics and design elements that are aimed mainly at influencing behavioural change. It includes a defined set of game elements, for engagement of participants including challenges, leader boards, points, performance graphs, meaningful stories and badges. To bring about a change in the current situation by creating awareness through gamification requires complex interventions that involves the context mediation and its interacting components. The implementation of gamification in the health care sector is to strategically bring about awareness, and to enable behavioural changes to fight COVID. This paper talks about how gamification elements in combination with the awareness campaigns acts as an enabler for the same. This behavioural change can instigate a stimulus that improves participation, performance or interest, as a result of intrinsic motivation and values. There is a vast field of gamification that still remains unexplored, which can cater to creating a wide-spread awareness for the pandemic currently, and for any unforeseen circumstances that might disrupt our normal functioning in the future.

Keywords

Gamification, pandemic, awareness campaign, motivation, behavioural change

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INTRODUCTION

The term gamification was believed to have been “invented” in 2002 by Nick Peller, a British computer programmer. He anticipated that the concept of gamification would expand to all realms of social life and would impact behaviour and knowledge systems.

Gamification is defined as the utilisation of game mechanics and design elements in otherwise serious contexts aimed mainly at influencing behaviours. Game mechanics involve control mechanisms, processes and actions that are usually available in games, which aid the participants throughout the gaming process. Gamification employs the quintessential components of games like competition, scoring, badges, leader boards, quests and challenges etc. Leader boards, points and badges are all elements of social status. Several of these elements like badges, points, levels and leader boards are inter-linked. Badges are linked with achievements and awarded to the gamer when an important level is crossed or a significant progress is made. Badges are generally exhibited against a gamer’s name in leader boards. Leader boards are one of the most significant game mechanics as they cultivate fair competition in the gaming process. Almost all games involve levels, clearing which the gamer progresses to reach a specific stage during the course of the game. At the core of every game is a challenge. Challenges provide the gamers with defined goals which give them a sense of satisfaction. Challenges within a game can further be classified into overall challenges, main challenges and micro challenges. All these game elements provide satisfaction to gamers from their level of accomplishment and recognition. The sense of achievement also motivates the players to endeavour to put in continuous effort. The most significant game dynamics for engrossing audience are accomplishment, unpredictability, empowerment, constraints and relationships. Gamification is built on engagement processes that are based on game mechanics to regulate and change human behaviours and habits. It depicts a path to proficiency by tapping on human tendency to engross in gaming. It can also help promote healthy competition among all team members that can be measured. The competition aspect can also be employed to get more accurate results in that it can help fill gaps in a company’s data. For example, a company realised that the data they had was inaccurate. They encouraged a competition among their data researchers to fill gaps in their data. They added game elements of cards and a scoreboard as an incentivisation technique. The results were that all the gaps in the data were successfully filled. Gamification has been especially proven to improve employee motivation, engagement and productivity at the workplace. It has been employed successfully in varied areas in organisations. Gamified learning platforms can be used by employees to master new skills and enhance employee retention. Teams that work remotely can share information and exchange skills and expertise despite working from varied geographic locations. Also, employers have been making use of gamification as a means to reward employees for coming up with innovative ideas. Gamification is also a favoured training method since it increases the innovation, fun, productivity and ability to retain knowledge. In addition, gamification centres on the present. It can thus be used real-time to track employee performance.

Instant feedback can be given based on objectives, individualized benchmarks and Key performance indicators. This enables employees to rectify performance and behaviour-related issues instantaneously, instead of having to wait for months to obtain feedback through the traditional performance management systems. Gamification can act as an intrinsic motivation to enable employees to monitor and enhance their performance and behaviour and thus assist in increasing employee engagement. Gamification can also be used to augment an employee's job performance. In addition, game-based learning has been proven to boost employee performance.

The game-like mechanics involved in gamification act as the main motivation factors and encouragement to exhibit defined behaviours, mostly in exchange for rewards. Gamification motivates gamers to perform certain steps and engage in rewarding and desirable behaviours. The otherwise monotonous behaviours can also be made enjoyable and pleasing. Contextual Rewards in gamification range from fixed action rewards, random rewards, sudden rewards, rolling rewards, social treasure to prize pacing.

Furthermore, gamification can also be used to raise awareness about COVID-19, even as the pandemic paralysed all walks of life and work. Mobile applications like the AarogyaSetu App, developed by the Government of India, that provides services of syndrome mapping, contact tracing and self-assessment, COVID updates, etc. can be modified to involve games that depict the importance of washing hands and maintaining social distancing. The gamer can be awarded with badges, points and certificates during the course of the game, if he/she successfully completes the levels of the game. In addition, a leader-board can be maintained to track progress. The application can partner with pharmacies in India to be able to provide the user with a wide range of recommended supplements to increase immunity during these times as health has taken a forefront. In addition, partnering with cab aggregators can also be a viable option. With every badge earned and with every level cleared, the gamer can be rewarded with coupons or vouchers that could be redeemed at hospitals and pharmacies. Discounts on cab rides for the convenience of the public can also be an added feature that the application can include. The app can also look at encouraging users to share information about various aspects of the pandemic and their experiences to increase user engagement.

Literature Review

During the 21st century, there evolved a collaboration of concepts between leveraging the digital platforms and games, for the purpose of motivation and engagement. Organisations had been using competitions in the workplace, to engage their employees in activities that aren't voluntarily accomplished. This conceptualisation emerged as gamification in the later stage (Paharia, 2013). Currently, gamification is defined as "the use of game design elements in non-game contexts." (Deterding et al., 2011). Here, the mention of "game design elements" and "non-game contexts" together is still debatable, as there are no set of defined elements for a game design. Further, the relationship between game mechanics and experiences is also unhinged (Werbach, 2014). This ambiguity can be resolved by defining gamification as a process, as there are no limits on defining the game elements

artificially. The works of Deterding et al. (2011) focused majorly on the game design elements including game mechanics and game dynamics. The game mechanics facilitates user interactions like challenges and levels in a game play. The game dynamics represents the impact the mechanics has on the individual participants. Through optimised placement of both the game elements, a compulsive interaction can be created.

Gamification includes a defined set of activities to resolve the bottlenecks in a process, through the application of game elements (Kim et al., 2017). The types of games include serious games, simulation games, alternate reality games and war games. It is used as a tool to enhance the services offered through gaming experiences. The game elements offered for enhancement and engagement includes challenges, leader boards, points, performance graphs, meaningful stories and badges. These elements act as a factor in delivering the desired behavioural change among the participants. In order to comprehend the motivational power of the game elements, we need to thoroughly analyse the six perspectives that are inherent in the concept of gamification: the cognitive perspective, the trait perspective, the perspective of interest, the behaviourist learning perspective, the perspective of self-determination, and the perspective of emotion (Astleitner, 2000).

Among the different perspectives, the Self-Determination Theory talks about a person's intrinsic motivation that induces innate psychological need to be engaged in an activity that enables them to further grow in the field. This theory can be correlated with "Epic Meaning" of Octalysis framework, which describes a person's ability to be engaged in a task, as they believe they play a part of a goal that is greater than themselves. This contributes to a person's ability to selectively prioritise the tasks and attain a sense of accomplishment in the due course. To be engaged in a process, gamification should involve an array of psychological and innate needs including the sense of autonomy, competence and social relatedness (Zain et al., 2020). Thus, the engagement of a person can be induced by motivating them through stimulating these needs.

Anchoring effect is a concept applied in gamification that enables the players to be engaged throughout the play as it creates an illusion of possibility and curiosity. Game design elements have three functionalities of achievements as attributed by a participant – Social-based, challenge-based and immersion-based achievement (Koivisto & Hamari, 2019). The social-based achievement is intrinsically motivated through leader boards where participants can either compete against each other or collaborate with each other. The challenge-based achievement is to activate the competent nature of the participant, where they overcome numerous hurdles to achieve the set goal and earn rewards accordingly. The immersion-based achievement engages them in an immersive role-play or story line. These are the immediate performance indicators that are directly linked with intrinsic motivation in gamification. This can be applied in creating awareness through education that is devoid of the paranoia that learners have regarding the difficulty of a task. The long-term difficult end point that is traditionally given as the ultimate goal for a course, can be replaced by anchored learning tasks intermittently (Kim et al., 2017), to facilitate an evident behavioural change.

Behaviour is defined as the pattern of activities, habits, traits and characteristics that are attributes to a person. Disrupting this behaviour is a challenging concept that is hard to predict. There are numerous factors that contribute to behaviour and its changes including expression of a strong emotion or a social stimulus (Michie et al., 2015). According to transtheoretical model, there are 4 values that drives the behavioural change including informative, economic, persuasive and empathetic values. These values create a sense of ownership among the participants, which motivates them to create value in the existing platform.

Su and Cheng (2015) have proved that the engagement and motivation of the learners is induced by gamified awareness. Sitzmann (2011) brought out the aspect of gamification that proved a better retention power and self-efficacy among the learners, apart from other elements. To bring about a change in the current situation by creating awareness through gamification requires complex interventions that involves the context intervention and its interacting components. The implementation of gamification in the health care sector is to strategically bring about awareness, and to enable behavioural changes to fight the COVID pandemic. Gamification elements in combination with the awareness campaigns acts as an enabler that leads to a positive behavioural change (Zain et al., 2020). This behavioural change can instigate a stimulus that improves participation, performance or interest, as a result of intrinsic motivation and values.

According to a previous study, the motivational factors have a different effect on different individuals, even if the gamification element is the same. This brings into picture the balance between intrinsic and extrinsic motivational factors, to facilitate behavioural change. A study suggested that gamification should be curated in such a way that it should cater to the needs and preferences of individuals through customisation. In simple terms, one size does not fit all (Faiella et al., 2015). Apart from the effect, another pressing interest is the impact of the game design. This is attributed to the difference in physical and non-physical activities, as the former can be measured easily and the task cannot be dodged, whereas the latter can be manipulated to replicate a positive behavioural change. There are various nuances that should be taken into consideration to make a positive impact on the behavioural change.

Gamification is thus attributed towards improving the communication and bilateral encouragement among the participants through social values and participative nature. The dual process theory assumes that the processing of information mentally, is wired based on parallelism with two concepts – reasoning and heuristics. The concepts, system 1 and system 2 have different technicalities. The system 1 is conscious, analytical, rule-based and reflective, whereas the system 2 is unconscious, automatic and intuitive. The process of decision making in system 1 requires working memory, whereas system 2 does not require it. A novice person uses system 1 to calculate the results from existing information in gamification. An experienced person uses system 2 to solve problems intuitively. These mechanisms will give an insight on the practical application of gamification. It can be leveraged by effectively utilising the game elements to form a pattern and thereby, solve the pattern through decoding the Octalysis framework. There is a vast field of gamification

that still remains unexplored, which can cater to creating a wide-spread awareness for the pandemic currently, and for any unforeseen circumstances that might disrupt our normal functioning.

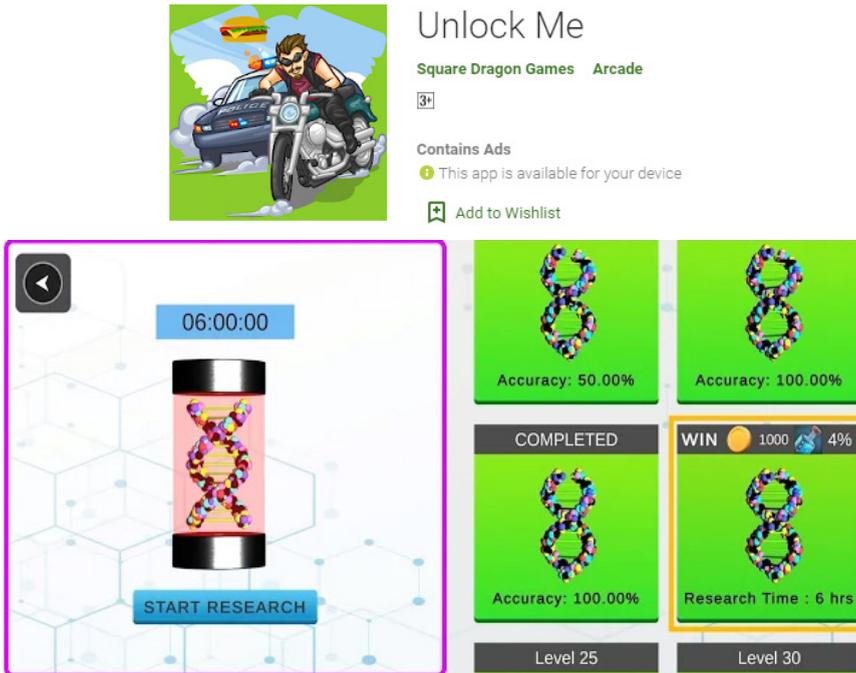
Research Method

Review of the features of gamified applications during the time of Covid formed the crux of the data analysis. Features of the behaviour design of these applications and their accompanying outcomes are reviewed with reference to the Octalysis framework for successful gamification.

Analysis & Discussion: Covid-19 Apps and Games

Figure 1

Unlock Me



Source. Anchlia (2021)

A B. Tech student developed a game called *Unlock Me* that was intended to alert people on the outbreak. This game simulates actual COVID- 19 threats such as infected players that come near infected sites and coronavirus people. As the game progresses, players must make the right decisions and be attentive to the dangerous behaviours that reduce their wellbeing. The game serves both a function of education and fun. In a series of events the player receives sanitisers that act like powerups. After intensive practice, a

question is asked to determine the player's current awareness of the scenario. There are responses in another field of the game that analyses virus samples.

The player learns about health advertisements during the game and how the game is played. Upon the completion of a certain number of levels and correct answers, the player can unlock the virus's healing and unlock the new mode.

Can you save the world?

Figure 2

Can You Save the World?



Source. NDTV/World/Reuters (2020)

“Can You Save the World?” is a game to aid kids comprehend how community isolation can save you. The psychologist at Hertfordshire University said study shows that games that inspire virtuous social behaviour can impact people's behaviour, in real life.

The idea is to save as many lives as probable. As the game progresses, the score starts to pick up to prove you and several more defend yourself. The player can also buy grocery, including toilet bins, which were not available as shoppers eliminated supermarket shelves, at the start of the lock-out. The game has a touch of humour too.

Let's Play to Learn

Figure 3

Let's Play to Learn



Source. Lets Play To Learn (2020)

A digital game for awareness of the importance of governmental precautions to protect themselves against COVID-19 was created by the students of the Indian Institute of Technology (IIT) Madras, especially among children. Inspiration was provided by the famous Super Mario game. Students must do the right thing for full points in a one-minute COVID-19 game.

Figure 4

Corona Striker



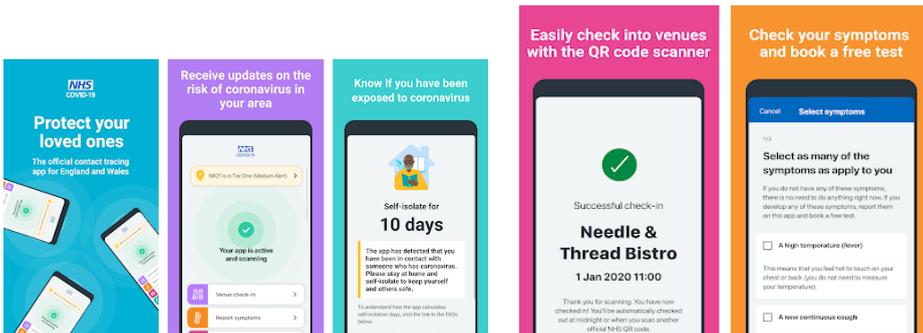
Source. Sheth (2020)

The game included social alertness during the pandemic. Corona Striker is part of its social campaign to raise awareness about the pandemic of COVID-19 in the context of its upcoming hyper-casual e-commerce website. It is a unrestricted casual game for all and completely free of advertising. The game is aimed at engaging people and communicating security measures in order to avoid COVID-19. The game is designed to prevent an infection from spreading across the globe by battling a “beast” like a corona virus. It contains information related to social knowledge in the game related to COVID-19.

NHS COVID-19

Figure 5

NHS Covid-19



Source. NHS (2021)

The NHS COVID-19 app is England and Wales’ official touch monitoring app, the best way to learn when you are exposed to coronavirus. *The faster you know, the faster*

you and your group can warn. The further people use it, they could monitor coronavirus better with time. The app is run by proven Apple and Google apps designed to let people know who or where you are. And you can always uninstall your details or the program.

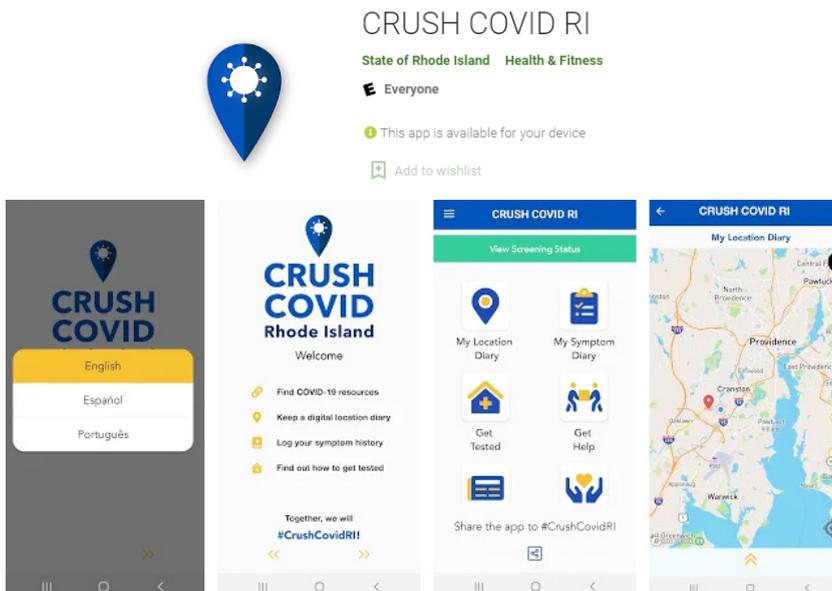
It has several features:

- Alert: Lets you recognize the level of coronavirus danger in your district.
- Check-in: You will get alerted if you have visited a venue where you may have meet coronavirus.
- Signs: If you have symptoms and understand if you need a test.
- Test: Aids you to order a test.
- Detach: Track your self-isolation countdown and access applicable advice.

CRUSH COVID RI

Figure 6

Crush Covid RI



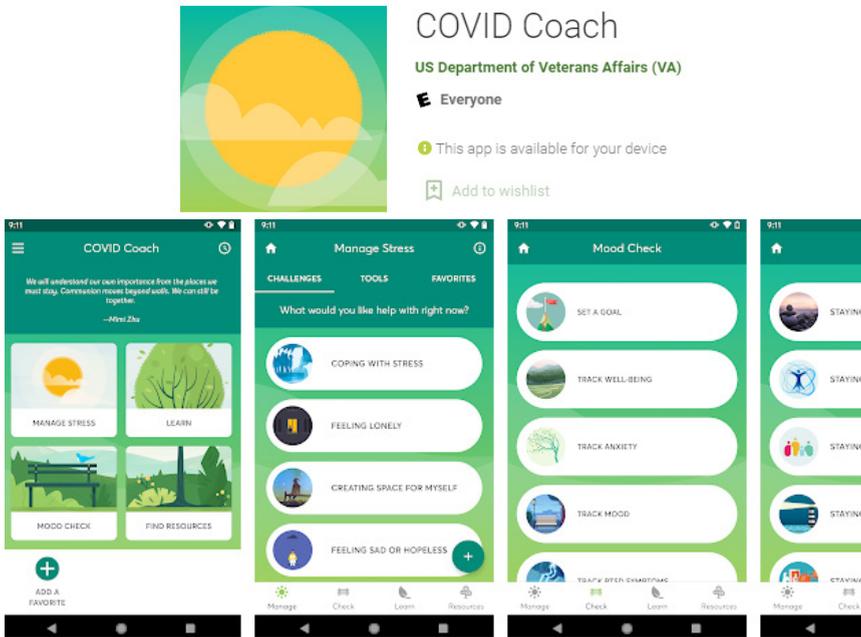
Source. State of Rhode Island (2020)

CRUSH Covid RI offers Rhode Islanders an ease of access to all services needed for the crisis of public health, including features such as the position diary and symptoms diary, and COVID-19 pandemic response app. The application is fortified to take a dynamic role in slowing the spread. By helping people monitor the virus in their state, they could make a difference in the health of the community.

In Rhode Island, CRUSH COVID RI is a one-stop shop for all the COVID-19 details any individual needs. The My Location Diary uses GPS location details that are already on the phone to assist individuals in monitoring their positions in the previous 20 days. Two features supporting everyone in the community can also be found. Data can be stored locally on a personal computer. It is only shared when it is publicly shared. Testing the beneficial benefit of COVID-19 and deciding to share it with health department, Rhode Island, made places and contacts easier to identify and minimize the spread of COVID- 19.

Figure 7

COVID Coach



Source. US Department of Veterans Affairs (2020)

Analysis using the Octalysis Framework

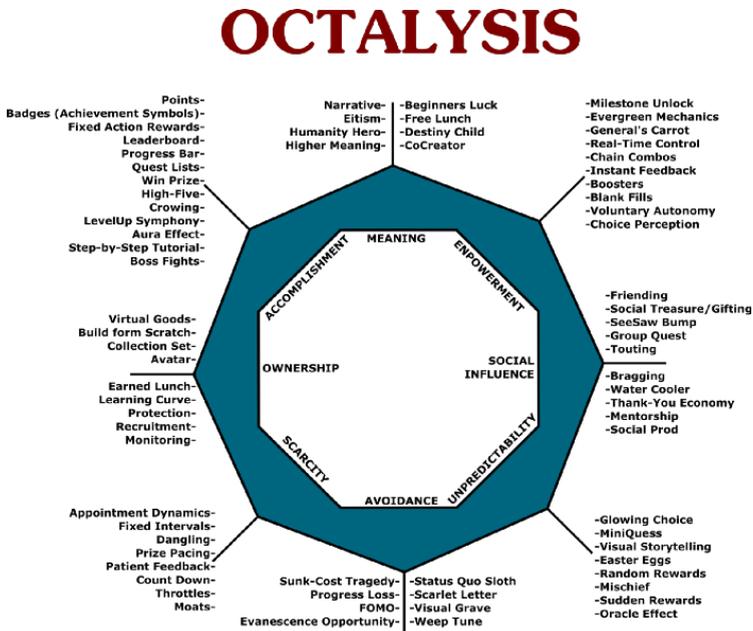
Gamification is the art to extract and apply all the fun and attractive elements that are present in games to real or productive tasks. Every single game is a fun one, as certain core pilots in us call on us to engage in such games. The goal is nothing more than to please the person playing them. The authors found some sorts of game technologies: some in a disappointing and obsessive way, some in an exciting and inspiring fashion.

Some drives often encourage you to engage in a game or other playful activity. The final outcome is the Octalysis Gamification Structure designed as an octagonal form with 8 central drives on each side. Such 8 drives can be described using the octalysis system.

1. **Epic Meaning:** The entire program gives a sense of social awareness and elitism for the volunteers
2. **Accomplishment:** This act in return provides the volunteers with a feeling of accomplishment through the certificates of NICER
3. **Empowerment:** This drive gives the common man the motivation and leads to the point where they understand the power of taking initiative.
4. **Ownership:** The sense of owning up to the task of betterment of society and beloved and visited place.
5. **Social Influence:** Acceptance, social responses, companionship, as well as competition gives the necessary feeling of taking care of own place
6. **Scarcity:** The fact that people can't get something right now motivates them to think about it all day long
7. **Unpredictability:** This core drive is utilized whenever a volunteer becomes a game, and this engages the users.
8. **Avoidance:** Opportunities that are fading away have a strong utilization of this Core Drive, because people feel like if they didn't act immediately, they would lose the opportunity to act forever for their environment.

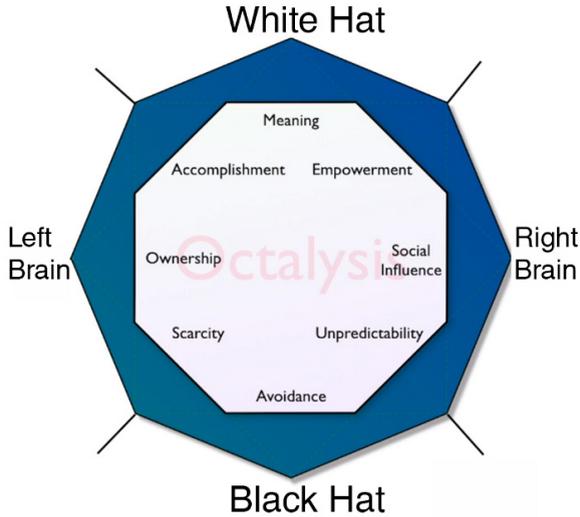
Figure 8

Octalysis



Source: Gagan (2020)

Figure 9

Left Brain vs Right Brain Core Drives

Source. Gagan (2020)

In octalysis, the main drives to the right are right brain drives that are associated more with creativity, expressive self and social aspects. The key drives of the left brain are more concerned with thought, calculation, and owning. It's interesting to note that Left Brain Core drives are foreign motivators, so you're going to have something, whether you're targeting, succeeding or not. On the other hand, Right Brain Core Drives are innate drivers: you do not need to use your imagination, go along with friends, or feel an unpredictable spirit.

This is important because many businesses tend to encourage people based on external motivators, for example, to reward their users at the end. However, several studies have shown that the motivation of the consumer will always fall to far below that of the extrinsic motivator once you avoid providing the motivator. It is best for businesses to build interactions that inspire Right Brain Core Drives, make them interesting and enjoyable, so that users want to participate.

The games like "Unlock Me" and "Can you save the world" involves the core driver of Development and Accomplishment since the players earn sanitisers as powerups. The game also unlocks a new mode with successful completion of a certain number of levels. New levels are also added to the game. The Ownership and Possession driver also is seen in the game with users being motivated with the various game mechanics involving game levels, 'rewards' at stages, informatorily announcements, etc. The driver of loss and avoidance is also prevalent in the game, with this core drive being based upon the avoidance of something negative happening. This game focuses on making the gamers aware of covid-19 through simulation of real-life related tasks.

Again, As the game progresses (Can you save the world), the score starts accelerating to demonstrate that by protecting yourself you are protecting many others. This touches the “Epic calling” element of games. As it makes one feel that they are part of something bigger than just a game.

Here we see that most of the games target the left brain of the players since it is associated with rewards and makes one keep playing in need of more.

Apart from the top 4 apps, all the other covid apps such as Crush covid RI, Covid coach and NHS covid-19 are nothing but apps for spreading awareness and distributing awareness. These apps couldn't catch the attention of the users because almost all the above explained eight drivers are missing from them. Apps like Arogya Setu from India gained a lot of traffic initially when it came out, as COVID was new and people needed basic information. But within a month or two the no of downloads fell miserably as drivers to retain attention were visible absent in the game design.

Apps like Arogya setu should thoroughly work on all the 8 drivers that attracts people towards it. For example: There should be some reward mechanism for COVID survivors or those who were responsible enough to get themselves booked and checked. This reward mechanism and sense of accomplishment can be one of the biggest drivers for games and apps like Arogya setu and Covid coach.

One should be aware that a successful game does not need to have all the core drives, but it must do well for those that it uses. Some very popular apps have social influences very well, while others use Scarcity.

Conclusion

The games are great to draw different groups' interest and can have a lasting effect. We exchange socially meaningful knowledge in an enticing atmosphere with games like Corona Striker, Unlock Me and others to inspire more people to practice social distancing and remain safe and well-healthy. For businesses who just want to make sure they are on the right track and that they boost the durability of a split device, there are higher levels of occurrence. Many games only last 3 to 8 months, but those with a good final design could last for decades, or even hundreds.

As you can see, it is far more than just throwing different game mechanics in existing goods to create a rich gaming experience. It is an art that needs to be analysed, thought, checked and adapted a lot.

If the world adopts good gaming values and focuses on what really motivates fun, you can see a day where things people must do and the things they want to do are no longer separated. Everyone must play all day. This would greatly increase the quality of life for all, boost business efficiency, as people want the job to be done, and make society more prosperous.

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COVID-19, World of Work and Personal Lives - An Impact Analysis

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Abstract

The COVID-19 pandemic almost all over the world on lockdown, since there was no medicine and a remedy found out so far, it is recommended to stay safe at home, self-quarantined and it is the only practicable solution given by the World Health Organization (Dubey & Tripathi, 2020). On the ground of this, the businesses from all over the world had come to a yelling termination and most of the employees are advised to work from home and hence this made the drastic changes in living conditions of personal life such as physical and mental health issues. This study focuses generally on the various changes of the lifestyle of common people due to the concept of Work-from-Home and helps to learn and understand how this COVID 19 pandemic changed the world's working style and how it affects the behavior of people in day to day working style physically and mentally towards work from home concepts.

Keywords

Work from home (WFH), COVID-19 pandemic, physical issues, mental issues

INTRODUCTION

The virus which is discovered in Wuhan, China gave a syndrome of severe acute respiratory on 31 December 2019, since then the death cases had been rapidly increased because of this virus globally and because of this the working style had been changed globally in which most of the organization had to shut their doors in order to avoid people getting infected by spreading the virus and unnecessarily being quarantined. Almost all over the world including the Indian government had announced that people are not allowed to go out anywhere even if they go out for works, they had more restrictions in having close

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contact with other people and should maintain social distancing (Gettleman & Schultz, 2020). All these rules made every organization prefer to have a choice of working from home. Many studies had been conducted in different countries especially from the place which had started arisen related to the life style behavior during COVID-19 lockdown; most of the studies are related to diet issues, physical activity, stress, depression, and anxiety and found out various results by using different assessment tools by different authors (Shevlin et al., 2020). The authors have used different multidimensional scales such as Short Multidimensional Inventory Lifestyle Evaluation (SMILE-C), *Self-rated health scale (SRH)* Patient Health Questionnaire-2 (PHQ-2) Generalized Anxiety Disorder- 7 (GAD-7) to measure all these behaviors such as physical activity, social support, stress management, depression and anxiety and so on. Hence this study focuses on how the changes in working life style and behavior affect the people's health both physically and mentally. The COVID-19 emphasized more and it was noticeable almost among all the individuals even the kid is familiar with this term and it accentuated the growth slowdown and it impacted on inflation is ambiguous and even in second round it would give more effects and operate through a severe slowdown in global trade and growth of the global economy and trade as well. (RBI Report).

Physical Issues

The novel Corona virus disease (COVID-19) almost affected all the factors which includes economy, production, labor, health, and obviously the lifestyle behavior of the people also became totally indifferent, even for the children there is no outdoor playing instead addicted to the video game during the lockdown (Marker et al., 2019). It affects especially their physical activities, and many people had changed their eating habits and diet patterns during the curfew (Reyes-Olavarria et al., 2020). These WFH concepts reduced the level of physical movement of the population (Chen et al., 2020) and also the routine life pattern of dietary habits also had changed and it affected the total people vulnerably (Bermudez et al., 2020). Throughout the day people started to have more junk foods and had unhealthy eating habits and that was the major factor for obesity (Bhutani et al., 2020).

Eating and Food Habits

Food and eating habits can be protective factors for a healthy body (Butler, 2020). Food routines and lifestyle policy modification may damage our health (Di Renzo et al., 2020). Rebuilding the right nutrition is crucial, especially when the immune system is needed deliberately to rejuvenate. An unhealthy style of taking foods during COVID-19 confinement causes more physical issues such as increase in bad cholesterol, diabetes of type 2, sleeping disorders and heart related issues (Deschasaux, 2020). Food should not be compromised at any cost especially when it comes in keeping up a healthy and assorted diet in case if some people restrict themselves in shopping eatable items may lead to decrease the consumption of firm foods, fresh vegetables and fish, in favor of highly processed ones (Bauer et al., 2016). Furthermore, the COVID-19 outbreak may extend the responses of psychological and emotional risk of developing disrupted eating behaviors (Wang et al.,

2020). People who have negative emotions will spread their negativity among themselves subconsciously and have the habit of overeating and hence it is called “emotional eating” (Van Strien, 2018). So to hit back to the opposing experience of emotional self-isolation during curfew people subconsciously connected with food consumption physiologically without knowing the alarm signal of surfeit during their hunger (Singh, 2014). Staying at home gives boredom feelings and to escape from the monotony people tend to eat a surplus of their favorite foods it can also be called overeating (Havermans et al., 2015).

People’s behavior in eating habits had become contrasting which gives opposite reaction of eating which may lead them to overeat or eat less. Finally, the lifestyle had been changed on the whole due to the eating habits, with the ensuing risk of eating behaviors such as eating more and eating less which causes changes in body weight (Muscogiuri et al., 2020a). Most of the adults were addicted using smart phones for browsing and watching movies during the late night and they sleep very late and woke up very late in the morning and they most probably skip the breakfast or else have the food in the mid odd time and it shows unhealthy eating habits (Moynihan et al., 2015) which reflects the total cycle of the body function which increases the health issues physically. Eating and food habits modify the life style drastically during the curfew in COVID-19 pandemic and may threaten our health. Rodriguez-Martin and Meule (2015) the eating style or behavior of having the nutritious food and eating at the right time builds strong immunity power in the body and keeps us healthier to lead a pleasant life especially in such pandemic periods (Yilmaz & Gokmen, 2020).

Physical Activity

Physical activity gives some movements to the body, muscles, bone (Firth et al., 2019). It uses the energy and so it reduces more number of non-communicable diseases (NCDs) such as high blood pressure, heart diseases, type 2 diabetes, brain stroke and all other various diseases (Caspersen et al., 1985) and thus physical activity and exercises are very much important for human being to keep body and mind strong, it also improves the physical strength and increases the body flexibility and fitness and that leads a healthy long life (Yokoya et al., 2007). Due to this COVID-19 pandemic everyone had to stay back at home as per government instruction from WHO (World Health Organisation). Many people started sitting at home simply more than the usual time and it was very hard for the people who go out and do regular walking, jogging, and all sort of exercises normally (Ridgers et al., 2012). The shrink muscle mass and stretched mass adipose changes the body composition and reflects more depressive symptoms and falls off well-being in general among others (Goethals et al., 2020). So far, most of the study shows most of the people including kids and adults not involved in physical activity during the lockdown period.

Walker (2020) news report indicates that eighty-five percentages of the people who participated in the survey responded that they did not engage in any kind of hard or tough exercise at all not even went out for a walk. Low and Balaraman (2017) in one of their study conducted in Malaysia among the older adults using the tool Rapid Assessment of

Physical Activity (RAPA), Fall Risk Assessment Tool (FRAT) along with the Abbreviated Mental Test Score (AMTS) found out that due to the lack of physical activities most of the adults were falling under sick. At least taking a short break from sitting is more than enough and doing a simple physical movement like stretching the hands and legs or walking a short distance will help to improve the muscles and blood circulation of the body (Stamatakis et al., 2020).

Obesity

Abelson and Kennedy (2004) - In connection with the physical activity which is related to sedentary behavior and habits of overeating and restrictions of eating results in obesity (Evers et al., 2018). Severe obesity is one of the higher risks for health complications (Wurtman & Wurtman, 1995). Obesity is an extension of the adipose tissue, which produces cytokines and contributes to a proinflammatory environment (Hauner 2005). Obesity affects pulmonary function (Dietz & Burgoa, 2020). There is a link between the food quality and people who have negative thoughts of food habits because people who are overweight with less nutrition due to excess consumption of westernization diet (WD) such as refined wheat flours, consuming more saturated fats, low levels of fiber, low level of unsaturated oils, less green vegetables and these are the main reasons for the poor immune system (Muscogiuri et al., 2020b).

This study would give recommendations and indications that one should have a balanced, safe, and varied diet by avoiding junk foods and adding healthy foods like fresh green vegetables and legumes in day-to-day routine life to avoid obesity as well as to keep chronic diseases under control to strengthen and boosts the immune system (McCrary et al., 2010).

Mental Issues

The COVID-19 pandemic had created an enormous change in the minds and created a very big upset to the contemplation of the people (Torales et al., 2020). Due to the change in working life style and additional precautions to safeguard the health of self as well as the family members by wearing masks always when going out and be very conscious in touching the mouth, nose and eyes with hands moreover washing the hands with soap and sanitizing for plenty times with water per day, and again washing hands immediately after arriving home, keeping the room clean and window ventilated makes everyone to be tired and restless (Onnela & Rauch 2016). On the other hand, quarantine had also given a spot where people are sitting in the same place for a long time and stimulates desk-bound behaviors, such as displaying to screens by playing video games, working from home using laptops, tablets, smart phones and avoiding going out for walking, jogging, and exercises that caused a depletion in energy expenditure physically and that leads to mental block (Berry et al., 2019). Few people had lost their jobs during the COVID-19 pandemic and those people were not even able to overcome all the household expenses and it had grown up to a big problem even for surviving in day-to-day life and it causes psychological problem (Cowling et al., 2010). It impacts the mental pressure (Cousijn

et al., 2010) and suffering which is related to fear of contagion and generalized anxiety, depression and stress (Chong et al., 2004). Let us discuss the mental sufferings in detail.

Depression

People need to take healthy foods to fight against the deadly coronavirus but the price of all vegetables and all other items had been increased due to the worst economy and all the problems get into the mind and cause depression (Hyland et al., 2020). Depression as the name implies it presses the mind and body and gives a feeling of sadness which leads to emotional pressure (Kroenke & Spitzer, 2002). The depressed mind can also be called as mood disorder and it swings and inhibit according to the changes of person's level of feelings such as anger, loss of money or any asset or loved ones and sadness due to the heavy loss in everyday routine activities (Manea & Gilbody, 2012). Hence this results in some chronic health conditions for some people and also it affects their daily work and lowers concentration in their productivity.

In life, ups and downs are quite normal to everyone if the person is feeling very upset, hopeless and down all the time then the individual is dealing with depression. We can also find out the depression by various symptoms connected to their mood, such as anger, antagonistic, irritability, worried, boredom; emotional well-being, such as feeling idle, sorrowful, hopeless behavior, such as loss of interest, no longer finding pleasure in favorite activities, feeling tired easily, smoking excessively, involving in high-risk activities; cognitive abilities, such as inability to concentrate, difficulty in finishing tasks, delayed responses during conversations; sleep patterns, such as insomnia, restless sleep, excessive sleepiness or not sleeping throughout the night; physical well-being, such as fatigue, pains, headache, digestive problems (Timothy & Legg, 2020).

When the level of Depression is going beyond to a certain extend it is been considered a serious condition and if the person wants to overcome this worst condition then definitely it is cured only with the help of proper treatment. Shevlin et al. (2020) in his study found out the level of depressive order among the population has a moderate level of sensitivity and specificity and also found out the various significant association among the men and women state of depression by using the scale Patient Health Questionnaire-9 (PHQ-9); it is developed by Drs. Robert L. Spitzer, Janet B.W. Williams, Kurt Kroenke and colleagues and it has been refined from the Primary Care Evaluation of Mental Disorders (PRIME-MD) with an educational grant from Pfizer Inc.

Anxiety

Spitzer et al. (2006) generally anxiety in the sense feeling of worrying, being little nervous, unpleasant, having unnecessary fear in the mind and so on which is connected to depression. But an expert says that during this lockdown period COVID-19 pandemic became the major reason to trigger anxiousness among the people. McManus et al. (2014) also mentioned that the COVID-19 pandemic pursue to rage across the world and it has caused a tumbling effect on employment, salaries, livelihoods, trade and as an outcome

of it there was a rise in stress and anxiety among people. People who are aware of this anxiety disorder will try to overcome this by taking precaution steps by doing yoga, exercises, meditation, walking and jogging, etc., but the pandemic had stopped all these measures by the rule of curfew 93percentage of the improved mental health services again resulted in relapsed reported cases.

During this COVID-19 pandemic most of them would have lost jobs, income, loved ones and not able to go out and see them physically even when they are no more in this world due to the lock down and it would have given them a lot of pain emotionally and that again results in anxiety as well Pre-existing of health condition- of self as well as someone else or close, positive result of COVID-19 to self as well as someone close as a result they will be quarantined and thus loneliness arises during that period. Matsuishi et al. (2009) in his research found out people had felt more anxious and exhausted during pandemic. Shevlin et al. (2020) By using the Generalized Anxiety Disorder Scale-7 (GAD-7) in his research which is a self-rated scale developed by Spitzer and colleagues (2006) found out that people have a higher level of anxiety and it is significant that the GAD-7 is being increasingly used in anxiety disorders research (Dear et al., 2011).

Stress

Cannon (1932) coined the term Stress from the concept “fight or flight” to trace out the animal reaction to the threat. This reaction was later identified as the first stage of a general adaptation syndrome (GAS) put forwarded by Hans Selye to be a universal stress response among vertebrates and other organisms. Hans Selye is also known as the “father of stress”. Selye (1976) defines stress as the “perception of threat, with resulting anxiety discomfort, emotional tension, and difficulty in adjustment.” Fink (2017) – in his book mentioned the USA study which had found out that fifty percent of the individuals are impacted due to stress and also from the research between 1983 and 2009 among the demographic groups of USAs he had found out that the stress levels have been increased by ten to thirty percent. Cohen et al., (1988) validated The Perceived Stress Scale (PSS) and it is the most widely used psychological instrument for measuring the perception of stress. It measures the person’s degree of life in an unpredictable, uncontrollable, stressful situation.

The Research Gap

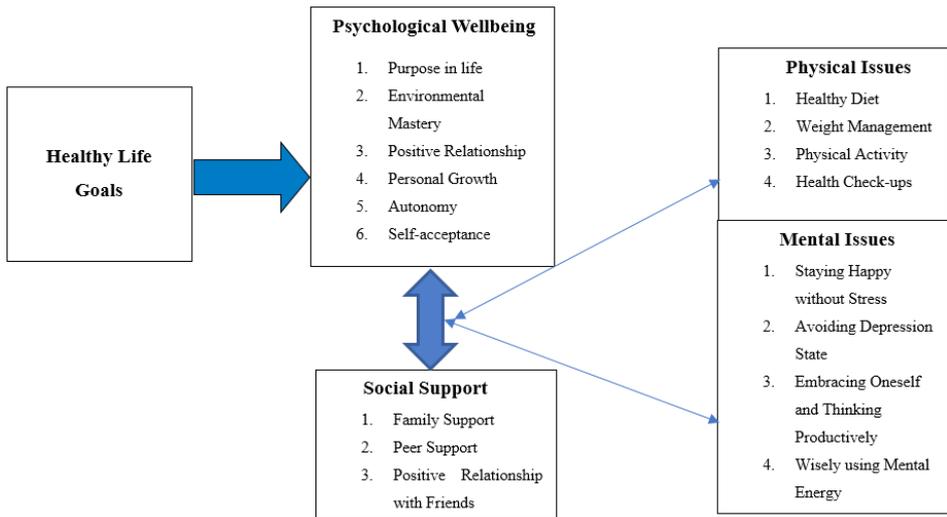
The study of various empirical researches during COVID-19 had traced out various factors which affect the people’s physical and mental issues and found out the general results of the level of consequences. Particularly there is no study in determining how these physical issues and mental issues affect various groups of demographic factors across different countries and how they get strong physical and psychosocial support to understand the reform needed to have a healthy long life.

The Future Research

Further research can also find out the path which influences the healthy lifestyle both physically and mentally with the mediating effect of factors such as physiological and psychological social support. The study can also explore which factors such as physical or mental issues should be given more importance and in which strong social support is needed to reform the healthcare provider to achieve the goal of a healthy life. Thus, the research needs strong support from various policymakers to learn and understand the impact of physical as well mental health on the general population with the mediating effect of psychological wellbeing of ethical considerations especially during “curfew”. The framework model for the study can be:

Figure 1

Influencing Factors to Attain Healthy Life Goals



Source. The authors

Conclusion

Therefore, the present study determined the factors which affect the lifestyle behavior both physically and mentally such as food and eating habits and mental issues such as depression, anxiety, and stress caused by imprisonment during the curfew and to study its connection with some modification in body and mind. The eating patterns and style of different activity during the COVID-19 pandemic is essential to protect the active body cells, decrease the systematic inflammation, and beat up the nutritional behaviors to avoid physical issues and following regular yoga's, exercises, walking, jogging and being calm and relaxed one can prevent mental disorders and live a healthy flourishing life.

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Research Note

Impact of Covid -19: A Study of Selected Sectors

S.V. Ramana Rao¹

Abstract

Corona Virus has disrupted economies around the world made economic activity stand still and/or slow down for a considerable period of time. World economic activity was hit badly irrespective of its size, nature and geographic boundaries. It has taken a toll on human being with the loss of life and dented many economies severely. The new learnings to everyone are physical distancing, limited mobility and isolation (case based). These led to decrease in workforces in all organizations resulted in reduction in economic activity. All countries have grappled with Covid 19 and are experiencing a deep recession as per the Trade and Development Report 2020 by U.N. Conference on Trade and Development (PTI). Many trends are emerging and reshaping to combat the pandemic. For instance, Indian IT industry embraced with complete virtualization similarly other industries are too except manufacturing. This research paper takes cues from current business trends to draw out impact scenarios and concludes on the manner in which they can be temporarily dealt with. The tome of the paper is in the context of uncertainty. Survival mantra in the new normal is the ability of business houses to adopt to new normal and unlearn according to changing business dynamics. For instance, brick and mortar stores are temporarily shut yet jumped onto delivery services, food business houses shifted to takeaways, amazon planning to hire huge number of employees to take care of warehouse and delivery operations, educational institutions learning method moved to remote learning system and entertainment industry largely relied on online mode. Businesses which are agile and resilient can survive in this kind of an extra ordinary situation(s).

Keywords

Disruptive, covid 19, pandemic, business dynamics, remote learning

INTRODUCTION

COVID -19 has jeopardized world economies and created uncertainty. It has shaken the economic foundations of the world. Covid -19 affected economic activity across the

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globe in an unparalleled way. Economies slowed down as there were restrictions to travel including local movement, fear of health and many industries experienced slowdown. All categories of industries were affected but the degree varied. For instance, essential commodities were less impacted than the discretionary goods. The twenty one days lockdown India imposed to contain virus spread severely impacted supply side of the economy (Mohanty, 2020). Mr. Pronab Sen, eminent economist said that “the lockdown affected at least 55% of the economy around Rs 2 lakhs crores”. One has to note that the industries may face challenges “now”, “next” and “beyond”. The lockdown suddenly witnessed many industries come to a grinding halt. Added to this the cycle continued and industries experienced shortage of material(s), labor during to restricted mobility and movement of resources which resulted into no supplies or limited supplies of products including essential commodities. India had to face and neutralize two major challenges. One is saving human lives from corona virus including the stop, spreading it and saving economy from uncertainty created due to lockdown is the second challenge. As per IMF estimations per capita income growth was negative. In the first quarter of April-June 2020, world economies slowed down especially Indian GDP (Gross Domestic Product) recorded at 23.9%. It was named as the “Historic technical recession” by Reserve Bank of India (Mukhopadhyay, 2021). To revive the economic situation countries announced economic packages. As per the UN report, corona pandemic impact was estimated to be \$348 million and India was placed 15 among top affected economies (ETMarkets.com, 2020).

Table 1

The Now, Next and Beyond Phases of the Crisis

Now (From March 2020 to till the lockdown relaxations)	Spread of virus Government imposed restrictions including lock down
Immediate Response	Industries responding the changing situations Government and Public collectively put efforts to control spread of virus.
Next (Reboot and React)	Industries start functioning but vary by category. Companies are overcoming the pandemic challenges
Beyond	Industries adopting new normal strategies
New Normal	Economies are on recovery path.

Source. Mishra & Balsara (2020)

The corona virus pandemic situation can be classifying as Now Phase, Next Phase and Beyond Phase. During the Now Phase companies faced challenges due to lockdown except essential services rest all were shut. Challenge to the government was stop spread of virus by adopting including strategies and protecting economic situation from slow down. Next phase is where relaxing the restrictions and allowing the economic activities

in phased manner. Companies designed course of action(s) to streamline their operations. What next is the most challenging situation (Beyond Phase) where corporates look for opportunities to bring back operations in new normal situation.

Resilience and Business Agility

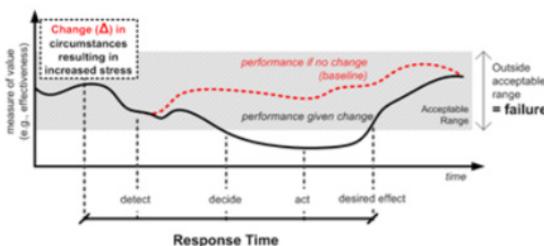
Resilience in the context of business systems is the manner in which they bounce back to above normal levels of efficiency and productivity. Contrasted with resistance which is the ability to bear the brunt of a blow and continue with the deformation. Organizations began to embed preparedness in every stage of the adaptive cycle to confront continuity and possible future threat. Key nodes and links in the chain of manufacturing or service delivery were broken during the pandemic. Organizations have capitalized on the property of transitivity, moving fast through systems put *a priori* in place in the previous phase which pushes the organizations towards an adaptive cycle. Key preparedness features included (Fath et al., 2015):

1. Self-organization: The ability of the system to reorganize and restructure social networks to grow from within.
2. Access to emergency resources: Human economic and social capital
3. Memory: Remembering both past crisis experiences and past successes
4. Networked within with alternate modes of executing processes

Many countries couldn't deal with the pandemic effectively due to the lack of access to right data. Antiquated data systems, not integrated and comprehensive delayed treatment and clarity to the patients. Not much was invested in the national public health systems all around the world (Kramer, 2020).

Figure 1

Anatomy of a Response Time



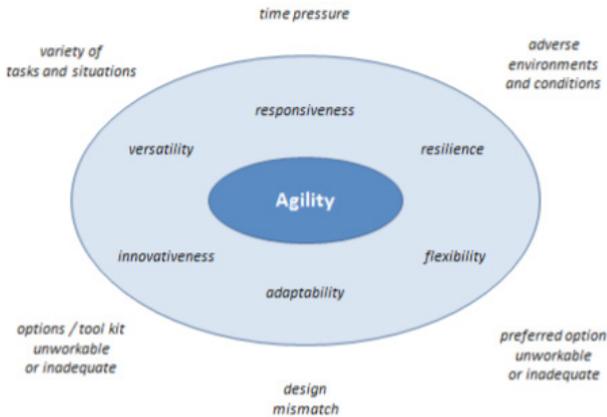
Source: Alberts (2011)

Figure-1 provides anatomy of a response time which if improved could reduce the amount of time the system responds during crisis.

Some of the enablers of agility which allow organizations in turn to become resilient include:

Figure 2

Enablers of Agility



Source. Alberts (2014)

Impact of Lock Down

Pandemic affected every sector of the Indian economy. Lockdown imposed by Government of India halted economic activities with few exceptions. The following session an attempt to understand lockdown effect on selected sectors.

Automobile Industry

Lockdown made Original Equipment Manufacturers (OEM) and component suppliers stop the production. According to a parliamentary panel report submitted to Rajya Sabha Chairman Indian automotive industry suffered Rs 2300 crore loss per day and expected job loss of 3.45 lakhs (PTI, 2020). As this industry was connected with China in the form of components imports, lockdown affected this industry especially auto components. Demand for passenger vehicles will go down as consumers may resort to discretionary spending coupled with implementation of BS-IV norms. This will increase the cost of the vehicle. Covid -19 affected all the members in the automobile industry value chain in various forms like shortage of raw material, change in place of production facilities, paucity of funds, slow/postponement in introduction of new models and reduction in consumer demand.

In the automobile sector value chain various players are suppliers, OMEs, dealers/ distributors and mobility and online players. Suppliers in the short term may experience shortage in supply of components due to lock down in china which is hub for component(s)

supplies. Auto component supplies across the globe decreased due to lockdown imposed in various countries. Shortage of liquidity with the companies due to lockdown. Original Equipment Manufacturers (OEM) stopped/slowed down their production due to lock down, labor disruption and BS IV norms. OEMs were also affected due to non-availability of BS IV testing and certification resulted in shortage of supplies, extended waiting periods to customers and delay in certified vehicles ready for sale. Dealers experienced shortage of customer foot fall, paucity of liquidity, and decrease in demand for automotive products. Online payers had surge in demand for their business due to stoppage of public transport at the same time reduced demand for cabs like Ola and Uber due to shift in place of work , like work from home rather than working in offices (ET Auto Contributor, 2020).

Pharmaceutical Industry

In the Global pharma market India is a leader in generics in terms of volume. Many of the developed countries like US, EU and Japan are importing drugs from India as Indian Pharma products are considered to be safe and quality. India is competing with China in Pharma sector too. Lock down imposed by Government of India restricted mobility of people and commercial activities except “essential services” which includes pharmaceuticals, medical goods, and healthcare services. Sudden announcement of lockdown posed many challenges to supply chains even to Pharma sector too. Unexpected demand and visibly low supply trends, disturbed imports, shortage of raw materials and workforce, challenges to logistic facilities and restricts in intra and interstate supplies (Nexdigm Private Limited, 2020). Active Pharmaceutical Ingredients (API) are imported from China are around 70% which are affected due lockdown severely. Covid-19 caused earnings cut by 10-15% as there are supply side disruptions as per Edelweiss Securities (ETMarkets.com, 2020). Lockdown has affected supplies of APIs resulted into shortage of essential drugs in India including antibiotics as the present market players are largely depend on China. The impact of Covid-19 on pharma sector was less compared to other sectors as it is covered under category of essential services thereby exempted from lock down restrictions.

Table 2

Trends in Indian Pharma Market

Particulars	FY17	FY18	FY19	FY20	4QFY20	April2020 (Monthly)	May 2020 (Monthly)
Volume growth	5	4	4	2	2	-17	-14
Price growth	2	-1	4	5	5	4	5
New products growth	3	3	2	3	3	1	1
Total growth	10	6	10	10	10	-11	-9

Source. IANS (2020)

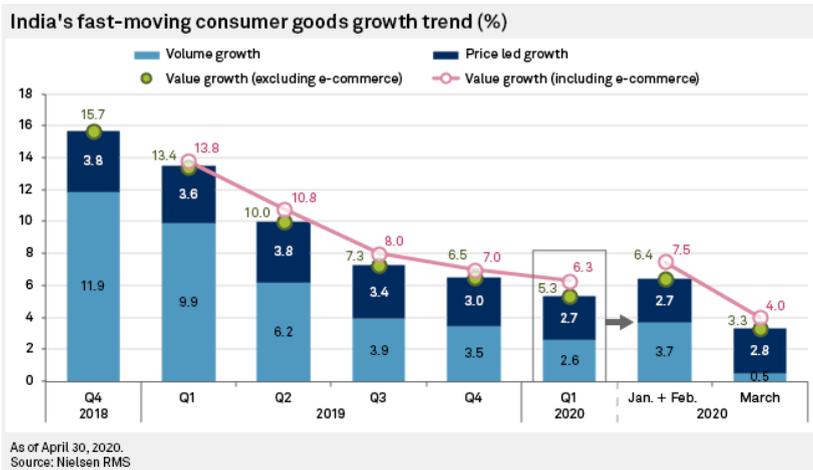
Consumer Products

Before the pandemic itself Indian economy was slowing down and lockdown hit the consumption in India which has a huge population of 1.3 billion. Covid-19 forced the customers to slow down in spending especially discretionary products. The impact of lockdown on certain areas are very evident. Retail market faced many challenges as it was hammered both sides from people as well as government. People were afraid of going to shops due to the crowds which throng these places. The second largest employer in the Indian economy is retail sector. It employs around 400-450 million people for a business size of about \$70 billion (Vakharia, 2020).

As per EY report entitled “COVID-19 and emergence of a new consumer products landscape in India” consumer products consumption was affected in categories like food and non-alcoholic beverage 30%, Housing 14%, Restaurants and salons 6%, Communication 2%, Household essentials 2%, Appliances 3%, Education 4%, Clothing and footwear 6% and others 31%. Food and Non-alcoholic beverages category is lesser impacted and its business size is around \$100 billion where discretionary categories like clothing and footwear business account for \$100 billion, appliances \$50 billion and restaurants and salons \$30 billion are highly affected due to Covid-19. It is estimated that output was compressed to the extent of 20-25% in the segment of consumer products and retail sector or 11% of GDP for the quarter ended June 2020 (Kang, 2020).

Figure 3

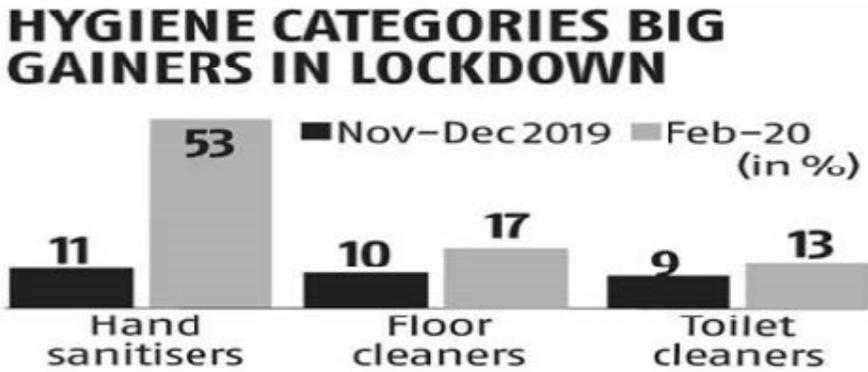
FMCG Growth Trend



Source: Kang (2020)

The brands that are having online presence and positioned online are selling well and registered growth too. Since, mobility has been restricted customers shifted to online mode. Panic about health has created health conscious resulted into growth in selling of home and personal hygiene products.

Figure 4

Growth of Hygiene Categories

Source. Pinto (2020)

Figure 4 depicting that demand for hand sanitisers, floor cleaners and toilet cleaners have grown. For example, Hand sanitisers witnessed a 53% growth in February 2020 as against 11% during Nov-Dec 2019 similarly floor cleaners and toilet cleaners grew at 17% and 13%. Due to shut down of malls, multiplexes and shopping centers discretionary category products categories such as lifestyle, fashion, electronic and fast-food retail were hit. During the Lockdown 1 FMCG companies were hit badly as their operations slow down drastically. As the EY analysis HUL manufacturing output and its daily sales reduced to 40%, 5 of the Jyothy labs factories were functioned out of 25, At Parle factories labour force on contract basis went to their hometowns and ITC's 61% of their factories are in COVID-19 hotspot region (Mishra & Balsara, 2020).

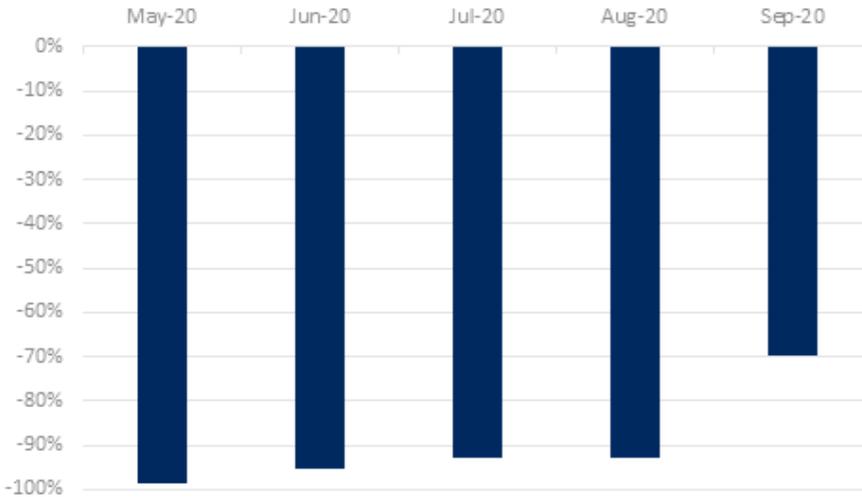
Aviation Sector

Travel industry of all formats were hit by the lockdown especially aviation sector was effected badly. Industry encountered challenges like rise in fuel prices, tax structure, low demand and cut-throat competition and now shutting down the operations as part of controlling virus spread is like adding fuel to fire. Globally Airlines industry lost revenue from passenger travel to around \$113 billion as per International Air Transport Association (ETMarkets.com, 2020). Another development in the aviation industry is that companies that had low cash reserves entered a phase of bankruptcy and many companies asked their employees to go on leave without pay. According to ICRA, during May to September domestic passenger traffic was 11 million against 70 million during the previous year same period. It is expected that even 2021 also it may remain the same (BBC News, 2020). Indian Aviation Industry is dominated by players like IndiGo, SpiceJet, Air India, Air Asia India, Vistara and Go Air. As the report by Centre for Asia Pacific Aviation India (CAPA India) industry may have 2-3 players as the sector undergo consolidation (Sharma, 2021). Post announcement of lockdown in March 2020 airline companies incurred huge losses

and problems may persist for some more time. As per the CAPA Indian report, Domestic passenger traffic for Financial Year 2022 is expected to reach to 70-80% level of FY 2020 and International traffic expected to recover to 35-40% level. The following figure depicting Year-on-year change in redirects on Skyscanner during the week commencing 20-Apr-2020 for travel related to India during May-2020 to Sep-2020

Figure 5

Disruption in the Indian Aviation Sector May 2020 to September 2020



Source. CAPA India (2020)

CAPA revised estimations of traffic the Indian airline carriers need to operate around 265-300 aircrafts in the domestic market in second half of Financial Year 2021 and 80-95 on International routes. The following table shows carrier wise expected operations.

Table 3

Estimated Fleet Operations (Domestic and International)

Particulars	Estimated fleet for domestic operations	Estimated fleet for international operations
Indi Go	135-150	25-30
SpeiceJet	40-50	10-15
Air India	30	35-40
GoAir	30	5
AirAsia India	15-20	-
Vistara	15-20	5
Total	265-300	80-95

Source. CAPA India (2020)

Before Covid -19 the aircraft fleet were around 650 aircrafts and CAPA is estimating that there would be around 265-300 fleets domestically assuming that social distancing norms may not be in force from second half of financial year 2021.

Response of Indian Industry to Covid-19

All the organizations need to manage challenges of human resources, business continuation, handling of business operations, financial resources and management of relations with stakeholders.

Human Resources: One of the vital resource for an organization is its manpower. The spread of the virus has had many ramifications. Hence, all the organizations took measures to protect and ensure the safety of their employees and prepared plans for employees commuting (based on the need), manpower capacity utilization by following government Standard Operating Procedures, working hours, premises maintenance and many organizations resort to work from home especially sectors like IT, Education etc. Information technology and Information Technology Enabled companies opted to work from home. Employees were subsequently trained to cope with the increased working hours and balance work and home. Wellbeing needs were also addressed with phased programmes throughout the week.

Business Continuity: Response teams for business continuity had to be set up and transition to technology enabled solutions helped organizations cope with the crisis.

Business Operations: Organizations are prepared with contingency plan by ensuring needy resources, reviving supply chains, establishing real time monitoring system.

Financial Resources: Financial resources became one of the major constraints hence firms focused majorly on liquidity management. Firms focused on assessing the implications of lockdown, cash flows to organization, estimating additional financial requirements and measures to reduce cost.

Relations Management: Relations especially external are critical and must ensure suppliers do provide supplies, logistic providers, auditors and channel players in sales and distribution etc. Various functions in the organization have different roles to play like strategic term plan for short term and long term. New business models had to be designed to survive in the new normal scenario. In the short term the focused areas were on cash inflows and outflows, compliances and network. In the long term focus should be improvement operational efficiency, cost reduction, relations with stakeholders. In addition to it focused areas include revenue improvement areas like sales, supplies assurance to customers, reach to customers using especially digital platforms and enhance reach to customers using alternative ways or shift to online models.

Players in the industry adapted to new normal norms using digitization of operations to serve customers, operating activities at factory premises and service centers following Standard Operating Procedures, focusing on improving sales and services which will help in generating cash flows and focusing on financial health of the organizations. Digital

workplaces and collaboration of all departments and enabled effective decision making. During the lock down as operations were shut, immediate responses included identifying hidden and trapped material in the value chain system and processing it, customised supply chain(s) and focus on risk management in the entire organization. Revised strategic plans and prioritizing resource allocations and projects set the activities on growth path. Though production commenced, every day was a new day. Company is keeping employee safety as a top priority and making improvements. He mentioned that it is all trial and error and learning how to get better each day (Philip & Mazumdar, 2020). Considering the prevailing situation companies can think of focusing on strengths to grow by considering the following.

1. Localise to grow
2. Collaborate with adjacencies
3. Be competitive by optimisation
4. Develop winning mind set
5. Explore opportunities and risks with legislative stimulus plans
6. Focus on financial strength
7. Optimize business operations
8. Revise business plans to considering the changes in the business environment.

Conclusion

COVID-19 has touched every industry in the world and created long lasting impact. Due to lock down uncertainty prevailed in every spear of organizational activities. Companies faced many challenges. Though there is a small momentum in economic activity companies are facing many challenges especially financial resources. There is a need for continuous monitoring and assessment of business operations to take corrective active to stream line activities. Employee engagement is vital and should create safe working environment and also take measures to prevent virus spread. Organizations should prepare a plan to take care of employee infections. The role of Government and industry bodies are vital to combat present situation and critical in the revival of the economy.

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ANNEXURES

Figure 6

Economic Impact of Lockdown Industry Wise

Projection of economic impact if lockdown continues until mid-May

Industry	Output compression in Q1 FY'21 vs. Q4 FY'20 (%)	Proportion of GDP (%)
Airlines & hotels	60-80	2
Auto, AI	50-70	2
Construction	50-60	8
Textiles	40-50	2
Freight & logistics	40-45	8
Oil & gas	40-45	7 (oil & gas combined with metals & mining)
Metals & mining	35-40	
Power	20-25	2
Consumer & retail	20-25	11
Chemicals	15-20	2
IT services	10-15	5
Pharmaceuticals	8-10	1
Telecom	5-10	2
Agriculture	5-10	15

As of April 2020.
The Indian financial year runs from April 1 to March 31.
Source: National Institution for Transforming India

Source: Kang (2020)

Tale of Two Companies and the Quest to Drive Results

Case Study 1

Case Study – Striking the Right Decision & Strategies for Functioning in Times of Covid at Howden India

D. Thirumurugan¹ and R. Varuneshwaran²

INTRODUCTION

The pandemic descended as a bolt from the blue to all of us. Complacent, overconfident and procrastination-oriented mindsets had to suddenly gear up for the inevitable. The pandemic devoured millions of lives across the globe creating panic, fear and anxiety with no trustworthy source of information to fall back upon. For the first time, doctors and the entire health ecosystem had to wait and watch to define the manner in which human beings and businesses could operate.

The second half of the month of March was beset with a number of challenges. With the virus, spreading rapidly across the globe and medical science experts working on the vaccine solution one was really not sure about the manner in which the virus was transmitted. This led to industries and companies across India to go on a halt with the government announcing total lockdown from 25th March 2020. Key segments of the manufacturing segment in India shut down in response to lockdown orders. This caused incalculable damage to the production of key products (ET Bureau, 2020).

The Nationwide lockdown enforced by the government of India was executed in a phased manner. The first phase of the lockdown, was for 21 Days from 25th March 2020 to 14th April 2020. It happened to be an entirely new situation for all the people which required individuals starting to completely work from home in remote locations if the nature of the work allowed them to do so. However, the most hard-hit businesses were

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that of the manufacturing sector which required labourers & supervisors to be present physically in order to keep the company functioning.

After the first phase, total lockdown was further extended into the 2nd phase starting from 15th April 2020 to 3rd May 2020 for another 19 days, which took a hit of total 40 days of no production. As it would in all manufacturing firms, on one hand this led to mounting pressure from clients with regards to meeting on-time delivery of the projects. On the other hand cash flows got stuck from the supplier side as raw materials had still not been moved to the factory for production. Insecurity began to seep in regarding their position and job security among members in the shop floor. The chaotic situation had no precedent or pattern for decision makers to take recourse too. The leadership team has to take quick decisions that would have to be in alignment with the lockdown norms and the best interests of the organization and the people. Cash flows and working capital became the main sources of concern for these organizations.

What do you think were the key stakes at hand? If the company had to resume working, how do you ensure health and safety of employees?

This case study explores the manner in which the leadership of the organisation handled the crisis .the challenges that beset the employees and the phased manner in which reasonable outcomes were obtained.

Howden Overview

Howden designs, engineers and supplies air and gas handling equipment, including industrial fans, process gas compressors and rotary heat exchangers. Established over 150 years ago as an engineering firm, Howden has grown to become a worldwide organisation with over 6,000 employees and companies in 26 countries.

Their equipment is found in virtually every industry but particularly in those such as in power generation, petrochemicals, mining, steelmaking and cement manufacture where the most arduous air and gas handling duties are to be found.

They had introduced many innovations, from the forced draught system and the invention of the Diaphragm Compressor to the commercialisation of the Rotary Heat Exchanger and the Screw Compressor. Their products were known throughout the world for their high levels of performance, reliability and state-of-the-art technology. They are constantly investing resources in product development to provide market-leading products that make customers' processes more effective and more profitable.

Chennai Plant Operations

In Chennai plant Centrifugal & Axial Fans were manufactured catering to Cement, Power, Steel, Transportation, Industrial ventilation and Mining ventilation system.

Howden centrifugal fans were manufactured using the latest technology and materials to ensure structural integrity and strength, fatigue, corrosion and erosion resistance. All

fans are constructed in accordance with the Howden design rules which were evolved and refined over many decades of industry experience.

Materials ranging from high tensile steel to titanium and duplex stainless steels and composites were used. Specialised coatings and hardening processes resulted in fans that were rugged, reliable and efficient.

COVID 19 Impact on Sustaining Business Continuity with Organizational Change Management

The events of 2020 had forced the field of Manufacturing to reverse some trends, and make big shifts, and most importantly creating an opportunity for rethinking and resetting how Howden designed work practices that best served all employees, their companies, and each other.

The solution did not lie in returning to pre-COVID working practices. Instead, there was an intensified focus on how to boost employee engagement, productivity, collaboration, culture, and innovation, while fostering a greater sense of belonging and accommodating individual styles, personalities and team dynamics. In the midst of uncertainty it became imperative to take cognizance of these individual dimensions and at the same time the pressing needs of the organizations. Steps taken were in line with the culture of Howden. Some of the key aspects were:

New Dimensions of People Safety

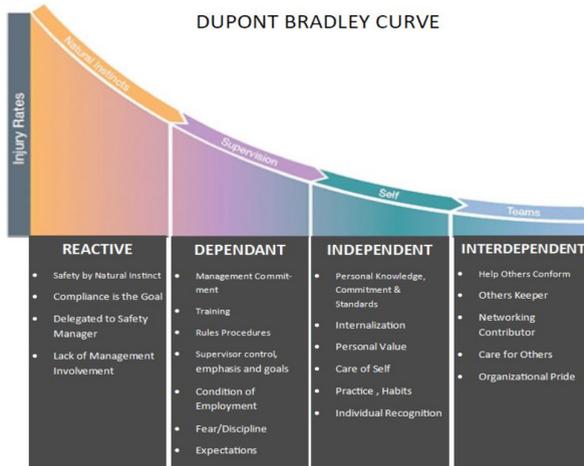
Safety of the workmen on the work floor was always a priority for Howden. In the Pandemic situation it became even more significant. There were a number of basic standard controls that were implemented to minimise the risk of spread in the workplace environment.

It started with sanitization, social distancing measures, hygiene in canteen and guideline for travel and monitoring of employee health.

Howden firmly believed in cultural change to ensure safety of everyone inside the campus. They worked based on the Bradley curve to move their culture to Interdependency.

Figure 1

Dupont Bradley Curve



Source. Huseman (2017)

To achieve this *Think Safe* a Tool Box talk initiative which covered major behavioural aspects on safe working was delivered to everyone in the organisation though daily, monthly & weekly tool box talk.

The company introduced Life Saving Behaviours (LSBs) across Howden to help and guide their employees to work more safely, look out for each other and support their Employee Health and Safety (EHS) risk reduction programmes.

These LSBs were specifically targeted at guiding and supporting the right behaviours for their key EHS risks that historically have shown to create injuries of a life threatening nature.

These have proven to be very effective in terms of reducing the severity of injuries that employees have sustained in the last 18 months or so. Howden wanted this trend to continue and eliminate fully any life threatening injuries to any employee

Figure 2

Think Safe Tool Box Initiative

Tuesday 3rd March: <i>Exposure Risk</i> Line of Fire	June 10th : <i>Mind States</i> Complacency	July: <i>Defences</i> Combat your line of Fire
Aug: <i>Exposure Risk</i> Eyes / Mind not on Task	Sept: <i>Mind States</i> Fatigued / tired	October: <i>Defences</i> Time out for Personal Safety (TOPS)
November: <i>Exposure Risk</i> Slips, trips, falls	December: <i>Mind State</i> Frustration & Rushing	December: <i>Defences</i> Brothers & Sisters Keeper

Source. Safety Report. (2020). Howden Solyvent India Pvt Ltd.

Think Safe was one of their key behavioural safety programmes for developing a common understanding of behavioural safety centred around above topics mentioned in Figure - 2.

In this Tool Box Talk they turn use a simple way of raising awareness of hazard and risk control in employees own immediate workplace, by the use of a simple tool / technique – Time Out for Personal Safety (TOPS)

With the above initiative lagging indicators of Safety namely Total Recordable Incident Rate (TRIR) & Lost Time Injury Rate (LTIR) was reduced to >50% from 2019 during this pandemic.

Also, leading indicators such as Visible Felt Leadership (VFL), Hazard Identification & Near miss reporting improved.

Flexibility

Flexible nature of teams replaced other fixed notions. The traditional belief that the sales team had to approach a client in person was replaced with virtual online interactions.

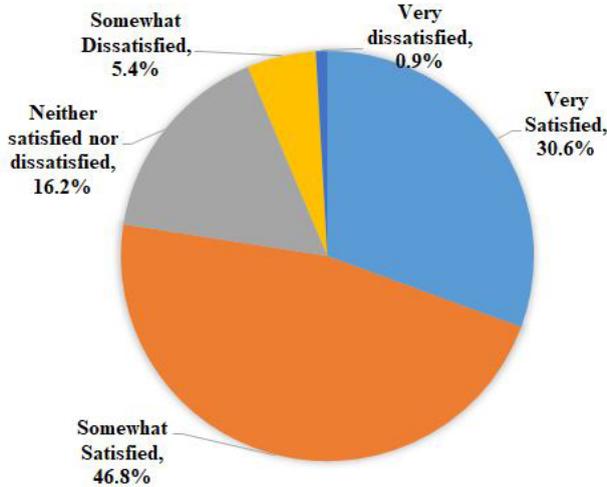
Sales and Proposal team of Howden extensively used virtual team meetings to offer, negotiation and finalisation of the order. Transition to virtual meetings with clients were based on an extensive survey. The survey results were used to change the nature of interactions.

A survey was conducted to know the same and identify actions for improvement. The survey outcome [Figure – 3, 4 & 5] revealed employees concern on communication,

flexibility and facilities. Same was addressed with short term and long term arrangements and Work from home policy was devised.

Figure 3

Satisfaction Level on the Work from Home Arrangement

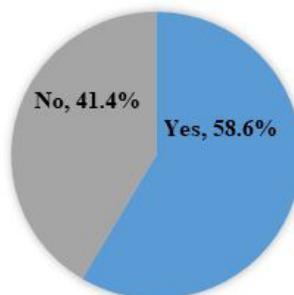


Source. The authors

While measuring the satisfaction level on the work from home arrangement, a majority (77.4%) of the employees were satisfied with work from home arrangements initiated by Howden Solyvent India Pvt Ltd.

Figure 4

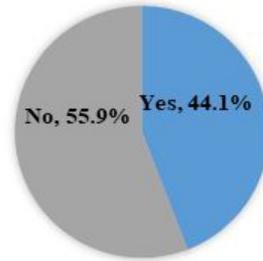
Availability of Required Equipment for Work from Home



Source. The authors

Fifty nine percent of the employees had the required facilities to carry out work from home. While the rest (41%) were in short of the required equipment to do the work from home.

Figure 5

Willingness to Do Work from Home Even after the Lift of Lockdown

Source. The authors

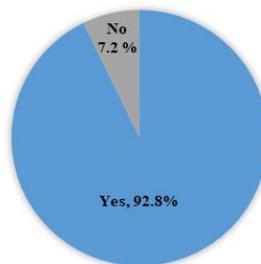
The above figure indicates that more than half of the employees (55.9%) wished to come to company to do their work.

Communication

The pandemic necessitated more frequent communication to address the anxiety and fear of employees alongside informing them of the change in methods of working.

Quarterly Town Hall meetings communicated business performance and also held a Q&A session to allay their fears.. This was changed to Monthly once for all employees and Weekly with leadership team and Daily status update on safety, compliances on COVID protocol. A survey revealed [see figure - 6] the effectiveness of such frequent communication for employees felt more confident and updated on various aspects of the business. This helped in securing more cooperation and adherence to safety protocols.

Figure 6

Effectiveness of Communication on Business Performance

Source. The authors

A majority (92.8%) of the employees experienced effective communication from the company during the lock down which informed them about the work from home methods and to overcome fear and anxiety.

HR Practices Being Revisited

A drastic and rapid move to formalise remote work called for dynamic solutions to support the new way work got done. Be it employee engagement or performance management, team catch-ups, public recognition, and one-on-one support — into a virtual office environment became the new normal.

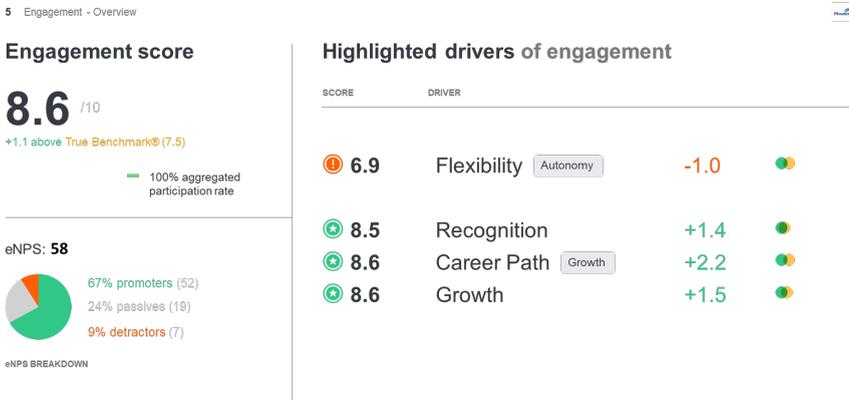
Managers were called upon to focus on performance metrics such as monitoring positive feedback, conversion rate, gathering 360-degree feedback, weekly project deliverable etc.

The employee engagement survey in Sep 2020 yielded encouraging results [see figure - 7]; it was decided to conduct the same once in six months to closely monitor engagement and wellbeing. . The uniqueness of the survey was to protect the employee privacy in the feedback; A manager did not know the individual’s name and the report of the same was not shared if the manager had less than five reportees. This made communication more free and frank without the fear of retribution.

True Benchmark is a Global Manufacturing industry average of the engagement survey

Figure 7

Employee Engagement



Engagement report—Thirumurugan Duraisamy | September 2020



Source. Employee engagement report. (2020). Howden Solyvent India Pvt Ltd.

Learning and Development - Growth imperative

Employees were also looking for support to help them adapt, upskill and grow, amid changing working conditions; therefore providing access to relevant learning and development to foster their growth became critical.

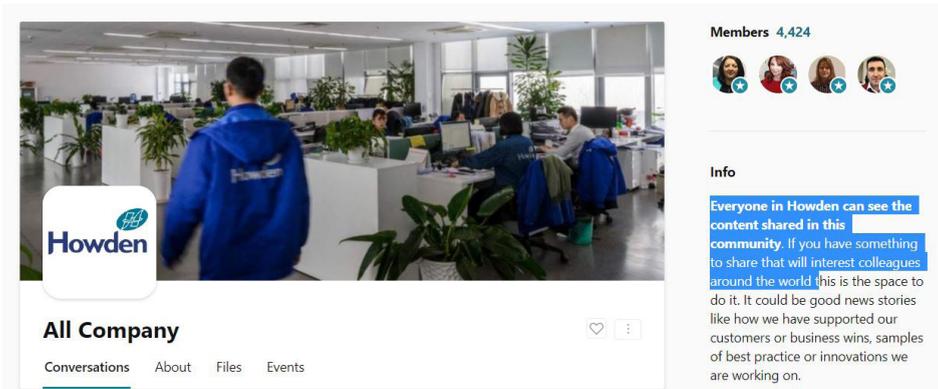
Besides employees were looking for remote access to information relevant to them as well as the opportunities and encouragement to share their ideas on maintaining a sense of community.

To foster the above thought process Howden launched Skill soft online learning portal (PERCIPIO) which has about 1000+ online courses.

Howden has initiated Yammer platform for communication channel across the global employees. This platform [see figure - 8] is used to share the good practices, hobbies and communicate job openings within region.

Figure 8

Learning and Development



Source. Internally Protected Website. (2020). Howden Solyvent India Pvt Ltd

Digitization

While the progression toward digitalization was well underway, COVID-19 accelerated most organizations' plans to digitize their workplace to ensure employees were fully enabled with the tools they needed to stay productive.

Improving efficiency, effectiveness, and analytics were critical and they had no choice but to embrace technology and be data-driven. IT and HR will work together to prioritize not only listening to and understanding employees' technology needs but also bridging the gap to overcome technology experience challenges.

Howden intensively uses Data Driven Advantage called as DDA, the DDA strategy leverages Howden's unique Other Equipment Manufacturing (OEM) capabilities and the technology from world leading partners to deliver unique customer value. Their digital solutions are leading the way because they recognise their own strengths and partner with those that compliment them.

Microsoft - their digital platforms are utilising the safest cloud solution in the world with Microsoft Azure. The data ownership is shared with the customer and they own any reports generated as part of the agreement. Using the Microsoft HoloLens, their customers' experience is truly immersive. Microsoft HoloLens technology is used to deliver outstanding Augmented Reality experiences as part of their Uptime digital solution.

PTC - PTC Thingworx is a world leading Industrial Internet of Things (IIoT) platform that includes smart analytics, AI powered machine learning, augmented reality and much more. Their partnership with PTC allows them to leverage these IIoT technologies to further enable their digital transformation journey and result in increased product value to their customers.

Conclusion

Although the virus infected world seemed to be uncertain and filled with anxiety of the future, one right decision and an armour of right strategies could save the company from bad financial conditions, worker animosity, unhappy customers, and wastage of resources.

As Howden reinforced its faith on its most important resource "it people", things began to fall in place in spite of the pandemic. This is the most important message. Through transparent and frequent communication, Howden made its people feel safe and heard in excruciating circumstances. This enhanced employee morale and engagement.

Most of all, the uncertain times lead to numerous people upskilling themselves, assisted at Howden India by an internal online learning portal (PERCIPIO) and also a portal for communication across Howden employees globally (Yammer). They also made sure all technological barriers that stood in the way for efficiency and effectiveness of its employees was taken off path by collaborating IT and HR teams.

Howden India was sure proud enough, cause as a team they had conquered the uncertain environment by investing in people more than ever. While organizations were looking at retrenching and cutting staff costs, here was an organization which functioned effectively by deciding to believe in its single most important asset people.

Here are a few questions for you to ponder upon:

1. *What other systems/models of functioning would you suggest to the facility head?*
2. *Do you think the new adopted systems must be followed through even after we enter a COVID free – normal world?*
3. *What do you think could have been the key motivational factors that would have driven Howden's employees to come back to work?*

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APPENDIX 1

Howden Solyvent India Pvt Ltd



Tale of Two Companies and the Quest to Drive Results

Case Study 2

Shaping Future amidst Uncertainties

Sebastian Vempeny¹

INTRODUCTION

Decision making at the highest levels are always done with limited visibility of the variables influencing the business outcomes. Good managers combine aptitude and experience into good judgement which drives businesses forward. Covid 19 presented not just uncertainties but everyday changing landscape. In this case let us understand how a retail chain went about its business at the peak of Covid.

THE SCARE, SCRAMBLE AND LOCKDOWN

The month of March witnessed a hustle and bustle. As the month marked the end of the financial year many important activities like stock closure and notching the remaining sales targets assumed primary importance. The month had begun with news channels and papers talking about a pandemic called Corona. News Channels attributed the origination to a place in China called Wuhan, which later on was also called as the Wuhan Virus. However the effects of the same were far from visible at stores of AVN retail. The stores were filled with customers, cash tills buzzing and life was normal. No contingency, no panic, things were as it should be on any other ordinary day. The second week of March witnessed something peculiar. Management was apprised on the lockdown around the world. While there was sense that something ominous was imminent, no one could visualise what was in the offing. The fact that world over Grocery retail continued to operate gave enough comfort to the management that nothing would go amiss.

A week later, the Prime Minister announced a three week lock down, with a 4 hour notice to wind up operations with a strict order to “shut shops”. There was mad scramble, there weren’t any directives as to what was in store for the grocery chain. Information gathered offered us an idea that food retailing could continue to operate the way it did.

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That night saw a mad rush of customers flocking to the AVN stores for anything and everything they could lay their hands on. The scramble laid bare the shelves and filled our cash coffers. The management and staff at AVN retail were dumbfounded and these questions raced their minds:

What to do with the cash collected across stores, how would the stores be filled with the looming lockdown in the next couple of hours. How would the staff come to the stores next day with all modes of transportation banned? The shutters were down for the night with no visibility of what was coming for the dawn.

Every day the stores opened at 7 every morning. After the announcement of lockdown, of the 150 stores spread across 3 states, barely 12 were open at the stipulated time next morning. Clearly stores with empty shelves and no customers. Around 8 AM the police vans rushed in and they brought down shutters on the remaining 5 odd stores, since they insisted it was full lock down. The staff were bundled out. Throughout the day another 40 odd stores managed to open their shutters only to be shut a few hours later under pressure from the authorities.

Assessment and Follow Up

AVN retail operated under a Central and Regional structure wherein the operations was run at the City level while all policy decisions were taken at the Central level. The Management called for a status update call at 11.00 AM, wherein the City heads were to come back with an assessment on the ground situation. After the pleasantries, the CEO went round the regions, while the lockdown was a country wide phenomenon different states had different interpretations. Even within a single city civic officials interpreted to their own convenience. This meant that each of the 150 stores possibly had different rules to abide by. More bad news kept coming in from the ground, many places the staff had left for their villages, some leaving keys behind and some taking the keys along with them. Same with cash, with some managing to locate the cash agency folks and others having no understanding of what to do with it. The Parents of the staff panicked as they did not want their children to be exposed to the virus. The supply line was absolutely cut off. While Grocery stores were deemed essential service, not the factories producing goods for the grocery stores. Even when they had goods to ship, the state borders were sealed. And then there was a problem on the demand side, customers weren't wanting to step out for the fear of the pandemic and the police action. The business had come to a grinding halt. There was also the problem with fixed costs. The costs were the rents for the shops and warehouses, electricity, staff salaries, expiries of products left at the stores. Everyone was baffled and had to grapple with the question of how to move ahead in the uncertain times.

Grocery on Wheels

Demand is the lifeline of every business, with customers stuck to their homes, where does one find demand? Given AVN is a brick and mortar player, they didn't have an APP to place remote orders on. One of their field officers was once a salesman in remote

upcountry Tumkur. He told the management of the practice in upcountry towns of driving a full load of goods in search of shopkeepers willing to buy them. Grocery on Wheels was born instantly, every store was asked to map apartments and residential settlements around the catchment. Calls were made to Residential associations informing them of the new facility at their doorstep. They could organise the residents in small groups to ensure social distancing, everyone would get a fair chance to refill their supplies. As the word spread residential associations around the city reached out to AVN asking for their Grocery vehicle. Scaling them with no time lost was the next problem to solve. The warehouses were given a standard assortment and asked to stock them in separate areas for each vehicle moving out. Standard assortment zones ready for load was created in multiples to ease loading the vehicle. As sales reports came the zones were refilled to be added to the vehicle. Special care was taken to ensure that only packed goods were included in rice, dals, sugar etc, so that they were safe and perceived to be safe. The new mantra AVN operated was:

If the customer doesn't come to you go to where the customer is.

As the lockdown eased and store operations were getting back to shape the customers were still unwary of visiting the outlet. AVN having no APP had to innovate, and had to do something about it. There were a dozen consumer apps in operation. The solution was to Piggyback on them, put all stores online on them. Demand for products steadily rose and got better each day. The focus was to popularise the store WhatsApp and reward the store employee for every order on WhatsApp. The location tracking was enabled to ensure that the orders were genuine, the store staff went around the apartments to ensure that everyone knew where to call or WhatsApp when in need.

Another wave of lockdown setting in means, another gush of demand in 3-4 multiples of a normal day. This meant the stores needed to have enough stock to cater to the peak demand. In anticipation of supply disruptions the warehouses were instructed to overstock the stores especially on staples whose demand had significantly risen as households were overstocking. This meant while the market struggled with supply disruptions AVN was well placed to be supplier of choice for its consumers with its well filled aisles.

Pandemic Woes Continue

Another problem cropped up – non essentials suddenly slowed on demand – Men's care and women's cosmetics suddenly had no takers. But cleaning chemicals for fear of pandemic was on huge demand, same with biscuits, snacking and ready to cook, categories exploding with sudden alteration of demand patterns overnight. This presented a new problem of how does one balance the inventory flows according to demand. Historical data had no relevance! This had serious implications on working capital and cash flows. To make matters worse the supply cycle from manufacturers were no more even, as severe constraints were placed on availability of labour and raw materials. Solving for the supply side in quick time was no less exciting than the demand fixes.

AVN told its purchase managers to buy from any channel where goods were available, and move away if need be from traditional supply chains, depots were given cash to execute the quick buys, the central controller was tasked to ensure that while stocks were more than the demand it wasn't turning into an unwanted glut. Given that consumers just wanted whatever was available, AVN shifted gears to get in organic and value added products which had lesser demand earlier and hence quickly available. Besides these goods were priced higher and the pandemic also induced higher costs of operation. In cases where it was difficult to get branded supplies AVN got in local manufacturers with basic quality checks to ensure that every category or consumer need had an option available to the customer. This brought in higher margins for AVN stores.

AVN calculated the cost of locked in capital on dead non essentials and offered a never before price challenges for anyone interested in catching on the bargain. They communicated them aggressively at the stores. Besides they were used as rewards for big ticket buys. Together it ensured the locked in capital was freed.

Unanswered questions and solutions: Questions still remained in times of fear around Covid how would you get customers come to the store or rather reach them. Assurance of safety was paramount. The execution was brisk. Each store set up a Sanitiser self-dispenser. Every employee was given a glove and face shields. Later on self-service was replaced by store staff who wore protection gear and served customers. The customer points were marked to ensure adequate distance at the checkouts. Customer entry was regulated and even with limited staff the customers were encouraged to ask to pick a product than touch it themselves, as employees were equipped with gloves and constantly sanitised. The stores were sanitised every day after the stores closed. Unpacked pulses and food grains were replaced with packed staples, at least for the interim.

Many new products around immunity were placed to cater to new consciousness. A customer promotion wherein each customer could get a small sanitiser free on buying goods worth 399, ensured they took safety home as well. The customers were given WhatsApp numbers for the stores, wherein they could place orders from the comfort of their homes and get a very safe delivery. Store staff were given battery operated two wheelers for deliveries in the immediate catchment areas.

Next problem to solve was continuous availability of employees. Many industries were letting go of employees, some were being put on leave without pay. AVN put up notices at each store, inviting applications for Daily Wage jobs. It also gave employee referral incentives to its own staff. Staffing was done closer to the store, so that even in another breakdown of public transport the stores could be open. Hardness allowance wherein an employee could earn 50% more than his salary made it attractive for many of them to come in every day. Medical insurance ensured that no financial worries even for any eventuality. These interventions ensured that AVN came out unscathed, with their customers and employee trust intact.

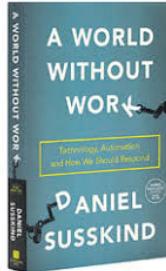
Conclusion

Judgements may not always land well, but a good manager keeps moving as situations shape around him/her. Even not taking any action can be decision. The ability and willingness to be grounded and be closest to customers is what shapes great decision making.

Some questions to ponder include:

1. *What could AVN have done differently to ensure a much more planned instead of adhoc type of measures?*
2. *Do you think grocery on wheels with a wide variety and choice can be the next disruptor as far as grocery shopping is concerned?*
3. *Do you think Technology would shape the world of grocery here after into a different entity?*

Book Review



Daniel Susskind. *A World Without Work: Technology, Automation, and How We Should Respond*. New York, NY: Metropolitan Books & Henry Holt and Company, 14 January 2020, e-book: ₹ 368.60; Hardcover: ₹ 1,597/-, 320 pp., ISBN: 9781250173515, 1250173515.

INTRODUCTION

The title of this book can be perceived in two ways. One, as it reads; a disconcerting statement exaggerating the concerns of humans rendered obsolete in the future of automation and AI. The second way of looking at the title would be of uninformed optimism that is if you are willing to read it cheerfully. The latter is also an allusion to John Maynard Keynes's idea of, an age of leisure, an economic possibility for the future generations, where the workweek will be fifteen hours and eventually all the banal chores and routine activities will be left to the machines and man will be sans work relishing the finer things in life.

The author, Daniel Susskind in the introduction to the book has made it clear that, it is his belief that the world will run out of work, not leaving its inhabitants to pursue pleasure but to bear the brunt of technological unemployment. Unless we manage to work our way around this predicament. Susskind proposes a few solutions towards the end of the book. He also makes a philosophical point, when recognizing “work”, as the activity giving meaning to people's lives, and realising that, a world without work would also be a world without meaning.

SUMMARY AND EVALUATION

Susskind invokes history to dismiss the claims of economists that have grossly exaggerated impact of automation on the economy. The side-lining of the horses with the invention of combustion engine is an example given. Wassily Leontief, 1973 Nobel Laureate (Economics) had famously said, “In decades the horses got side-lined. The next

are humans”. Which of course didn’t happen. The economists are dismissed as mere storytellers who haven’t been able to make accurate predictions in the past or foresee economic bubbles. Keynes had famously responded to questions about his miscalculations saying, “When facts change, I change my mind – what do you do, sir?” - Clever but evasive. After mentioning such statements, Susskind goes on to make his own predictions, saying that widespread technological unemployment is our plausible future, even though concerns of this nature have been proved wrong in the past. He wishes to explain the same through the rest of the book. He says, the future of work will have little to do with economy. The three major concerns are: Nature of intelligence, Inequality, and political power of the large companies.

The book is divided into three parts. Part one deals with the history of concerns surrounding automation, AI etc. The second part explains how technological unemployment will unfold in the future. The final part is about, how to extirpate the different problems caused by a world without work and what we ought to do about it.

Part 1: The Context

The first chapter is called, “A History of Misplaced Anxiety”. Many amusing historic anecdotes are stated, at the expense of the uninformed anxieties and babel of the early witnesses of automation. A particularly good one is a caper on the scribes, who declared the printing press a work of the devil, given the pace at which it could print Bibles at the time. Industrial revolution is of course the epoch that marked the beginning of automation and exponential economic growth. A legendary figure of that time called Ned Ludd, is considered the patron of all who are technologically disinclined. The ideological descendants of Ned Ludd are mockingly called “Luddites”. There are two implications identified for the disruption in a market caused by innovation and developments. One, the substitution effect and two, the complementary effect. The latter is in tandem with the aspirations of the workers, as the innovation help make their jobs more productive and perhaps even less taxing. The substitution effect on the other hand is what the workers need to keep an eye on, as it replaces them entirely causing unemployment. The chapter ends with an enigmatic statement: The future holds both obsolescence and ever greater relevance.

The second chapter is called, “The Age of Labor”. The interesting observation made in this chapter, is the polarization effect that causes for the lower and upper economic classes to benefit from developments in innovation leaving the middle class to bear the brunt of the negative externalities. A reason given for this is the easy replaceability of routine jobs, that are largely occupied by the middle-class demography. Having said that, a substantial number of the work force are still unhampered, and never cease to be relevant according to the ALM (Autor Levy Murnane) hypothesis that assumes the non-routine jobs to be impervious to automation, as it would only be complimented by the technological developments and innovations.

The third chapter reveals the actual nature of AI, its history and the way ahead. This chapter is called, “The Pragmatist Revolution”. The first wave of AI had begun in

the year 1947, and it followed a top-down approach, trying to emulate the functioning of humans getting marginal results, and ending up as innocuous. The field saw a winter that lasted half a century. 1947, marked the start of the second wave, with IBM's Deep Blue playing chess and beating Garry Kasparov, the world champion. This time the computer didn't function as a simulation of human cognition but a unique bottom-up approach, that computed all the possible moves in a game of chess, at various times in the game. This sort of capability is out of the human purview. In fact, just as Darwin found a century before, remarkable capabilities can emerge gradually from blind, unthinking, bottom-up processes that do not resemble human intelligence at all.

The fourth chapter is called, "Understanding machines". In here an effort is made to distinguish the intelligence of machines and humans. The human can show expertise and prowess in multiple fields, but the machine only towers in ability for limited functions. The computer that beat Kasparov, stands no chance at any other activity with any other human. The proverb used is, "The fox knows many things, but the hedgehog knows one big thing". Many attempts are being made to produce AGI (Artificial General Intelligence). Such a feat can have overarching implications and leave the human intelligence in little use. Concerns have been expressed by towering technocrats like, the late Stephen Hawking, Bill Gates, and Elon Musk. In the economic gaze, AGI is far from a reality. It is not an AI fox that should disrupt our present, rather it is an army of industrial hedgehogs that will deplete work. Humans with their snail pace evolution won't keep up. AI does not function by the rules of the human cognition. It has its own *modus operandi*. This pragmatist revolution has caused the previously mentioned ALM hypothesis to break down, putting us humans now in the spot.

Part 2: The Threat

The fifth chapter is titled as, "Task Encroachment". It begins by deliberating the three main capabilities that humans draw on their work. They are manual, cognitive and affective. The physical and dextrous sort of work like driving and cleaning fall under the category of manual. The works that require a great deal of thinking, such as being a lawyer or banker, are classified as cognitive. The affective include, sectors like education, palliative care, hospitality and the likes of such. The author further, explains how all these tasks are being encroached by automation putting humans in a vulnerable position. He also acknowledges the fact that such encroachments are often delayed, cheekily giving the example of the invention of the stethoscope, the use of which was delayed by two years, in fear of its encroachment, that was worried would come in between the patient and the healing hands of the doctor.

The sixth and seventh chapter are closely related. They deal with the concept of technological unemployment. The former deals with frictional and the latter with structural. Susskind here, tries to address the question, "Why we might not find new uses for human labor in the future?". Frictional unemployment is explained as something already in practise. The unemployed in this case are unwilling/unable to recalibrate their skills to the current demands of the technologically advanced market. The work force that is able to adapt, reaps the benefit of the complimenting effect mentioned earlier. The working class

that Karl Marx defined as the “Proletariat”, is now rechristened as *Precariat*, a euphemism for the precarious nature of the working class. Structural technological unemployment is defined as an evident concern for the future. With the widespread use of self-driving cars, the need for humans is eliminated in this line of work. Such is the nature of structural technological unemployment.

The eighth chapter: *Technology and Inequality*, deals with the propagation of inequality in the economy largely caused by the progress in technology. Traditionally the wealth is distributed as returns on capital and the work force made earnings with their human capital. A disruption in this mechanism has been caused by technological progress. The return on human capital is less evenly distributed, as small group of individuals can now run mammoth companies, leaving the vast majority either unemployed or with meager earnings. This has also led to the surge in return on traditional capital like property, which again is enjoyed by a small proportion, adding to the inequality in the economy. Susskind believes this inequality can be reduced with the use of state instruments like, taxation, welfare schemes etc.

Part 3: The Response

The ninth chapter: *Education and its Limits*, looks at the role of education in increasing the odds for humans to integrate in the future work force dominated by the much more efficient machines. Susskind believes the limits of traditional education will be exhausted with the training in non-routine tasks, the only work left for humans that would only be complimented by automation in the near future. Education in improving social skills is vital. This though, only takes care of a small part of the work force. Work is the way the wealth of the world, the economic pie is distributed among the people of this world. In the absence of work, how do we share wealth?

Susskind answers this in chapter ten, with the proposal of a new institution called, “The Big State”, to take the labor market’s place. He gives some historic context, elaborating the age-old conflict between State activity and free market. The intervention of the state in crucial economic affairs, was famously rejected as “the road to serfdom” by Friedrich Hayek. The fall of the Soviet Union is also a pointer advising against such State intervention. Susskind in spite of this rhetoric, still proposes The Big State, as he describes its role not so much in production but distribution of wealth. When the economic pie in the future would be huge and the labor market highly skewed, such an institution is necessary for the efficient distribution of wealth. Is not the welfare state we currently have, doing the same? The problem here is that the welfare state considers unemployment as a temporary phenomenon, but given the technological development, unemployment could be a permanent condition in the future. For an institution like the Big State to function effectively, international coordination among the nations is important. Taxation will be the only equalizer available in the absence of work. The idea of UBI (Universal Basic Income), has gained a lot of speed in the current zeitgeist. Such methods of redistribution of wealth will be crucial in the future. Susskind along the same line, is proposing a CBI (Conditional Basic Income). This concept eliminates the possibility of free rider claims

and qualms surrounding state benefit. In CBI, people will have to engage in non-economic activities if not economic, to be eligible for the basic income.

Chapter eleven is titled as, “Big Tech”. Currently the characteristics of Big Tech can be identified in the Big five companies. These companies exercise major economic power. In the future, their position will only grow stronger and with that they will yield crucial political powers as well. The threat here is the “privatization” of our political lives. To restrict such externalities, a political oversight authority must be established, which is staffed by political theorists, moral philosophers and the likes of such.

The final chapter, “Meaning and Purpose”, deals with philosophical problems that arise in a world with very little work. People will go through a huge crisis in the absence of work, which until now had given meaning to their lives. As the age of labor comes to a close, we must be able to find meaning in activities that may not reciprocate in economic gains directly. This is not an impossibility. A substantial number of the work force currently is engaged in voluntary work without economic gains. The aristocrats are great practitioners of non-economic work and are able to find meaning in several amusing activities. Further back in history, we find the tradition of Greek Hellenism giving more importance to leisure and considering work only a means to achieve leisure.

Conclusion

After the insanity and slaughter of the first half of the twentieth century, we witnessed the Age of labor, and enjoyed the security of life and international diplomacy that came along. Susskind implores our attention to an impending danger, as we experience and await major disruptions through technological advancement. We must be able to cope with it and devise new ways to maintain security and welfare.

In a future of grandiose technological progress and great economic prosperity that comes with it, a carefully designed system for distributing this huge economic pie can possibly relieve humans of work, and let us pursue finer ideals.

Towards the end of this book, Susskind concedes to be speculative. As the age of security comes to an end, with a large number of leaders and statesmen impervious to the threats of technological unemployment, Susskind’s forecast of a world without work and the luring possibility of establishing welfare for all, leaves the reader thinking the author a Cassandra of our times.

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