

# Implementation of Industry 4.0 Revolution through Skill Development– A Blessing for Local for Vocal in Covid-19 Pandemic



Amlan Das

**Abstract:** *We are amidst a noteworthy change with respect to the manner in which we make items, because of the digitization of assembling. This change is convincing to the point that it is being called Industry 4.0 to speak to the fourth insurgency that has happened in assembling. Industry 4.0 is flagging an adjustment in the conventional assembling scene. Otherwise called the Fourth Industrial Revolution, Industry 4.0 envelops three mechanical patterns driving this change: network, insight and adaptable robotization. Industry 4.0 portrays the developing pattern towards computerization and information trade in innovation and cycles inside the assembling business, including: The Internet of Things (IoT), The Industrial Internet of Things (IIoT), Cyber-physical Systems (CPS), Smart Manufacturing, Smart Factories, Cloud Computing, Additive Manufacturing, Big Data, Robotics, Cognitive Computing, Artificial Intelligence and Block chain and so forth. This mechanization makes an assembling framework whereby the machines in manufacturing plants are increased with remote network and sensors to screen and picture a whole creation cycle and settle on independent choices. In this paper we are worry about how aptitude and ability of human asset can be grown with the goal that we can conquer this pandemic circumstance effectively. Delicate abilities for taking care of these forthcoming new innovation inserted framework must be taken consideration and carefully instilled by human asset with the goal that simple smooth of efficiency just as hole crossing over of flexibly and request can be conceivable. Skill development should be considered as prioritizing factor for this.*

**Keywords:** *Industry 4.0, cloud computing, cognitive computing, Cyber physical system, flexible automation., skill development*

## I. INTRODUCTION

At the point when PCs were presented in Industry 3.0, it was problematic as a result of expansion of an altogether new innovation. As Industry 4.0 unfurls, PCs are associated and speak with each other to at last put forth choices with a less human attempt. A mix of digital physical frameworks, the Internet of Things and the Internet of Systems make Industry 4.0 conceivable and the keen industrial facility a reality. Because of the help of savvy machines that continue getting more brilliant as they gain admittance to more information, our manufacturing plants will turn out to be more proficient and beneficial and less inefficient.

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At last, it is the organization of these machines that are carefully associated with each other which make and offer data that outcomes in the genuine intensity of Industry 4.0.

We are interfacing development like never before previously. Advancement is on a very basic level going through an extreme change. Any place we turn in the assembling scene, the innovative upset inundates us. The scale, degree, and multifaceted nature are things we have surely never experienced. It is presenting us to exponential advances. We appear to have made up for lost time in such degrees of speed, extension, and frameworks sway – it is apparently exponential, happening at quicker paces of progress. Organizations are fundamentally upgrading whole frameworks of creation, the executives, and administration consistently of progress. We have extraordinary handling power, stockpiling limit, and admittance to different roads of information. These are being joined with rising innovation in fields, for example, man-made brainpower, advanced mechanics, 3D printing, nanotechnology, biotechnology, material science, and quantum registering. It is making new difficulties and openings inside advancement. The world is confronting more prominent disturbance and an expanding advancement pace and really got up to speed in a progressive period. The times of basic item development are decreasing. As of now, the innovation, ability, and new advancement environments are developing; incorporating more noteworthy complexities with our last development contributions. Clever computerization and innovation are energizing this new modern transformation. What's more, this exceptional, exponential pace of progress is progressively dependent on synergistic stages to understand the outcome which is more extreme advancements. Associations wherever are confronting mounting strain to change to move from item driven plans of action to new models zeroed in on making and catching various wellsprings of new incentives. Thus, development is getting more intricate. We are looking progressively to our specialists, creators, and researchers to open these new information streams that bring us totally different regions of mechanical based advancement. Item development is constantly offering approach to new ideas that have innovation incorporated with them. Our advancement has gotten progressively unpredictable, associated, and relevant. Industry esteem chains are as a rule fundamentally upgraded to oblige associated universes being more dependent on everything being computerized. As we keep on planning assembling to be completely associated up, we can modify quicker, scale in an unexpected way, and convey amounts to fluctuating patterns of interest,



closer to the need of the day and all the more speaking to the clients. Our advancement scope changes with these new elements.

The client is progressively at the focal point of the economy. The items and administrations are improved through the computerized capacities that help their worth and worth. New materials are making our advantages more sturdy and tough, and information and investigation give important input expected to construct surprisingly better administrations and execution for what's to come. Advancement is the opening instrument. The outcomes of the fourth mechanical upset can be found in the movements of our accentuation occurring around development. Industry is zeroing in additional on mechanical advancement. It is continually taking a gander at the progressions to the current plans of action to mirror these changes, and further coordinating advancement frameworks to investigate totally new plans of action. We can say that development is getting dependent on the fourth transformation and how it is all interfacing us all, to give the future development through more prominent joint effort. Perceiving the changing potential will upset how we oversee advancement going ahead.

## **II. OBJECTIVES OF THE STUDY(PURPOSE)**

1. To study the feasibility of the skill development process to acquire technology.
2. To study the overall importance of acceptance of industrial 4.0 revolution in COVID pandemic.

## **III. LITERATURE REVIEW**

Assembling industry significantly sway monetary and cultural advancement. Just like an ordinarily acknowledged term for research focuses and colleges, the Industry 4.0 activity has gotten a marvelous consideration of the business and exploration network. In spite of the fact that the thought isn't new and was on the plan of scholastic exploration in numerous years with various observations, the expression "Industry 4.0" is simply dispatched and all around acknowledged to some broaden in scholarly life as well as in the modern culture too. While scholarly exploration centers around comprehension and defining the idea and attempting to create related frameworks, plans of action and separate strategies, industry, then again, concentrates on the difference in modern machine suits and canny items just as expected clients on this advancement. It is accordingly significant for the organizations to essentially comprehend the highlights and substance of the Industry 4.0 for expected change from machine predominant assembling to computerized producing. So as to accomplish an effective change, they ought to obviously survey their positions and individual possibilities against fundamental prerequisites put forth for Industry 4.0 norm. This will permit them to create a well-defined guide. There have been a few methodologies and conversations going on along this line, a few guides are now proposed. A portion of those are investigated in this paper. Notwithstanding, the writing unmistakably demonstrates the absence of particular evaluation philosophies. Since the usage and uses of related hypotheses and definitions laid out for the fourth modern insurgency isn't developed enough for a large portion of the reel life executions, an orderly methodology for making separate appraisals and assessments is by all accounts direly required

for the individuals who are meaning to speed this change up. It is currently principle obligation of the examination network to created mechanical framework with physical frameworks, the board models, plans of action just as some well-defined Industry 4.0 situations so as to make the life for the experts simple. It is assessed by the specialists that the Industry 4.0 and related advancement along this line will enormously affect public activity. As illustrated in the presentation, some social change is likewise anticipated. It is expected that the robots will be more prevailing in assembling, embedded advances, collaborating and planning machines, Self-dynamic frameworks, self-rule issue solvers, learning machines, 3D printing and so forth will rule the creation cycle. Wearable web, large information investigation, sensor based life, savvy city usage or comparable applications will be the primary worry of the network. This social change will normally trigger the assembling society to improve their assembling suits to adapt to the client necessities and support upper hand. An outline of the possible advancement along this line is audited in presentation of the paper. It is clear to such an extent that the future assembling frameworks will have an alternate vision made out of items, knowledge, correspondences and data organization. This will achieve new plans of action to be prevailing in mechanical life. Another significant issue to consider is that the time range of this purported upheaval will be so short setting off a proceeds with change cycle to yield some new modern zones to develop. This obviously squeezes producers to learn, get, plan and actualize the change cycle. Since the primary inspiration for finding the most ideal approach to follow this change, an exhaustive writing audit will produce an amazing help. This paper presents such a survey for featuring the advancement and plans to help improve the mindfulness on the best encounters. It is expected to give an unmistakable plan to those wishing to create a guide for digitizing the particular assembling suits. For that we require aptitude advancement cycle of youthful ages just as cycle of execution of computerized stage in physical preparing framework.

## **IV. EMERGING DIGITAL BUSINESS MODELS**

We have to acknowledge new computerized plans of action and their effect. We are progressively dependent on computerized designing and science. There is extension to have fundamentally extraordinary item advancement and cycles to oversee. These are duplicating by this pace of mechanical change. The conventional flexibly chain has a totally different potential when plants and activities become profoundly associated and begin working as Industry 4.0 substances. The new plans of action will rise up out of the manner in which they can be worked be responsive in the gracefully networks. This requires computerized the executives. As we associate more, the client encounters can enormously profit. We can target, sell, and market on more noteworthy associating information stages. We can comprehend channel decision and give more customized presales and present deals uphold on deal with the whole lifecycle as we keep on building the associated business 4.0 biological systems.

Further, Block chain innovation isn't just disturbing banking and account, however it additionally can possibly affect numerous enterprises and network overall.

For example, this innovation can empower a vehicle to react according to the need by introducing an advanced wallet dependent on Block chain innovation. This wallet works by logging all exchanges made including the vehicle, including upkeep, changes, energizing or filling gas. It makes it conceivable to foreordain the complete expense of possession and compute rate of profitability for the vehicle on an itemized level.

## V. INDUSTRY 4.0 POST COVID-19-VISIONARY VIEW

Industry 4.0 isn't just as applicable as it was before the worldwide COVID-19 crisis; it is really undeniably more important pushing ahead. The world is held by the pandemic. The worldwide flexibly chain is encountering a degree of interruption that has never been seen. A few makers have stopped creation totally, some have seen significantly decreased interest and others have seen an immense increment popular. Each producer is affected by this emergency here and there and for some this represents an existential danger. We have seen during COVID-19 pandemic that how displays are preparing on virtual spaces. How physical gatherings are changing over into computerized online classes? Preceding the emergency, Industry 4.0 was a zone of incredible enthusiasm to numerous producers. Now, it presumably appears to be uncaring and improper to talk about Industry 4.0 in the manner it was examined pre-emergency. The business drivers of Industry 4.0 pre-emergency were centered around upper hand, cost decrease, profitability, manageability and advancement. The objective was to improve smooth organizations to run. The concentration for some makers currently is endurance above all else and past that, harm impediment. The quick budgetary effect on producers is now bringing about a tremendous decrease in unnecessary spending and ventures. Numerous Industry 4.0 arrangements presently being thought of or being conveyed fall into the classification of insignificant business exercises.

Presently, the greater inquiry is-Is Industry 4.0 pertinent any longer? In the event that it is applicable, why and what job does it need to play pushing ahead? We trust Industry 4.0 isn't just as material as it was previously however it is really unquestionably more applicable pushing ahead. The needs for most makers today fall into three unmistakable Stages: Stage 1 – Survival; Stage 2 – Recovery; Stage 3 – Business as regular in the new post emergency worldview. The objective for all producers will be to get the chance to Stage 3 as quickly as time permits at the most reduced expense. In characterizing the working model for Stage 3 they will factor-in exercises gained from the emergency and attempt to manufacture a stronger and light-footed business. I trust one of the significant shortcomings is an absence of continuous perceivability over the business. Perceivability that is basic to help basic business choices. For instance what is the interest for items and where would we be able to produce them? What are our present crude materials, work-in-progress and completed merchandise stock levels? What is our assembling limit, both regarding HR and resource accessibility? Another key gaining from the emergency will be driven by makers'

dependence on human capital and the effects of social separating. In the event that we go one level further than the flexibly chain see, at that point producing specifically will be featured as a major region for development. During the emergency, creation plans would have been changing on an a lot higher recurrence because of changing requests and accessibility of crude materials, key staff and resources. Assembling has an a lot higher volume and recurrence of exchange than the flexibly chain.

Corona virus is causing extremist movements in work process over the globe as millions practice social separating and consent to self-isolate proposals. The pandemic's emotional appearance has quickened various patterns while easing back others. Despite the fact that, there is no uncertainty that COVID-19 is a groundbreaking power, it isn't bringing us into Industry 5.0. Despite the fact that organizations have had motivation to grasp advanced work processes previously, COVID-19 has given another solid motivator to move towards a keen plant, total with shrewd assembling or savvy printing measures. While tried and true way of thinking says that a committed office space is needed to expand efficiency yet this hypothesis is being put to a definitive test during COVID-19.

## VI. COVID-19 LEADING TO DIGITAL TRANSFORMATION

The mix of computerized framework to smooth out general wellbeing to react to the COVID-19 pandemic is vital with regards to scourge determining and dynamic, one such model in India is the Aarogya Setu application by Government of India. This application is legitimate COVID-19 tracker. This clarifies advanced contact following is presenting another type of invulnerability computerized insusceptibility. The quickest versatile answer for India's COVID-19 test was to utilize advanced innovation for determination and for contact following. Aarogya Setu application can likewise be tapped for giving telemedicine, particularly in far off parts, during this snapshot of emergency. This advanced framework execution progressively powers the computerized change activities inside an association also. However, because of the pandemic, the progress will see huge changes in ventures particularly in innovation, food conveyance administrations, client support, and virtual occasions. In the current circumstance, we are seeing significant events around the world, including taking off appropriation of online administrations, a gigantic necessity for internet providers, and upgraded network among businesses, paying little heed to their sizes. The effect of the COVID-19 pandemic has exhibited its estimation and advanced change across enterprises and organizations and they should use this chance to accelerate the progress. It has been shown in the improved corporate capacity of significant distance community oriented work, wide acknowledgment of the estimation of advanced change and data innovation among all representatives, and the capacity to showcase on the web and business advancement. To finish up, in the hour of Corona infection emergency, Digital Industry 4.0 assumes an indispensable part in imagining and demonstrating flare-ups.



As the pandemic keeps on spreading the world over, it will get basic for associations to search for new arrangements or approaches to remain in front of the opposition. Since most undertakings will neglect to detect their monetary focuses because of flexibly chain interruptions and brought down client request. The COVID-19 pandemic hit makers in an unforeseen and exceptional manner. Without precedent for present day fabricating history, request, gracefully and workforce accessibility are influenced universally simultaneously. Social removing and representative security estimates put an extra degree of focus on makers, as 40-half of their workforce will be inaccessible to play out their capacities on location. While office representatives and information laborers can move to far off work as the default working mode, most plants are essentially not intended to be overseen distantly and do not have the advanced devices and foundation expected to help such exercises.

Notwithstanding, this circumstance must be seen as a chance and organizations must zero in on advanced foundation. Associations that adjust their innovative limit and ventures on advanced stages can lighten the effect of the COVID-19 and keep their organizations running in the long haul. In this way, as organizations move to turn out to be more advanced, I accept they can drive more an incentive regarding client experience as computerized arrangements empower business-client connections on screens as opposed to face to face. Going ahead, numerous associations may receive distant working arrangements as techniques to lessen costs, improve profitability, and increment laborer fulfillment. Numerous producers are expanding endeavors to outfit their human laborers with advanced associated specialist apparatuses that consolidate security looks into work processes, guarantee coordinated effort with partners when physical contact is off the cards, and other such cycles that at last parity business coherence and worker wellbeing. This is additionally the beginning of another time where 'bleeding edge' laborers and work area laborers are orchestrated with devices that can uphold the progression of joint effort and information, where something that occurs on the processing plant floor starts a correspondence or work process in the back office. In spite of the fact that, the idea of utilizing associated specialist innovation to engage laborers around wellbeing, quality and efficiency might be uplifted at the present time, it will even now be similarly as basic to assemble business strength after this pandemic is finished. What the majority of us consider ordinary has as of now in a general sense moved. Producers who comprehend and follow up on this new typical will have plentiful open doors for development in this time of Industry 4.0.

## **VII. PROPOSED SOLUTIONS TO OBJECTIVES**

### **Atal Innovation Mission**

Perceiving this need, the Government of India has set up Atal Innovation Mission (AIM) to advance a culture of advancement and enterprise in the nation. Point's objective is to grow new projects and arrangements for cultivating development in various divisions of the economy, give stage and coordinated effort chances to various partners, make mindfulness and make an umbrella structure to administer advancement biological system of the nation. Six significant activities taken in first year of its foundation:

Atal Incubation centre-Fostering New Incubator Model

Atal New India Challenge-Fostering Product Innovation

Mentor India Campaign-Mentorship programme of skill development of community with collaboration with PSUs

Atal Community Innovation Centre-Community based innovation development

ARISE-Innovation of technology in MSME Sector

### **Initiatives Under Atal Innovation Mission**

Foundation of thousands of Atal Tinkering Labs empowering understudies from grade 6 to review 12 to approach and tinker with inventive apparatuses and advancements like 3D printers, mechanical technology, scaled down hardware do-it-without anyone else's help packs, hence animating a critical thinking imaginative .Throughout the most recent two years, AIM has dispatched the mentality to tackle issues in the network they are in. Atal Tinkering Labs are being set up in schools cross country with 4880+ operational in 650+ locale and more than 2 million understudies approaching ATLs.

PM India Innovation learning DHRUV program

Russia Collaboration with SIRIUS ATL innovation

Singapore inspreneur 3.0 ATL collaboration

ATL Gandhian Challenge- launched in Schools

UNICEF Challenge collaboration

### **Atal Incubators at Universities, Institutions, Industry Level**

To advance formation of a supporting biological system for new companies and business visionaries, AIM has been building up a-list hatcheries called Atal Incubation Centers (AICs) in colleges. Establishments, corporates, and so forth that would cultivate elite creative new businesses and become versatile and feasible undertakings. Until now, AIM has chosen 102 colleges/organizations/private players to build up top notch Incubators every one of which will cultivate creation and supporting of 40-50 a-list Startups like clockwork. 50+ of them are now operational with 900+ operational Startups and the rest of the will be operationalised during the year 2021.

### **Applied Research and Innovation for Small Enterprises (ARISE) - to Stimulate MSME Industry Innovation**

To advance development in a staged way in the MSME/Start-up area Point will dispatch ARISE along with accomplice Ministries so that incredible exploration thoughts are changed over to practical creative models followed by item advancement what's more, business organization.

## **VIII. METHODOLOGY**

This is completely a descriptive data analysis based on which our whole paper has been prepared.

1. Questionnaire
2. Data collection by google sheet
3. Data Validity and reliability testing
4. Determine level of confidence for acceptance of objective
5. Histogram representation



### Questionnaire-

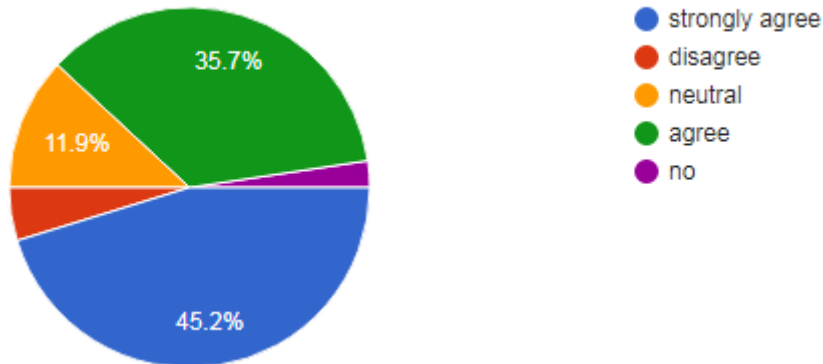
The questionnaire we have developed are mentioned below-

1. Industrial 4.0 is directly proportional to skill acquiring process. Do you agree on this?
2. Software technology requires infrastructure development. Optimum space utilization principle has to be followed. Give your opinion.
3. Industrial revolution is still not fully fledged in India. Do you think Skill development process will develop capability for implementation of Industrial revolution in maximum possible?
4. Industrial 4.0 in developing country like India will take many days if skill training development of human resource is not possible. Do you agree on this statement?
5. Do you think that a separate budget should be there for digital platform and skill focusing to justify Local for vocal ?
6. Transition from contemporary to digital requires a lot of experiment and final paradigm shift of industrial revolution can create a positive impact. Give your opinion.
7. Digital and Automated system can help for reducing physical ergonomics with quick access and deliverative prospective. Give your response.
8. COVID-19 scenario has boosted up the activities in the digital platform. Bull whip effect must be eradicated to create a sustainable platform of communication. Skill development is the boosting factor for this. Given you comment?
9. Automation with industrial 4.0 has created a positive impact to utilize the local resource very effectively. Give your opinion on this statement.
10. Broader form of Industrial 4.0, skill development for technology adoption etc are the frontline weapons for the mitigation in COVID pandemic. State your opinion.

### IX. INDIVISUAL QUESTIONNAIRE ANALYSIS AND JUSTIFICATION THROUGH PIE-CHART ANALYSIS (RESPONSE SHEET COLLECTION)

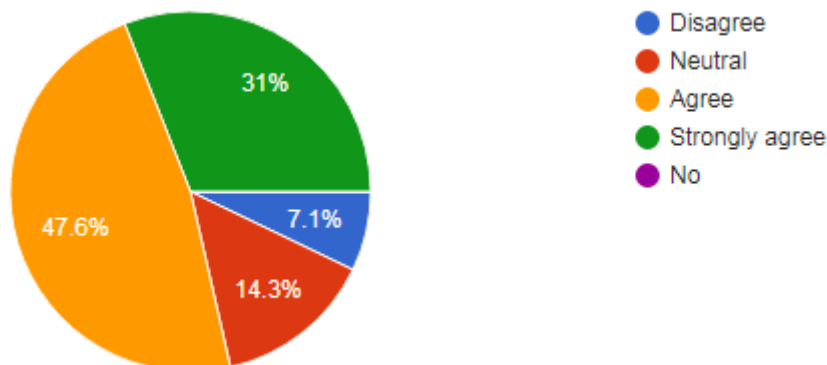
#### Likert 5 Point Scale Method-

1. Industrial 4.0 is directly proportional to skill acquiring process. Do you agree on this?



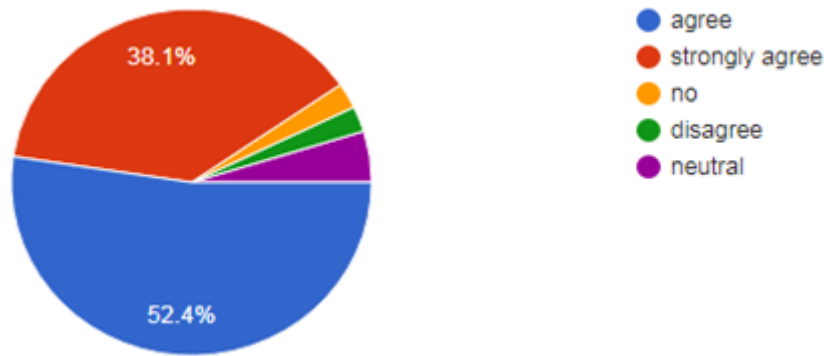
(FIG-I)

2. Software technology requires infrastructure development. Optimum space utilization principle has to be followed. Give your opinion.



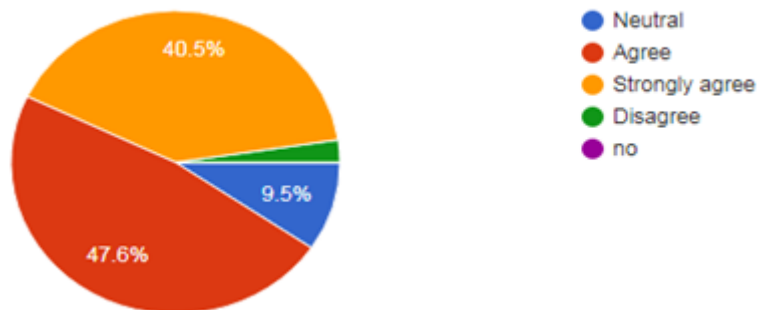
(FIG-II)

3. Industrial revolution is still not fully fledged in India. Do you think Skill development process will develop capability for implementation of Industrial revolution in maximum possible?



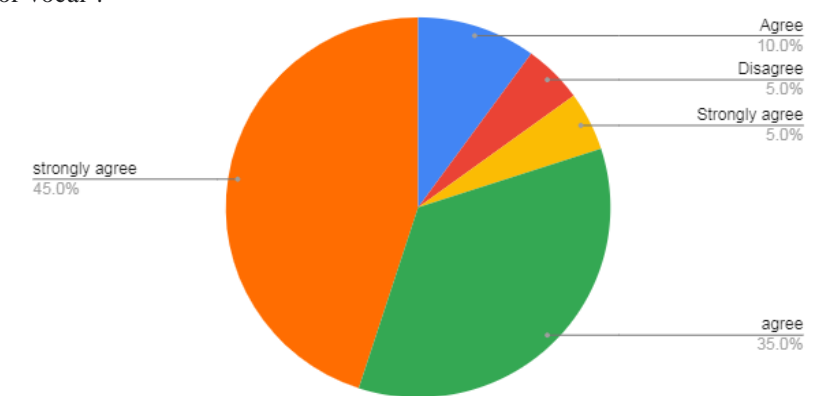
(FIG-III)

4. Industrial 4.0 in developing country like India will take many days if skill training development of human resource is not possible. Do you agree on this statement ?



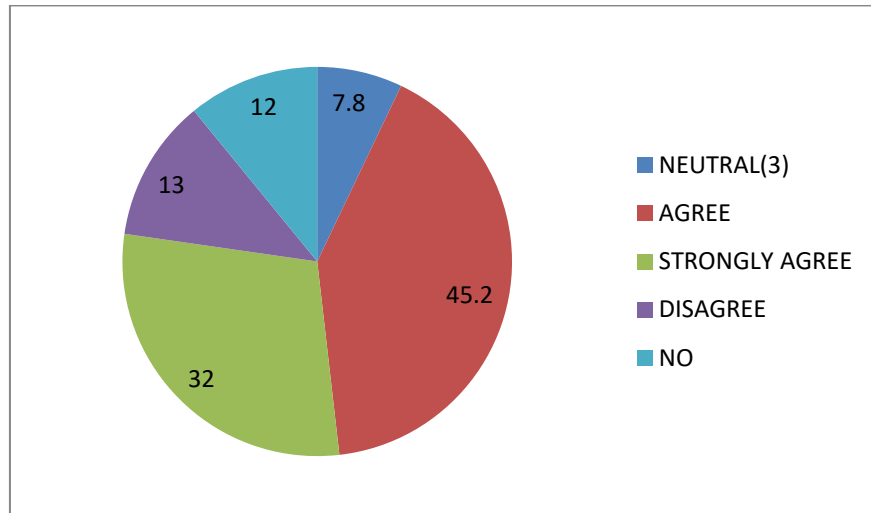
(FIG-IV)

5. Do you think that a separate budget should be there for digital platform and skill focusing to justify Local for vocal ?



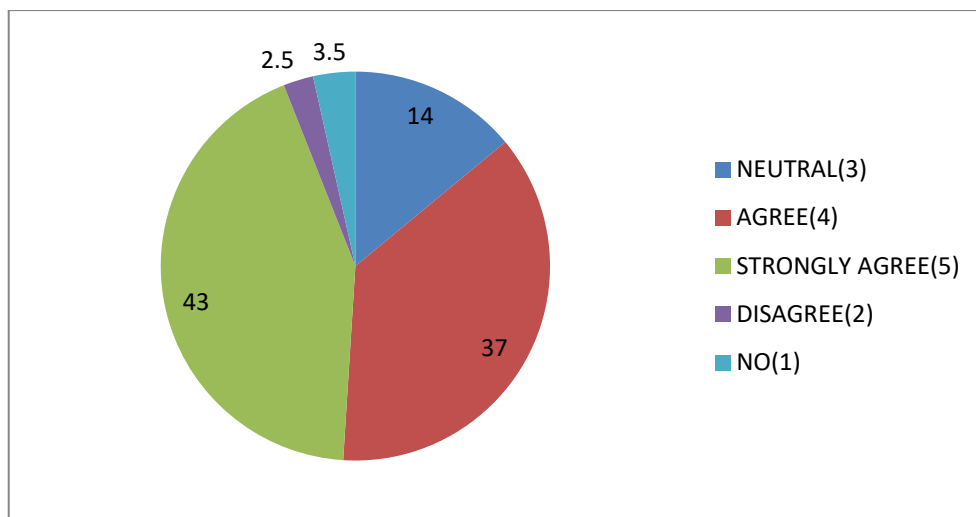
(FIG-V)

6. Transition from contemporary to digital requires a lot of experiment and final paradigm shift of industrial revolution can create a positive impact . Give your opinion.



(FIG-VI)

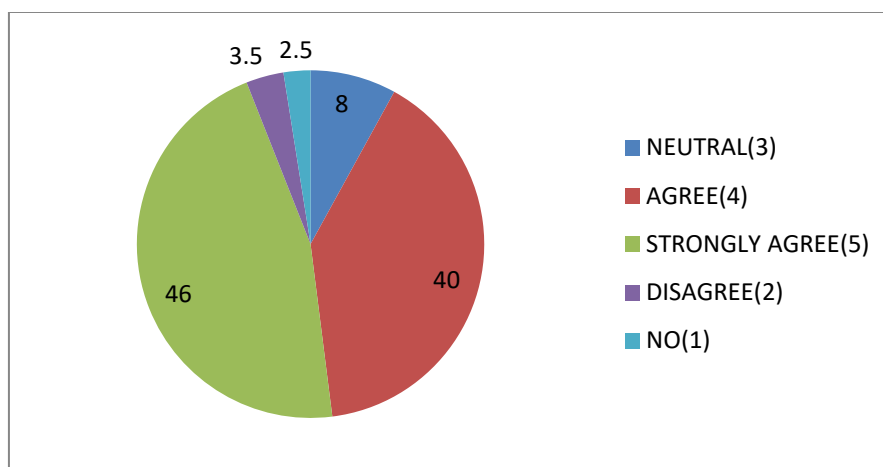
7. Digital and Automated system can help for reducing physical ergonomics with quick access and deliverative prospective. Give your response.



(FIG-VII)

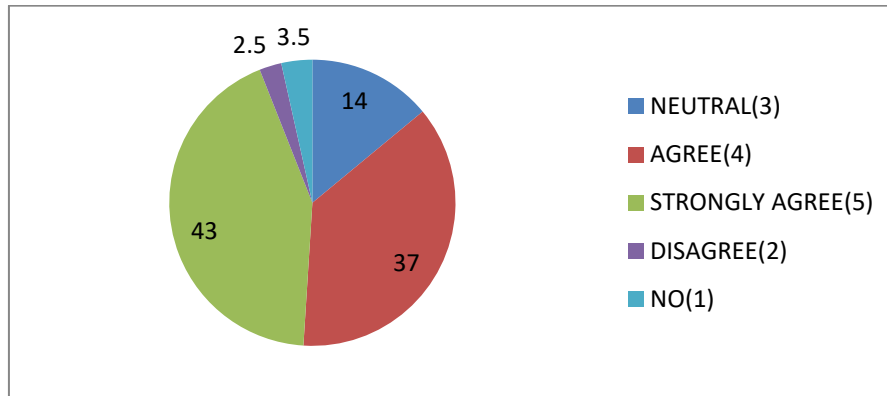
8. COVID-19 scenario has boosted up the activities in the digital platform. Bull whip effect must be eradicated to create a sustainable platform of

communication. Skill development is the boosting factor for this. Given your comment?



(FIG-VIII)

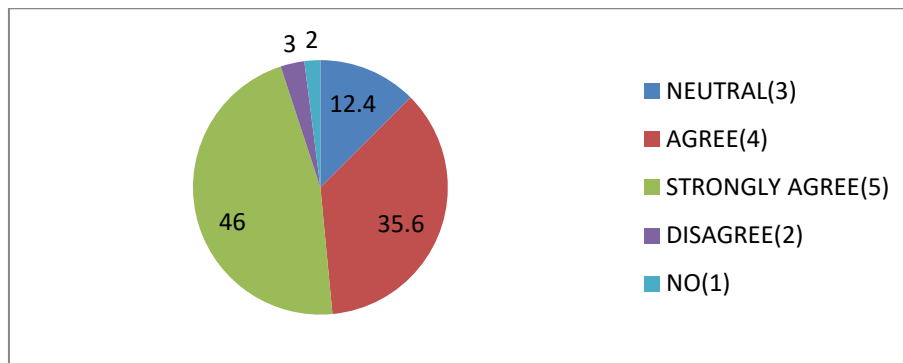
9. Automation with industrial 4.0 has created a positive impact to utilize the local resource very effectively. Give your opinion on this statement.



(FIG-IX)

10. Broader form of Industrial 4.0, skill development for technology adoption etc are the frontline

weapons for the mitigation in COVID pandemic. State your opinion.



(FIG-X)

#### Final Questionnaire Opinion of the Respodents-

Likert Scale Questionnaire	Neutral(3)	Agree(4)	Strongly agree(5)	Disagree(2)	No(1)
1	11.9	35.7	45.2	4.8	2.4
2	14.3	47.6	31	7.1	0
3	4.8	52.4	38.1	2.4	2.3

4	9.5	47.6	40.5	2.4	0
5	5	35	45	10	5
6	7.8	45.2	32	13	12
7	14	37	43	2.5	3.5
8	8	40	46	3.5	2.5
9	11	42	35	7	5
10	12.4	35.6	46	3	2

#### Descriptive Data Analysis by Using Above Data Set-

NEUTRAL		AGREE	
Mean	9.87	Mean	41.81
Standard Error	1.084337996	Standard Error	1.941960636
Median	10.25	Median	41
Mode	#N/A	Mode	47.6
Standard Deviation	3.42897782	Standard Deviation	6.141018736
Sample Variance	11.75788889	Sample Variance	37.71211111
Kurtosis	-1.198435904	Kurtosis	-1.1880037
Skewness	-0.268351771	Skewness	0.42832059
Range	9.5	Range	17.4
Minimum	4.8	Minimum	35
Maximum	14.3	Maximum	52.4
Sum	98.7	Sum	418.1



Count	10	Count	10
Confidence Level(95.0%)	2.452942959	Confidence Level(95.0%)	4.393020153

STRONGLY AGREE		DISAGREE	
Mean	40.18	Mean	5.57
Standard Error	1.845644	Standard Error	1.155763
Median	41.75	Median	4.15
Mode	46	Mode	2.4
Standard Deviation	5.836437	Standard Deviation	3.654845
Sample Variance	34.064	Sample Variance	13.35789
Kurtosis	-1.35792	Kurtosis	0.303259
Skewness	-0.56847	Skewness	1.094335
Range	15	Range	10.6
Minimum	31	Minimum	2.4
Maximum	46	Maximum	13
Sum	401.8	Sum	55.7
Count	10	Count	10
Confidence Level(95.0%)	4.175136	Confidence Level(95.0%)	2.614518

DISCARD / NO	
Mean	3.47
Standard Error	1.091079995
Median	2.45
Mode	0
Standard Deviation	3.450297894
Sample Variance	11.90455556
Kurtosis	4.290887339
Skewness	1.816945973
Range	12
Minimum	0
Maximum	12
Sum	34.7
Count	10
Confidence Level(95.0%)	2.468194421

Likert scaling	Confidence Level 95.0%
Neutral	2.452942959
Agree	4.393020153
Strongly agree	4.175136
Discard	2.468194421
Disagree	2.614518

Here value of confidence level is maximum range of strongly agree to agree range. That ultimately we are getting that industrial 4.0 revolution is the blessing for disguise to utilize the resource successfully and enhancing the chance of self employment by acquiring skills.

## DATA RELIABILITY TESTING

(Percentage Acceptance of Respondents)

Likert Scale Questionnaire	Neutral(3)	Agree(4)	Strongly agree(5)	Disagree(2)	No(1)	TOTAL
1	11.9	35.7	45.2	4.8	2.4	100
2	14.3	47.6	31	7.1	0	100
3	4.8	52.4	38.1	2.4	2.3	100
4	9.5	47.6	40.5	2.4	0	100
5	5	35	45	10	5	100
6	7.8	45.2	32	13	12	100
7	14	37	43	2.5	3.5	100
8	8	40	46	3.5	2.5	100
9	11	42	35	7	5	100
10	12.4	35.6	46	3	2	100
Variance	10.5821	33.9409	30.6576	13.3578889	10.7141	0

CHRONBACH ALPHA=

0.998111 > 0.9

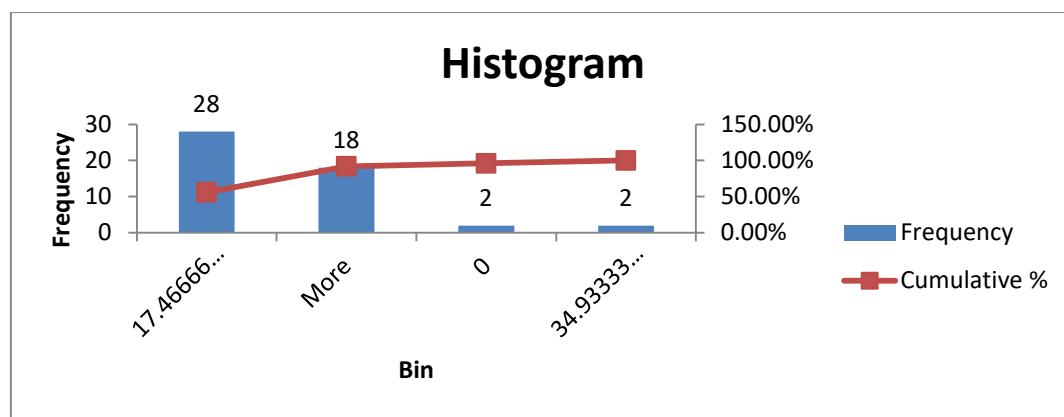
It represents the data we have collected is internally consistent or reliable.

All the values are set with respect or matched with requirement.

## DATA VALIDITY TESTING-

Total Sample Survey Taken=102

<b>Histogram analysis (overall representation)-</b>					
Bin	Frequency	Cumulative %	Bin	Frequency	Cumulative %
0	2	4.00%	17.46666667	28	56.00%
17.46666667	28	60.00%	More	18	92.00%
34.93333333	2	64.00%	0	2	96.00%
More	18	100.00%	34.93333333	2	100.00%



## Respondents Background (Total Sample=102)

Age	Samples	Range	Percentage
30		20-30	49.4
52		31-50	34.4
20		50-55	16.1

Gender	Samples	Range	Percentage
M	50	20-55	52.7
F	52	20-55	47.2

Education	Samples	Range	Percentage
Ph.D	12	30-55	27.2
MBA	40	20-30	18.3
B.TECH	30	20-25	11.6
B.Sc	20	20-25	23.3
BA	10	20-25	19.4

## X. PERSONIFIED QUESTIONS TO RESPONDENTS

What is your age?

Which age categorisation do you belong to ?

What is your educational background ?

**Interpretation-** In this above graphical analysis we can interpret that maximum sample respondents varies their opinion from agree to strongly agree which varies from 40-50% of average range. That shows that implementation of this industrial revolution through skill development process will be most accepted but the challenging point of skill development has to be addressed. A particular road mapping with potential learning ability have to be judged by implementing the schemes through the grass root level mechanism system. If we see the neutral sector of Likert's scale then neutral respondent have to be given on more

focus for objectifying the purpose of development process. The 4 questionnaire analysis with acceptance limit varies maximum from 40-50% average with response of agree to strongly agree responses. Country like India is still in the position of back index as compared to Scandinavian countries like Norway, Denmark etc. Implementation of Industrial 4.0 revolution process by rural sector and grass root level has to be focused through the schemes as I have mentioned above. Monitoring and controlling of implementation phase by periodic or continuous super visionary process has to be followed sincerely. Risk is a part and parcel of implementation phase like COVID-19. Suddenly the economic as well as societal graphic has completely been changed. But question is whether we should stop or look for other opportunities. So Industrial 4.0 revolution with skill development process is an opportunity in the upcoming generation by which the whole globalization connectivity and value chain system can run very smoothly irrespective of population crashing. In the above analysis of sample survey if we visualize the line graph which is plotted for individually questions of the objectives the trend line variation is maximum between agree to strongly agree which ultimately represents the behavior of customers towards digital platform and local resource utilization can be done with exact precision. The data which have been collected are completely reliable and valid tested by Chronbach Alpha having value 1.11.

**Trend line study-** In the individual line graph for each questionnaire has to be seen properly. We can observe that each of the trend line there is a incrimination between strongly agree to agree part.

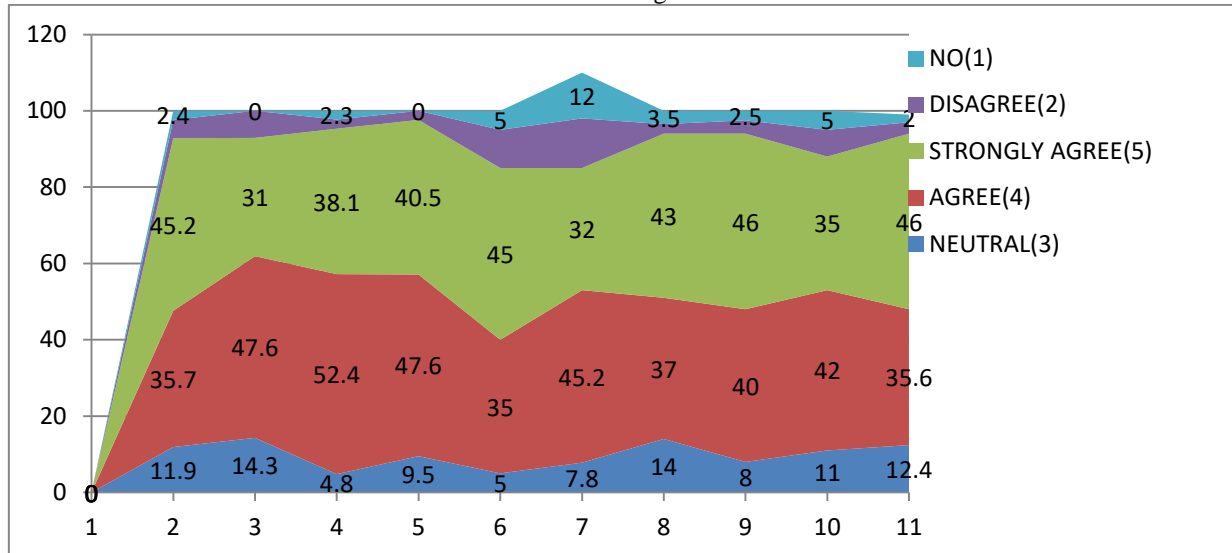


That shows that most of the customers are now a days accepting the industrial 4.0 revolution implementation which has to be enhanced by acquiring skill. Trend line is demarcating the positive impact on implementation phase with quick response of respondents. But skills acquiring process has to be tackled with the experimentation of capability study of the people who will ultimately work in the manufacturing system or the innovative idea creation by students by developing the ATAL LAB, country collaboration, skill and technology sharing between the countries by bilateral contracting process.

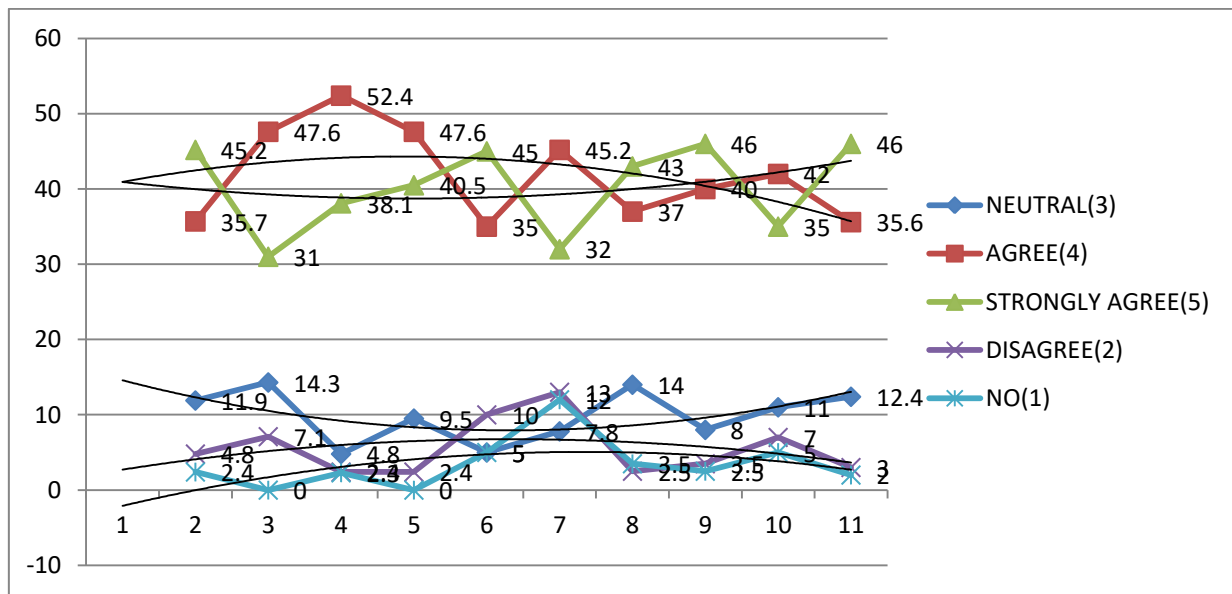
#### Interpretation of Trend Line and Distribution Area

Here the huge distribution variation is happening from strongly agree to agree. Which shows that most of the respondents are the in the support of implementation of the industrial 4.0 revolution. This defined feasible region shows that the different automated system should be implemented within these the bounded area whose variation is extreme and huge. Ultimately we can say the acceptance limit boundary is huge and most of the respondents are in the support of the implementation of the distribution pattern given below.

If we go for the trend area we can see the most of the area found are ranging from acceptance of strongly agree to agree .



(Distribution Area of Respondent Acceptance)



(Trend Line Distribution Of Respondent Acceptance )

## XI. LIMITATION OF STUDIES

In this particular context of my discussion this topic can be broader prospective. But many aspects which have to be taken care of. Rome was not built in a day. Transformation of digital industrialization process can be possible but monitoring and controlling system in the process of implementation is a big challenge which can be carried forward for the further study purpose. Time series study of implementation with experimented test market scenario study can be a limitation which can be carried forward for the further study prospective. Special time series study with cost benefit analysis can be considered as the limitation which can be carried forward for further study process. Ground root study can be a key prospective of this study which can be taken into further study prospective. Availability of technological system and school level foundation system can be developed through the process of regular flexible study and decision making process with respect to the demand. ATAL tinkering lab feasibility study can be a part and parcel of the study of this paper in future. Key response demand and what is the respective supply system ( gap analysis ) can give better impact on the study prospective for this topic in future.

## XII. SCOPE OF RESEARCH

This paper can develop a holistic ideology of social entrepreneurship. By developing skill imbibed with technology will definitely develop a self independency. Flexibility with decision capability development process of human resource can be helpful further for utilization of resource in local based in this pandemic COVID-19 as well as development of increment of resource with simultaneously taking care of usability factor. Individual capability study can be included for further research prospective from this paper.

## XIII. CONCLUSION

This paper is ultimately representation of acquiring the best availed source from the boundary of limitation. Here in this context the limitation is COVID-19. So now question arises –can we stop? We have to run the system with utilizing digital skill development process and fine smooth auto controlling system. The conversion of word developing to develop will only be possible by system adoptability through automation and distinguished identification and subsequent development of skills of the all stakeholders associated with industry. We can ultimately define this implementation as a collective responsive job where combined effort should be given to develop an auto controlling system. Simultaneously human resource has to be trained properly to deal with the technology. With this processing the local resource development can also be possible.

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