

# ROLE OF BUDDHISM IN THE ERA OF FOURTH INDUSTRIAL REVOLUTION

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## **ABSTRACT**

*Human civilization throughout the course of its journey up to now has witnessed several revolutionary changes, effected by several Industrial Revolutions. The Fourth Industrial Revolution is one of them, which is based on the fruits of previous three industrial revolutions. World expects much from the Fourth Industrial Revolution, as it is likely to bring forth a drastic change in the world. As per Klaus Schwab, 'it will fundamentally alter the way we live, work and relate to one another. In its scale, scope, complexity, the transformation will be unlike anything human kind has experienced before'. Its functioning being based on the cyber systems that works on Artificial Intelligence, in a way, intends to replace Human Intelligence, in every facet of our life like business and other arenas, by Artificial Intelligence with sole objective of benefitting the humankind. Once the reality is replaced by virtual world one can't just alter the situation by pressing CTRL+ ALT+DEL, rather it will harm the human beings in several ways, such as by eating jobs, moral values and etc. In addition to these what is worrisome is that if Artificial Intelligence begins to imitate our brains, sooner or later, it may learn to 'dictate and make us slave'. As per the estimate of World Economic Forum, the possible impacts of the Fourth Industrial Revolution from economic point view are expansion of trade, reconfiguration of factory system, increase in standard of living, massive employment and unemployment,*

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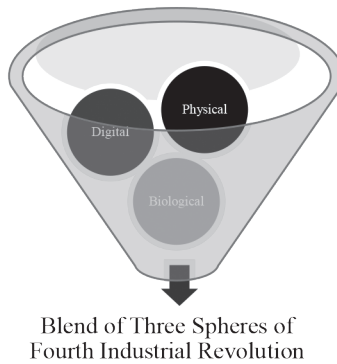
*redistribution of wealth, and inequalities. Similarly its societal impacts are growth of cities, increased in leisure time and population, social challenges e.g. urban slums, frustration, drug-addiction, fear of security, decrease in human skilfulness, emotional discriminations and etc. The net result of this could more or less be marked as an atmosphere of unrest, inequality, unhappiness, stressful life, violence, conflict, mistrust etc. all over the world. In such as scenario, the principles and values, enshrined in Buddhism could be of immense help to the world, as we know it deals mainly with existential problems of human being and strives to establish the regime of happiness and peace in the world. Hence, in the background of Buddhist principles consist of ethical norms and values, and etc., this paper purports to discuss various issues relating to the Fourth Industrial Revolution such as, its background, objective, operational scope, functionalities, challenges and prospects (especially in the field of economy and society), and the application of Buddhist approach to resolve the human created problems along with the execution of the Fourth Industrial Revolution.*

## **1. INTRODUCTION**

Human civilization throughout the course of its journey, is filled with revolutionary changes, marked by the discoveries of fire, agriculture, money, wheel, cities, manufacturing and trading companies, steam engine, electric power, mass production, chemical productions, super computers, internet, DNA editing, artificial intelligence (AI) and so on. These discoveries are basically the outcome of the inquisitiveness of man to explore new ways and means for his comfort and development. Evidently such discoveries made a lasting impact on human life bringing in transformative change in his living standard. Therefore, such dynamic change in man's life is, generally, termed as revolution. Till date, human history has witnessed three (Industrial) revolutions, in addition to present one 'the Fourth Industrial Revolution', a termed coined by Klaus Schwab, the founder and Executive Chairman of the World Economic Forum (Min, David and Kim 2018).

The first three revolutions brought forth irreversible changes to human life and as a result of it our existing pattern of living has been fully submerged in changes brought about by these revolutions

whether it is concerned with the use of new machineries and technologies or to adopt the new sources of earning or to follow the new life-style. In fact, they provided the human world not only with much needed comfort and facilities, but also gave impetus to its further development. However, at the same time, these discoveries propelled the human beings to make indiscriminate and unrestricted use of natural resources, causing problems like climate change and depletion of natural resources. In such a scenario, the seed of the Fourth Industrialization is supposed to be planted.



## 2. BACKGROUND

As the historical evidences suggests that each of the previous three industrial revolutions started at different times as a separate event and continued for a long time, they should not be seen as isolated events from each other; rather, they should together be better understood as a series of events building upon innovations of the previous revolution (Min, David and Kim 2018). The mechanical and technological scenario (especially in the field of electronics and information), created by the previous industrial revolutions, particularly the third industrial revolution ushered in the new revolution, called the 'Fourth Industrial Revolution' (FIR). Thus the FIR is said to be based on the fruits of Third Industrial Revolution.

## 3. WHAT IS 'FIR' AND ITS OBJECTIVE?

The FIR unlike the previous three Industrial Revolutions would grow at the speed of light year with one objective to bring changes in the world for the betterment of human beings by

means of advancement of technologies, which will reconfigure the entire graphical design of our cosmic existence by blurring the lines between physical, biological, and digital spheres and would necessarily put forward impact of difference (Schwab 2017). Therefore, the objective of this revolution, as Klaus Schwab (2016) claims, would not be limited like other previous revolutions to the changes in the society and creation of new opportunities, but, it will drastically “transform the entire world’s economy, human communities, even the human identities, i.e., the way we live, work and relate to one another” (Schwab 2017, Introduction). In other words, it describes a world where individuals move between digital domains and offline reality with the use of connected technology to enable and manage their lives (Top 2016).

#### **4. OPERATIONAL SCOPE**

According to World Economic Forum (WEF) and other such councils the driving force behind the functioning of the FIR will be the new megatrends set by the assimilation of physical, biological, and digital spheres . These three clusters are deeply interconnected and supporting for the growth of one another, leading to mass production of best quality designed hi-tech products and automated machineries, 3 or 4D (Dimensional) printing, robotics, new (re-usable) materials, digitalization of working system (through networking or internet), promoting healthy living (by early detection of diseases and proving better health facilities) and etc. (Schwab 2017).

#### **5. PROSPECTS AND CHALLENGES**

As apparent from their functionalities the flare of these technologies are modifying our ways of living, communication, behavioural patterns and its response for self and others, different methods of production, consumption, and its application in various other systems such as healthcare, regeneration and preservation of habitats and the natural environments, integration of systems for supply of goods or energy, interconnectedness and expansion of sectors - academia, business, and etc. besides opening the doors for new advancements of fresh air, water, integrated supply of energy, 3D-replacement of disabled organs, automotive processes

of working, ease and quickness of data management, access of data at any moment from any place and etc. All these outputs of the FIR has given the green signal for reshaping of economical, social, political, technological, physiological, biological, cultural and other spheres of humankind. And, thus, it is about to transform the globe to the flip of 180°.

Though human quest has always been looking for transformation, but, as customary to man change is not easily adaptable, because it is accompanied by various challenges, consequences prospects, and side effects as well. As per the estimate of WEF, the economical impacts of the FIR may be the expansion of trade, re-configuration of factory system, luxurious standard of living, massive employment and unemployment, redistribution of wealth, and inequalities. Similarly its societal impacts are growth of cities, increased in leisure time and population, social challenges e.g. urban slums, frustration, drug-addiction, fear of insecurity, moral degeneration, decrease in human skilfulness, emotional discriminations, migration of people from rural areas to urban centres and etc.

In this background the projected instant positive and negative impacts of the FIR from the scope and operational point of view could be enumerated in tabular form as under:

Cause - (the implementation of FIR) - Effect (Effect of Implementation of FIR impacts in two ways Positive and Negative)		
FIRTHREE SPHERES	INSTANT-POSITIVE IMPACT	INSTANT- NEGATIVE IMPACT
1. Physical	Reduce road fatalities, insurance costs, carbon emissions, pollution; liberate workers; produce new tools; improve health; create new jobs, and etc.	Loss of Jobs (cause repression, depression, increase mental illness), growth of inequality (due to low skill, low wages or no jobs even and high skill, high wages), prone to physical, disparity among people, expensive life and no social life, even threatening to life -due to use of new tech in deploying weapons (Autonomous weapons 2017) and etc.
2. Digital	Beneficial for sectors like retail, finance, banking, hospitals, manufacturing industries, sales and distribution, army, vehicles, service industry, and etc	Prone to cyber attack, end of privacy, hacking frauds, misuse of technology (stealing through drones, hacking etc.) fear of trust, internet for things and etc.,
3. Biological	Cure for physical disease, precise diagnoses, 3 D - i m p l a n t a t i o n of organs (hip displacement, liver t r a n s p l a n t a t i o n), enhanced sensing, processing, and action information (improved hearing, vision, restoring memory, and etc.), human like Robots, Good health, and etc.	Take over the place of doctors, end up specific qualities to comfort humans (such as empathy, sympathy, help and understanding), wrong treatments (as one disease may have various symptoms corresponding other disease or dysfunctional organs or due to reactionary bodies, and etc.

The Global Risks Report 2017 published by the World Economic Forum also cites about these prospects and challenges while describing the Global Risks and Trends and Emerging Technologies 2017. It has displayed all these aspects comprehensively in a map,

which is not being presented here due to paucity of space, however it may be consulted vide the web link mentioned in this report.

It is, however, remarkable that world expects much from the Fourth Industrialization so far as betterment of human being and this planet is concerned, as in the words of Klaus Schwab, 'in it scale, scope, complexity, the transformation will be unlike anything humankind has experienced before.' A fundamental change in the way products (goods and services) being produced, delivered and consumed is expected by means of using cyber physical systems. Since the cyber systems work on Artificial Intelligence, in a way, the FIR intends to replace Human Intelligence, in every facet of business and other arena, with it in order to achieve the obvious (so-called) goal of mitigating human problems, and to upgrade their life. Once the reality is replaced by virtual world one cannot just alter the situation by pressing CTRL+ ALT+DEL, rather it will affect the human beings in several ways, such as by eating jobs, moral values and etc. In addition to these what is worrisome is that if Artificial Intelligence begins to imitate our brains, sooner or later, it may learn to 'dictate and make us slave'. It has already started indirectly controlling and dictating our minds in silent mode. Incidents related to Blue Whale, and MOMO games, which impelled their several users for committing suicide, could be cited here as the brilliant examples of how can the latest technology base on AI could control the mind. In addition to it AI can also be associated with some other problems like its failure, software issues, human illness -e.g. change of the pitch of sound due to tooth filling (Amazon Alexa 2018), detection of children prohibited website (Amazon, Alexa 2017) due to child speech detect (wrong suggestions), sorcerer's apprentice (Berger 2017), excess of power supply, power failure, too much integration or load, and devalue subjects and courses (education). These problems result respectively in slowing down of process, errors, wrong commands, wrong response, and no acceptance of asking direction or not open to feedback, damage of the whole circuit, shutting down of all the systems, environmental harm (sudden climate change, natural disaster stimulation possibility, and devaluation of subjects of other streams apart from science, math, and engineering. In the backdrop

of aforesaid description apart from projected benefits the net result of this could be marked signal of atmosphere of unrest, inequality, unhappiness, stressful life, violence, conflict, mistrust, sense of insecurity etc. around the world. All these aspects caution us of the fact that FIR is required to be implemented under intensive care with utmost moral responsibility. Acculturation of Buddhist principles and values with envisioned ideas of FIR could provide this care and responsibility.

**6. ANALYSIS OF FIR FROM BUDDHIST PERSPECTIVE**

When we analyse the operational aspect of FIR from Buddhist perspective, it appears that it also operates similar to the principle of Dependent Origination (*paṭīccasamuppāda*), which works on the maxim of “*Imasmim̐ sati idam̐ hoti, imassuppādā idam̐ upajjati, imasmim̐ asati idam̐ na hoti., imassa nirodhā idam̐ nirujjhati*” (*Saṃyuttanikāyapāli*, 1.3.1.22, VRI.1.25) i.e., “*This being, that becomes; from the arising of this, that arises; this not becoming, that does not become; from the ceasing of this that ceases*”(Davids, 1921-25, p.439). Ostensibly, the implementation of FIR begins as a simulative cause for further rolling of the effect on society and, thus, it not only portrays the positive and negative impacts but also throws light on the cause and effect relationship, which explains the process through which ‘A’ becomes the cause of ‘effect B’, wherein the effect ‘B’ becomes the causal seed for ‘effect C’, and then this effect ‘C’ becomes the causal seed for ‘effect D’, and goes on rolling like a wheel and entangling man in the web of suffering. To testify this aspect of FIR, the reflected and actual picture (i.e., prospects and challenges) of the FIR with special reference to artificial intelligence could be presented in tabular form as under.

Reflected Picture	Actual Picture			
A	B	C	D	E
Effect/Cause	Effect/Cause	Effect/Cause	Effect/Cause	Effect/Cause
	Results	Change	BANE	Increase/ Birth of



1. Bring New Jobs	Removal of Previous Jobs	Change in Standards of eligibility of Jobs	Low Skill or High Skill Disparity in wages	Stress, Dislocation, Repression, Social Tension,
2. Continuous Working by AI	Comparison of human working with AI	Change in the duration of Hours	No leaves or compensatory off	Sickness, Tension in human Relations
3. Jobs by AI	Replace Man Jobs	Survival at cost	Unemployment	Disparity in Society
4. Quick jobs with AI	Dependent life	Lifestyle	No human exert	Lethargy
5. New Enterprises	Waste of existing resource	Closure of smaller ones	Loss of wealth	Unemployment
6. Ease Access	Freeness to Access	Terms of Use	No Privacy	Lack of Trust
7. AI Algorithms	Software control	Controlling System	Loss of Man control	Cyber-attack
8. Integrated Environment and making of AI	Emissions/usage of fossil fuels	Ecological Balance	Degradation of Environment	Extreme weather events, Sudden Climate Change, Water Crisis
9. World with AI	Interference in Human Life	Lifestyle	No Rules for AI in Constitution	AI may be used to commit Crime

## 7. BUDDHIST APPROACH AND ITS APPLICATION

So, before stepping forward with this new revolution projecting innumerable benefits for the society, we must keep in mind that

the innovations of AI, biotechnology, robots, and various other upcoming technologies will certainly redefine the way of our living, particularly what it means to be human, our ways of engaging with one another and our surroundings. The technologies what we are creating would act as our replica i.e., it would be representative of our inherent traits, capabilities, our identities, our potentialities, and etc. No doubt, the implementation of FIR promises that it is and will be for the benefit of all humankind in the times to come, but the historical evidences and the experiences of the past three Industrial revolutions make us apprehensive to regard this revolution wholly beneficial. In pursuit of this one may say that ‘Yes’ this revolution has immense potential to bring about much prospects in human life but, at the same time, it challenges the sustenance of human life. Its pursuance leads to the establishment of ‘Hi-tech Society’, that may incur the hi-tech risks, threats or crimes’ as well which might go beyond human control, and eventually convert it ‘bane from its expected boon’. And herein the incorporation and application of Buddhist approach to lead a happy, healthy and peaceful life may save this Fourth Industrial Revolution from becoming (an era of) ‘bane’ and, thus, transform it into (an era of) Bliss.

Remarkable to note, here, that Buddhism itself appeared as a revolution, (even before the advent of revolutions as mentioned above) against then existing materialistic (indulgence in sensual pleasures) and nihilistic (self-mortification) views (*Brahmājālasutta*, the first *sutta* of *Dīgha Nikāya*), which had confounded the people and were the subject of great worry for them in relating to what is the realistic attitude of life. In such a situation Buddhism suggested the people to avoid these views and prescribed a path, known as middle path to enable human beings to save themselves from the clutch of such fearsome confounding situation and to enjoy peaceful and happy life (*Mahāvagga*. 1.6. 13, VRI. 13). The Buddha clearly exhorted the audience to follow middle path, as it leads to insight, wisdom, conduces to calm, to knowledge, to enlightenment (*sambodhi*), and eternal peace (Müller, 1.6.18, pp.94-95).

Now, some of us may ask that if it were so, ‘why man is still prone to various aspects of suffering, like poverty, social and economic disparity and so on in the countries Buddhism is being widely

practised.' The answer to this could be traced in three propositions of Buddhism, that suffering exists in the world, firstly, due to its inherent characteristics of being subject to origin-growth-decay-end; secondly, due to not understanding the real nature of world and its constituent entities; and thirdly, because of the inherent characteristic of a human being to constantly devise and develop a means to quench his insatiable desires. All these factors constitute a contemptible state, to be endured with difficulty (*Paramatthadīpanī Saṅgahamahāṭīkāpāṭha*. 1.32, VRI.42).

Extraordinary Features of Buddhist principles (*dhamma*) being *akāliko* (timeless), *sandiṭṭhiko* (empirical), *ehi-passiko* (verifiable), and *viññūhi* (known by the wise) may be adopted as a standard parameter to testify or evaluate any subject or event or plan, made with the perspective of welfare of all (*Dīghanikāya*.2.3.159, VRI. 2.73). Buddhist *Suttas* deal with the various aspects of world such as science, philosophy, medicine, education, and etc. besides offering answers to the problems in the past and even at present. It, indeed, offers us the correct way to live in harmony and happy state while throwing light on social, political, cultural, physical, and biological, and etc. aspects of man. Therefore, in this backdrop, it appears appropriate to evaluate and analyse the efficacy or projected benefits and possible challenges of the FIR.

Now, let us understand both perspectives as to 'how', they initiate for the attainment of same goal i.e. the welfare and happiness of man, but, there is a big line of difference in opting the respective path to realise the goal. Both (the FIR and Buddhism) are the domain of teaching which provide us the knowledge of understanding the working of things in great detail, and thereby man develops the perspective of seeing the world. The New Revolution (FIR) educates us about the world of lucrative material products, made up of composite things whereas the world of Buddhism enlightens us that composite things are impermanent i.e., "*Sabbe saṅkhārā aniccā*" (*Dhammapada* 20. 277, VRI.48), and this as per *Dhammapada-atṭhakathā* (20.277, VRI. 2.233) refers to constant change. This connotes that all composite things, existing in this cosmos, have the characteristic of rise and fall - "*Aniccā vata saṅkhārā, uppādavayadhammino*" (*Dīgha Nikāya*. 2.3.221, VRI.

2.117) and, thus, they pass through the process of ‘origin, growth, decay, and end’ (*Ṭikā-Co-Pāli/Abhidhammatthasaṅgaho* 6.15, VRI. 42). This stipulates that “a thing is replaced immediately with its origin by other almost similar or better thing. This should be understood like the renewal of older cell by new cell or turning of flower into fruit (i.e. the biological phenomena). Similarly, old material products are continually replaced by new material things, and thus do not provide everlasting happiness. However, if such replacement is conducive for the welfare and happiness of man, it is good; otherwise it is bad, similar to the excessive or un-routine growth of cells, which are detrimental to health. Evidently, the Buddhist concept of ‘Impermanence’ clearly shows that a thing, which goes through the process of ‘origination, growth, decay, and end’ is neither permanent nor blissful forever, as it, owing to be made up of component parts, exists only up to the presence of the conditioning of its composition. Thus, from Buddhist point of view, those things, which are impermanent and insubstantial in nature yield suffering either because of their inherent characteristics of destruction or because of causing undesirable effects.

In this background, it is but natural to question as to whether the products of FIR, due to being composite products are able to take the man out of the web of suffering or mitigate man’s suffering, or what could be done to maximize the benefit of it, and minimize the side-effects of its implementation. To find out the answer let’s evaluate and analyze the projection and challenges of the FIR with the perspective of fundamental principles of Buddhism. Buddhism, as we know, prescribes ‘Four Noble Truths (*Cattāri Ariya Saccāni*)’ as standard parameter to discern the existential problem ‘suffering’ and the ‘cessation of suffering’- (*Majjhimanikāya*. 1. 3.2.246, VRI. 1.194 ). Remarkable to note, out of Four Noble Truths, the first two exposit on problem (*dukkha*) and its cause (*dukkhasamudaya*); and the last two enumerates the state of no suffering (*dukkhanirodha*) and the path leading to the cessation of suffering (*dukkhanirodhagāminī paṭipadā*), also known as ‘Noble Eightfold Path (*ariya aṭṭhaṅgikamagga*)’ (*Mahāvagga* 1.6.14, VRI. 13).

In the light of the first two Noble Truths, the aspects of the Fourth Industrial Revolution could be illustrated as the followings:

Buddhism: Noble Truths	Truths of Fourth Industrialization	Functioning of FIR	Outcome of FIR
1. Truth of Suffering	Change of World in the sense that H.I is likely to be replaced with A.I.	Natural Phenom- enal living to Artificial Living	Suffering
2. Truth of Cause of Suffering	Desire to make World of Composites	Subject to Ori- gin-growth-de- cay-end, will increase further	Realiza- tion of the cause of Suffering

### 7.1. Truth of Suffering

The First Noble Truth, the Truth of Suffering in postulates the universality of suffering (problem), which we bear with difficulty, and manifests in one’s life in many forms such as birth, decay, disease, death, attachment of undesirable, detachment with desirable, not-getting what we want (Mahāvagga 1.6.14, VRI. 13). In all Buddhism places the suffering under seven categories. On comparing these categories to the projected challenges with the flare of new revolution (i.e. Fourth Industrial Revolution) one may clearly perceive despite its benefits numerous side effects (challenges), which could be tabulated as under:

Comparative analysis of the various aspects of FIR in the light of the 1<sup>st</sup> Noble Truth

Categories of Suffering	FIR Categories of Suffering
1. Birth	Birth of (possessing) new technology
2. Disease	Disease because of addiction or breaking down of technology
3. Decay/ old Age	Decay due to gradual deterioration of technology
4. Death	Death because of replacement or expiry
5. Association with undesir- able	Forced to adopt the new technology despite unwillingness to replace the old technology

6. Separation from the desirable	Replacement of Human Intelligence by Artificial Intelligence, leading to detachment from empathy, man to man relation
7. Not getting what we want	Not getting what we want

The aforesaid analysis clearly portrays the picture of problems or suffering, we would be facing with the incoming flare of Fourth Industrialization. This does not imply that the effort and product of FIR should be overlooked or ignored, as its implementation has undoubtedly benefited the masses in certain sectors to a great extent. Since the world is, as evident from Buddhist Scriptures, is composite of mind and matter (man and matter), the growth of matter only may lead to the cosmic imbalance. This implies that stagnation at any of the extremes of total materialism or no materialism (nihilism) would not lead to the growth of man or regulate cosmic cycle. Henceforth, one may say that the FIR with its flare will bring numerous pleasure (benefits for some) and problems (sufferings for some) for the masses.

Interestingly, the riddle still remains unanswered with regards to the implementation of FIR. The answer lies in the riddle itself. The problem does not lie behind the implementation of FIR rather with the changes that may occur in existing norms of living. Note, any kind of revolution or change would certainly leave its pros and cons both favouring one over another leading to division of society into the groups of beneficiaries who will be happy on account of fulfilment of their desires and ease of work. In other words, there will be the 'Happy' group of people, mostly benefited of (A.I) FIR and other against the race for bringing (A.I) FIR i.e. the sufferers those who are either not benefited much or be at total loss. This group will obviously have much grief and pain. As a result of this the chances of division in society would be quite legible in kind of 'haves and have not', which may possibly draw the invisible dark line in the society and would certainly sow the seeds of superiority and inferiority leading to disparity, social conflicts, and etc. not only digging the deep pool of suffering for sufferers, but also dragging in the 'Happy' people as well. 'Happy' people are the future potential sufferers, due

to impermanent nature of things and hence, are subject to suffering. This implies that Problem (suffering) lies at both the ends one with the beneficiaries: who want to please enjoy the comforts of sensual indulgence and other who are the victim of self-destruction (mortification). These two groups may be understood in the light of Buddhist concepts of two extremes. Attachment to any of these extremes [indulgence in sensual pleasures (*kāmasukhallikānuyogo*) and indulgence in self-mortification (*attakilamathānuyogo*)] yields suffering, as the Buddha enunciated in his very first sermon ‘*Dhammacakkapavattana*’ (*Mahākkhandhaka*, *Mahāvagga*, *Vinaya Piṭka*.1.6.13, VRI.13).

## 7.2. Truth of Cause of Problem (Suffering)

As evident from the Buddhist scriptures that root cause of Suffering is attachment. In other words, it may be said that ‘attachment underlies the desire to hold on with something’. In this respect the Second Noble Truth clearly outlines that the root cause of suffering is craving (*taṇhā/trṣṇā*) that leads to recurrent existence, accompanied by pleasure and lust, finding its delight here and there (*Majjhima Nikāya*.1.8.91, VRI. 1.61). It is of three types, namely, desire to enjoy sensual pleasure (*kāma-taṇhā*), desire for continuity in existence (*bhava-taṇhā*) to enjoy sensual objects, and to earn the fame and prosperity (*vibhava-taṇhā*). *Vibhava-taṇhā* also refers to the desire to annihilate self or other that comes in ones way to hinder the enjoyment of worldly pleasures. Basically all the three types of craving are more or less associated with the enjoyment of sensual pleasure. Man always craves for gratifying his sensual pleasure at any cost. Consequently, he indulges in various kinds of moral and immoral activities, which yield results accordingly. That is, on account of performing good action, one yield good result and enjoys happiness while the doer of immoral action yields bad resultant and hence suffers. Even the state of happiness, being impermanent in nature causes suffering, and, thus, we remain unsatisfied. In fact craving is insatiable, as the sensual objects, being variegated, sweet and pleasant disturb the mind in diverse forms (*Suttanipāta*. 1.3.50, VRI. 93). Just as a monkey jumps from one branch of tree to other, the man also craves for enjoying the new objects. In a sense, his desire always renewed itself. Consequently,

there is no end of suffering or existential problem. Hence, the Buddha says, “From craving springs grief, from craving springs fear” (*Dhammapada*. 16. 216, VRI. 40).

When we analyse the projected benefits and challenges of the New Revolution, it would not be out of context to say that the FIR itself is the product of human desires, which by its nature always perforce man to devise new means to satisfy his cravings. None can deny that the FIR is improvisation over the outcome of Third Industrial Revolution. This, in itself, testifies the fact that one desire is replaced by other desire. So it can be said that even the benefits, apart from its challenges, would in long run create problem on account of being composite and impermanent. The basic problem, which would emerge with the flare of FIR is that the beneficiaries will crave more and more comforts to all best possible extent, and, get indirectly attached much to the comforts, they would acquire from its products. The FIR would also deprive a large number of people from their existing jobs, or would perforce them to seek new means of livelihood. This would create an unbearable condition for the adversely affected persons (sufferers) who would hardly like to support the FIR. Notable that the people, due to delusion, entangles in the grip of greed that leads to the development of hatred, if hindered by someone from possessing other’s thing, the one is looking for. This attitude drives a person to indulge in the immoral deeds like killing, stealing, sexual-misconduct, lying, and taking intoxicants, which ultimately result in social discord, mental unrest, depression, crimes, violence etc.

In this background the possible negative impact of the FIR could be illustrated as under:



FIR THREE SPHERES	POSSIBLE NEGATIVE IMPACTS (Suffering/ Pain/Problems)	LONG-TERM NEGATIVE IM- PACT (Boon will become Bane)
<p><b>Causes</b> (Effect of Implementation of FIR)-----<b>Effect</b> of (FIR's three spheres) that in turn becomes the <b>cause</b> for negative effects-----<b>Effect</b> of negative impacts of <b>implanting</b> of FIR results in the activation of immoral actions through pursuance of Immoral deeds to grab its products at any cost.</p>		
<b>Physical</b>	Loss of Jobs (repression, depression, increase in other mental illness), inequality (due to low wages to low skill or no jobs, and high wages to high skill), prone to physical, disparity among people, and threatening of life, and expensive and/or no social life, etc.	<p>Activation of  Three Immoral Roots at great speed i.e. Greed, Hatred, and Delusion.</p> <p>This will continue to dig the hole of great evil and create disharmony in life and eventually burn everything into ashes.</p>
<b>Digital</b>	Prone to cyber attack, end of privacy, hacking frauds, misuse of technology-stealing through drones, fear of trust, and etc.	
<b>Biological</b>	Take over the place of Doctors, without specific human qualities – empathy, sympathy, help and understanding, wrong treatments - one disease may have various symptoms corresponding other disease or dysfunctional organs or due reactionary bodies, and etc.	

### 7.3. Truth of Cessation of Problem (Suffering)

After identifying the root cause of suffering, the Third Noble Truth enjoins to get rid of that cause. It clearly states that the complete detachment or abandonment of or doing away from (this) cause ends the suffering. The *Majjhima Nikāya* states that “*Yo tassāyeva taṇhāya asesavirāgaṇirodhā cāgo paṭinissago mutti anālayo – ayaṃ vuccatāvuso dukkhaṇirodho*” (1.8.9.135, VRI.1.90). And that is there is no grief and fear for him who is wholly free from craving. Does this mean that we should not desire to make effort for the improvement of the existing state of technology to ensure the welfare and happiness of man? Of course, we should proceed with this, if we wish to lead a mundane life or remain in this world. It is evident from the history of human civilization that it is the desire of man to lead a better life brought him gradually in the present state of FIR from his past pastoral and agricultural existence. Obviously, the FIR would greatly affect the mankind, as Klaus Schwab says. What is needed in such scenario is to take lesson from our past heritage, and adopt and blend it with the FIR. In order to this we may take cue from certain principles of Buddhism. By adopting these principles, particularly the Noble Eightfold Path along with FIR, we may create a happy blend of the two, which would certainly help in minimizing the projected negative challenges of the FIR.

## 8. TRUTH OF PATH LEADING TOWARDS THE CESSATION OF PROBLEM (SUFFERING)

As per the instruction of Buddha, we should follow the middle path (*majjhima paṭipadā*) to avoid the two extremes of self-indulgence and self-annihilation in order to detangle oneself from the web of suffering or to avoid suffering from both ends of beneficiaries and sufferers. This implies that the possible solution with regard to the problem relating to the implementation of FIR is to walk on the middle path i.e. applying Buddhist principles and practice with the process of FIR, as stated above, to create a ‘Happy Blend’ of both and thereby, mitigate the possibility of ‘Suffering’. Since the present era is being dominated by the science and technology and much importance is not attached to the religious outlook with regard to the betterment of human life, it enjoins upon FIR to take care

of those religious principles, as enshrined in Buddhism, which ensure the welfare and happiness of human beings. That is to say that FIR will have to take care of the possible sufferer groups that would come into existence on account of implementation of FIR. Apparently the FIR may take care of suffering humanity as MNCs do while opening its plants promotes local industries/ companies and thus would help the less skilled worker or non-skilled worker in earning their livelihood, though such help does not bridge the possible economic and social gaps. However, its blend may act as an effective system to bridge all the cosmic gaps.

Happy Blend

Noble Truths	Truths of Fourth Industrialization	Functioning of FIR	Outcome of FIR	Applicable Buddhist principles
3. Truth of Cessation of Suffering	Delineate the Suffering	Practicing Buddhist Principles	Happiness	Elimination of Desire the root cause of Suffering
4. Truth of path leading towards the Cessation of Suffering	Path leading to Blend of Buddhism with FIR	Learning the ways to make a blend while practicing Buddhist principles	Happiness	Path leading towards the Cessation of Suffering

The Middle Path, also known as Noble Eightfold path consists of eight factors, namely; right view, right resolve, right speech, right action, right livelihood, right effort, right mindfulness, and right concentration (*Dīgha Nikāya*. 6.375, VRI. 1.139; *Majjhima Nikāya*.1.1.10.135, VRI.1.90) enables a man to live happily and peacefully; though, its idealistic approach is to end the repeated existence. These factors work as directive principles or act as the

lever of social equilibrium in maintaining the balance of life while avoiding the two extremes of suffering – indulgence in sense-pleasure and self-mortification. The eight factors of Middle Path from the standpoint of FIR could be discussed as under for the better understanding of the efficacy of their functioning.

Right View (*Sammā Ditṭhi*) refers to the knowledge of Four Noble Truths, suffering, the cause of suffering, the cessation of suffering and the path leading to the cessation of suffering (*Majjima Nikāya.1.1.10. 135, VRI. 1.90*). It focuses on the practice to develop the right perspective/vision to understand the real nature of all component things i.e. impermanent, suffering, and insubstantiality. With regard to FIR, it applies to understand the right perspective of ‘need’, of its implementation in the areas where man’s life is subject to suffering or is having least potential of benefiting many. This view also entails that understanding the problem, its cause and possible cessation one should follow the path that leads to the minimization or end of human suffering.

Right Resolve (*Sammā Saṅkappa*): With the right perspective, it enjoins one to resolve to renunciation, goodwill and non-violence (*Majjima Nikāya.1.1.10.135, VRI. 1.90*) In other words, it refers to the right thought of abandoning objects of sensual pleasure, harming other, and violence. The implied meaning of this is that one should not indulge in those activities which are harmful, rather should develop the tendency to be compassionate to others. Buddhism perceives sensual pleasure as full of vices. So the FIR should act in a way that does not promote materialistic culture and produce harmful things.

Right Speech (*Sammā Vācā*): It refers to discard the practice of all sorts of falsehood (*Majjima Nikāya.1.1.10.135, VRI. 1.90*). It implies that fake projection of the benefits of the products or implementation of FIR should not be made. The FIR should focus to work on those aspects which could mitigate the impact of suffering, likely to happen on account of full implementation of FIR.

Right Action (*Sammā Kammanta*): It speaks of refraining from performing the immoral physical deeds - killing, stealing, and sexual misconduct (*Majjima Nikāya.1.1.10.135, VRI. 1.90*). This entails

that the FIR should produce such products or be implemented in such a way that it does not promote the killing (of old companies on account of sophisticated instruments and technologies), stealing (hacking, fraudulent appropriation of wealth from banks etc.), and sexual misconduct (by producing human-type instrument (such as sex-toys, robots etc.) to be used for sex.

Right Livelihood (*Sammā Ājīva*): The right livelihood enjoins to earn livelihood through wholesome means and fare dealing. One should not earn livelihood by means of trade in weapons, intoxicants, slaughtering animals, and human trafficking (*Majjima Nikāya*.1.1.10.135, VRI. 1.90). So the implied suggestion of it for FIR is that it should offer such sorts of, employment or means of job that would not promote activities, which are hazardous to the welfare of human beings. For example, A.I, one of the essential ingredients of FIR may be used to put our lives in danger i.e., in deploying weapons, stealing from banks etc. through hacking etc., transgressing others privacy, killing others, and etc. In other words, it should not be used in promoting harmful professions (like the strictly prohibited aforesaid five professions).

Right Effort (*Sammā Vāyāma*): It enjoins to endeavour for the non-origination of unwholesome thought that has not arisen, the abandonment of the unwholesome thought that has arisen, the growth of arisen wholesome thought, and the origination of wholesome thought that has not arisen as yet (*Majjima Nikāya*.1.1.10.135, VRI. 1.90). It implicitly recommends man to apply his mind and efforts towards the realization of good, and to consider the outcome of the correspondingly bad idea if allowed to develop into action. That means all our efforts should be oriented towards developing the thought, aimed at solving the problems faced by man. Similarly, the endeavour of FIR should be directed to expand its benefits for the well-being of humanity and discarding or demoting the factors affecting the life negatively. The passions, related to FIR must be overcome; sinful thought should be suppressed; existing goodness should be stimulated and augmented; and goodness not yet manifested must be produced.

Right Awareness (*Sammā Sati*): It refers to man's constant mindfulness or attentiveness in respect of the various activities of

body (*kāya*), feeling (*vedanā*), mind (*citta*) and mental states i.e. *dhamma* (MN.1.1.10.135, VRI. 1.90). One should always be attentive to get rid of grief, greed, lust etc. This attentiveness is similar to the watchfulness of a doorkeeper who maintains constant vigil over the gate and does not allow any unwanted person to enter the house. Likewise, the FIR's implementation should be made with proper attentiveness in order to promote the good (bliss) and discarding the factors converting FIR to be bane from boon so that its negative impact or misuse could be avoided. This will help in promoting compassionate and harmonious attitude of man and would act as great tool to resolve the problems if occur or has occurred.

Right Concentration (*Sammā samādhi*): It refers to the one-pointedness of wholesome mind i.e. "*Kusalacitttekaggatā samādhi*" (*Visuddhimagga*. 3.38, VRI. 1.83). This state of mind is attained by developing the factors (of *jhāna* i.e., absorption) of reasoning (*vitakka*), reflection (*vicāra*), joy (*pīti*), happiness (*sukha*) and one-pointedness (*ekaggatā*) that cast away the desire of sensual pleasure (*kāma-chanda*), ill will (*vyāpāda*), sloth and torpor (*thina-middha*), flurry and worry (*uddhacca-kukkucca*), and perplexity (*vicikicchā*), the five obstacles hindering the path to attain wisdom. The mind, having shunned all evil thoughts and desires, ceases to be distracted and becomes tranquil; evil thoughts are replaced by a love of truth and righteousness. In fact, a concentrated attitude is required to do the good. So, while implementing the FIR concentration must be towards the execution of work that ensures the welfare of human beings in all respect, not intended to towards the attainment of one's vested interest. One should develop the practice of self-introspection i.e. focusing and delineating the factors that leads to the development of selfish attitude of mind.

It is notable that the Buddha prescribed this path 2600 years ago to get rid of suffering and realise the state of no suffering. The proper practice of it enables one uproot not only the individual suffering but also helpful in establishing peace in the world. As apparent from the above mentioned description of the Middle path, it entails that one should develop right understanding towards the FIR, while realizing its inherent characteristics of blurring the lines between Physical, Digital, and Biological spheres. The understanding of Four

Noble Truth is essential, as without its understanding one would not be able to grasp the idea of suffering, an individual as well as world faces. If there is suffering, it does not happen without any cause. Hence, once the reason of suffering is known, its eradication is possible, and its eradication is possible by following the aforesaid path, as prescribed by the Buddha. This reflects that projected challenges of the FIR or the Global Risks, attached to it could be resolved or minimized to great extent if we implement it by blending with aforesaid Buddhist principles, and ensuring its application only in those areas where human intelligence i.e., human-mind is either ineffective or does not carry the potential to complete the task or the working over particular field is hazardous to human health. Such implementation of FIR would for sure mitigate the ratio of suffering.

However, this requires the collective effort of every human being and the initiative should be taken by leading authorities like government, policymakers, academicians, civil workers, citizens, employees, investors and etc. to shape 'Happy Blend' of the FIR and Buddhist principles, and to ensure its execution. This will also help to deepen the relation of our self, with others and our surroundings especially in the areas of equality, employment, privacy, and trust, which are the major concerns of this revolution. To conclude, the FIR is full of positive and negative potentials, however, its utility could be harnessed in a better way by adopting a method consists of scientific as well as humanistic outlook as enshrined in the solemn teachings of the Buddha, the founder of Buddhism, renowned in the world for its vitality of creating peaceful and harmonious environment for all, particularly human existence.

Lastly, if we do not make the FIR blend with Buddhist AIM, then FIR would fail to fulfil its AIM and would play the wrong Game.

In order to win the game we should not forget to learn from past revolutions whose victims belonging to the categories of sufferers still exist in the various part of the world. "Even the authors shaping the FIR point out, at least 600 million people live on smallholder farms without access to any mechanization, living lives largely untouched by the first industrial revolution. Around one-third of the world's population (2.4 billion) lack clean drinking water and safe sanitation,

around one-sixth (1.2 billion) have no electricity—both systems developed in the second industrial revolution. And while digital revolution means that more than 3 billion people now have access to internet, that still leaves more than 4 billion out of core aspect of the third industrial revolution” (Salesforce 2000-2019).

Having all said we may conclude that the Era of Fourth Industrialization with its working style and great prospects will fulfil the very need and the very objective of its birth and carries the power to change the world with positive wave for the welfare of all keeping in mind/consideration that the ‘grass is always green at other side’ this implies that this positive revolution may turn out to be negative. And as an outcome of its birth it would necessarily face the challenges with the new prospects it adds. “We build what we value. This reminds that we need to remember our values as we’re building with these new technologies. For example, if we value money over family time, we can build technologies that help us make money at the expense of family time. In turn, these technologies can create incentives that make it harder to change that underlying value. At present and in coming time people will establish a deep relationship with technologies. That is how we are intending to create our world, and we have to develop them with care. More than ever, it’s important that we begin right. ***We have to win this race between the growing power of the technology, and the growing wisdom with which we manage it. We don’t want to learn from mistakes.*** —Max Tegmark, *Life 3.0*” (Salesforce 2000-2019).



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