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Effective use of technology for enhancement of safety norms for prevention against the spread of Covid-19.

This research focuses on the solution to doing the usual routine with a new normal.

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Abstract: This study has been undertaken to look that the current scenario caused by the COVID-19 pandemic and how technology can effectively be used to maintain social distance and work on doing the usual routine things in a new normal way or a manner in which the spread of the virus can be attempted to be controlled.

Index Terms – Covid-19, technology, computing, human behavior, computing.

I. INTRODUCTION

For this study data has been primarily taken from various data sources belonging to various news organizations on the internet, the research is theorized on various available resources and evident human behavior, to control any pandemic or just any other natural/unnatural calamities which might cause harm to the human life and resources, the COVID-19 pandemic is a similar calamity /issue which caused catastrophic damage to economies and human life on earth, the term 'pre-cautionary healthcare' means the care that every human need to take in order to restrict the virus from affecting them or the people in their contact, keeping a distance from other humans, wearing masks, regularly washing hands all of these measures are a must do for every human to be partially immune to the virus.

The day to day human activities which included shopping, going to the gym, etc. all these activities which seemed normal and easy, are now restricted in some sense, for example going to the grocery store now requires you to distance yourself from the shopkeeper and other customers, touching the products and even if we receive them from a distance there still lies a brief risk of the infection spreading via the surface of the products.

The methods make everything a bit safer but tedious to do, and such tediousness leaves us humans tired of all these methods and needing us to do the extra efforts, and what has been the savior when things got tedious? Technology!

Our theory strives to explain how seemingly difficult but actually easy, technology can make modern day precautionary healthcare effective and easier to follow!

Note: This theory is an idea/concept being showcased using examples and statement for representational purposes, this written piece is the brain child of the author(s) and may not always be conforming to anything other than the author(s) own thoughts, this work also does not intend to provide information suitable as medical advice or any kind of advice.

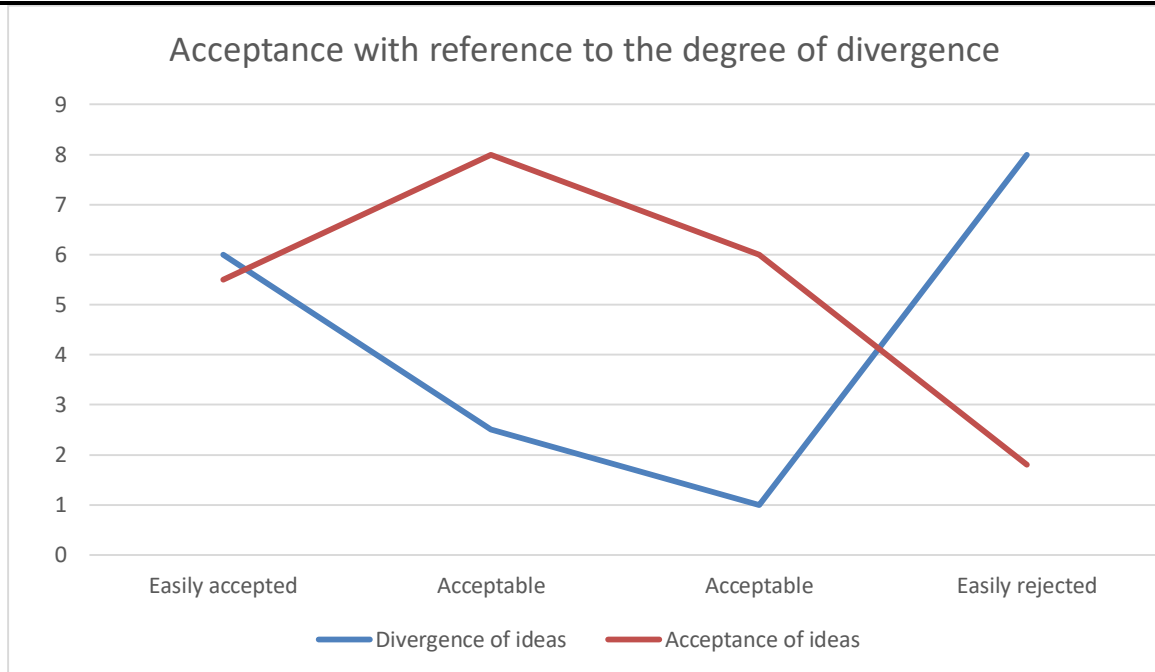
These are just thoughts being portrayed.

II. THE PROBLEM OF CONFORMANCE

The problem of conformance, is not about conformance to any standards of any international organization, this idea is about how confirming is the idea to the human mind, the mind of the human in thoughts of issues.

We humans tend to think and judge ideas depending on our perspective of that idea, the acceptance of any idea for a human, will always be determined by the degree by which the idea diverges from the ideas and beliefs of that human.

Even the world health organization has said that using a mask can be an excellent precaution and protection from the Novel Corona Virus, but yet even after this being a very reasonable thing to do, many humans today have portrayed their objection for the use of a mask, due to the inconvenience it causes.



This clearly shows how the human mind can accept or reject an idea.

III. INCREASING CONFORMANCE WITH EASE OF USE

The ideas that can be easily rejected have higher degree of divergence, a higher degree of divergence is majorly driven by how easy or difficult the idea is to implement, easy to implement ideas usually tend to have a lower degree of divergence and even if the degree of divergence is higher, at times the convenience or the ease of use leads us to follow the ideas, ignoring the divergence.

e.g. a mask that is difficult to put on will be rejected by a population which hates wearing masks, but if the same masks are made easy to use and convenient a major portion of these people will tend to follow the pattern and just use the mask instead of getting in an argument whether to wear or not, irrespective of the degree of divergence from their own minds.

Thus, it can easily be concluded that the ease of use has on the decisions of the human mind.

IV. ENHANCEMENT OF EASE OF USE WITH TECHNOLOGY

Technology has always helped ease the loads of human lives from calculators to computers and smart-watches, ease of use is always enhanced by technology, technology here is not limited to being a machine, technology here means everything that could possibly be a strategy or a system for improvement, that is it could be an algorithm, method or way of doing something.

Modern day computing can solve almost all issues that are prevailing, but when it comes to solving issue with technology, usually it's the issues that are big, bold and highlighted that are solved, because it's the people that have big, bold issues that have access to technology, specifically in a country like India the access to technology is very less, and issues are in huge volumes, what if we apply technology to small issues that we overlook, and with introduction to precautionary measures against the corona virus, the issues have got worse.

To bring more light to the theory, we will understand with a few examples:

i. The Issues faced with the method of 'Social Distancing'

- Social Distancing is an amazing and really simple method to follow, for keeping the spread of Corona virus in control.
 - Some tasks that require us to get close to people, touch objects, etc. have become difficult to follow because of the very nature of the activity.
 - Some of these activities are shopping, withdrawing cash from the bank, etc.
 - These activities combine with the social distancing measures, make the task a whole lot difficult, imagine using a stick to pick up items that are on your shopping list and withdrawing cash, would you apply sanitizer to the paper cash? Oh, and the cash is touched by the cashier at the bank, what is to be done? Online payment!
- But how many of the world's population is having a smartphone? How many Indians have smartphones?
- This paper talks about using 'technology' and then how could this paper present the problems of people not having smartphone? All of these questions will be answered as you read on.
 - Conclusion to the definition of problem of 'social distancing' would be again in a simple question, how ironical and awkwardly do we feel when we need to reject a handshake? The other person is holding their hand mid, waiting for a handshake? How do you not accept a high-five your best pal gave you?
 - Not all problems can be solved, but some can be solved and some made better with the use of technology.

ii. Solutions to the problems of 'Social Distancing' and how can we distance socially, in an effective manner.

- a. The solutions, when looked into can be apparently not limited to counts, how much of the world's population knows about these problems? All of them? Half of them? 20%? 10?
- b. Assuming only 1% of the people think of a solution to these problems, the world's population as of this marvelous year 2020 is 7.8 Billion people, 1% of that 70 Million or 7 crore people.
- c. 7 crore people, let's say again only 1% of this population finally gets to a solution, so we still have 3.5 crore ideas, that's 35 million ideas, how many are presented today? How many people do you see talk about them?
- d. Here what this paper is trying to highlight the importance of change of perspectives.
- e. How can we change the perspective? The perspective needs a slight hint of technology, 'Thinking in technology', that term here being introduced means, looking at every small problem from the technology perspective.
- f. Coming specifically to the solution to the problem of social distancing, let's go more specific, when a person goes to a grocery store, because not everyone is used to using smartphone and it's not always feasible to order online from a store that's miles away from us and waiting for the delivery person to deliver that to us, majority of the times, it's the very basic things we need to buy and it's not always like the little boy from the books of mathematics, who buys 35 soaps and 120 watermelons, sometimes all we need is a single piece of a pen, a single sheet of paper, we need to go out and grab these ourselves.
- g. So when you are out there asking for your favorite soap from a distance, being descriptive very particularly about what soap you want and loud so that in not only your neighbors but also the shopkeeper knows what you want, unlike the modern way of entering a shop, grabbing what you want and paying up for it, also this still has risk, what if the shopkeeper is infected?
- h. Here technology can play a vital role, imagine a small atm machine sized kiosk, in near your residence, you walk up to it, and with the blessings of technology it recognizes that someone is here, it greets you in a human like yet machine voice, and sweetly asks you what you need, speak to it till your hearts content and since it's filled with all the goods from a local grocery shop, it just dispenses what you need after you've successfully paid using cash, or telling her the UPI id you want the money to be decocted from, no touches, and yes if you choose to pay by cash, there could be a box popping out and you put in the cash, it counts and you are ready to go back home with all the apples and oranges, you have purchased, this though is just a concept being portrayed in an attempt to get minds thinking about how, the user experience can be enhanced and which also makes everything a lot easier and safer, isn't it a win-win situation?
- i. So, what about the people that disagree about these ideas? Very appropriate question and there are people that can oppose anything and everything, but how many of these are guilty of using the same technology they hate, just because sometimes, it's just convenient.

V. ALGORITHMS AS A THOUGHT PROCESS

Algorithms, often this word is used in scenarios of technology, but what if we try implementing these algorithms in real life? Do these computerized algorithms work for real life? Why not? So, let us say you want to go on a path that goes right. And there is a hypotenuse to the point where you want to go. What would you do? You'll obviously choose the hypotenuse, right? Did you see what just happened? You intuitively used an algorithm. And knowing that sum of two sides of a triangle is greater than the third wasn't a requirement.

Well, this was a simple example. Here's another one.

You go from home to work every day. You have calculated the shortest path and that is the one you use every day. Now let us say you want to go to a place, X that is further away from your workplace. Now to go from your home to X, you'd know the shortest path from your home to work and now you'll calculate the shortest path from your work to X, and add them up to get there, right? You know what you just did? You used Dynamic Programming.

Now can we think of spread of the virus as a problem and 'social distancing' as a solution that we can get after we solve the problem, and the better we solve the problem the better we will be protected?

So, what if we use algorithms to solve these problems?

Can we use the graph colouring algorithm in such a way that it helps us determine how people can stand in a train, so that no two humans face each other, reducing the risk of spreading germs?

VI. CONCLUSION

THE PAPER WAS INTENDED TO PRESENT AN IDEA OF HOW WE CAN START THINKING OF PROBLEMS LIKE THEY ARE RELATED TO TECHNOLOGY, THUS USAGE OF TECHNOLOGY IN EVERY SECTOR EVEN IF THE SMALLEST CAN PROVE BENEFICIAL, AND NOT EVERYONE NEEDS TO HAVE A SMARTPHONE TO TALK TO A KIOSK, THAT CAN BE PLACED BY CROWD FUNDING.

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