

CSCI 3130

Potential Impacts of Covid-19 on a Software Development Organization

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### **Potential Impacts of COVID-19 on a Software Development Organization**

The coronavirus (COVID-19) pandemic has caused global disruption. This pandemic has led to a lockdown of countries forcing companies and businesses to shut down across the world. It has been around four months since the outbreak of COVID-19 in China, and various sectors, organizations, industries, and even countries are facing an economic crisis. Because of the virus crisis, governments worldwide, with the help of the World Health Organization (WHO), have put some measures into place to manage the situation. One of the measures put into place is a social distancing that demands that people should not meet in any gathering, including workplaces. So, organizations across the world have opted to have their workers work from home.

### **How do the measures we have taken to reduce the spread of COVID-19 affect software development organizations? Which activities in software development would be affected?**

Working remotely has resulted to colleagues being isolated from each other. Most organization's task force works together as a team. Software development firms also have their employees working in teams. For instance, software developer works together to write and create technical specifications of software together. So, if they all work from home, their work relationship and coordination may not be enough to achieve the expected results. Working from the office is essential. Daily interactions enhance the setting of goals and expectations, and colleagues communicate and come into an agreement, especially in teamwork. Therefore, working from home would affect the development of various software that was scheduled to be completed as soon as possible.

Employees working from home are likely suffering from mental health. We all live in a social world that demands interactions with other people. So, if employees do not interact with their colleagues, they will feel cut off from their normal life resulting in mental illness. Employees affected by mental illness affect the productivity of a company. On top of that, the workers tend not to have morale while working, and it could be worse if the manager is not aware of their employee's condition. Therefore, working from home can cause mental health illness of workers and adversely impact a company's productivity at large. If the mental situation gets worse, an organization is likely to drop out of work, and a follow up may be hard for such employees. Mental illness could affect the development of software, testing of software and quality management, and even control of the organizational business.

Working from home may also hinder the fostering of enthusiasm about growing an organization. Incorporating passion and determination amongst employees is harder when they are working remotely. Without passion from employees, productivity in an organization is estimated to be lower than usual. Just like any other organizations, software development organizations need passionate workers who would work together to come up with fantastic software. Apart from creating software and related technologies, enthusiastic employees can perform well in other sectors like management and marketing to help the company grow. Working from home makes it hard to foster enthusiasm and passion for workers. So, during this period of managing the COVID-19 crisis, employees may lack passion for a state that will significantly hinder the quality of work in the organization.

Working remotely is okay, but some sectors require the presence of a specialized person. For example, maintenance that is done by maintenance engineers requires that engineers have to report to work to supervise a company's system. Due to the new measures of working from home, software development companies' systems may collapse and stop working correctly. Other

companies that depend on the software development firms may collapse and experience a system failure as well.

**Would these measures affect organizations using the Waterfall software process model differently than an organization using the Incremental software process model? Which model would be impacted less by this crisis?**

The measures put into place to curb COVID-19 affects all organizations. However, working from home affects organizations differently, depending on their software model. For instance, the Waterfall software model is easier to manage and understand, unlike Incremental, which is only easier to manage but hard to understand. The waterfall model is suitable for managing tasks within an organization; however, it is unsatisfactory for ongoing projects. The waterfall model has manageable features that would not require specialization to handle, and that gives it an advantage over the Incremental model. But considering that the two models require human supervision and maintenance, the new COVID-19 measures would still affect organizations using any software models.

**Describe a COVID-19 risk mitigation strategy for a fictional organization using eXtreme Programming to develop a mobile app. Consider issues such as development team members getting sick, inability to meet in person, etc.**

COVID-19 has affected businesses and their activities across the world. These are hard times for businesses to continue with their normal activities, especially with the WHO directive of employees working from home. Companies are now coming up with COVID-19 mitigation strategies for their organizations. A software developing firm that has decided to create a mobile app using extreme programming is likely to face hard times meeting the target audience's expectations. Extreme programming methodology requires the opinions and preferences of clients, and finding clients at this moment is risky and dangerous to the employees who will be sent to the field. Moreover, with the crisis measure of staying at home, risk mitigation strategies are essential to the software developing company.

First, creating a crisis management team is an essential step in developing the mobile app. considering that some members in charge of the app development team get sick, the backup team will substitute the affected members. On top of that, before having the employees working from home, they need to undergo a training session in managing a crisis. Additionally, the crisis management team will include external experts who can work remotely to enhance the development of the mobile app.

Secondly, during this crisis period, an organization has to develop and implement a crisis communication strategy. An effective communication plan for a crisis has to address employees on what to do. This mitigation strategy will direct the organization's mobile app development on what is appropriate to do while working home. Additionally, the crisis management committee will give a direction on what are the tools to be used in accomplishing the app, creating even while at home.

**As a manager of a team of programmers, what would you do to reduce your team's stress while also salvaging the deadlines set by your company for feature deliverables as much as possible?**

Working from home may be comfortable, but working on a deadline might stress the employees. As a manager, you must make sure that the team you are managing is mentally stable to accomplish any given tasks. While managing my programming team during this COVID-19 crisis, I will have to ensure they are firm to work to meet the client's deadline. First, I will encourage open communication and let each member express his or her feeling. Additionally, communications help to solve conflicts in the team. I will also incorporate breaks while at work. Moreover, I will consider flexible work schedules. Through these three ways, the team will work under low pressure, thereby reducing anxiety and stress at work. Now that everyone will be working from home, I will encourage every team member to work willingly, with passion and dedication to complete the given task and meet the deadline.

### **Conclusion**

The world is going through a crisis that is affecting everyone either directly or indirectly. Countries, businesses, and companies have been struck hard, and most of them are facing an economic crisis. Various sectors were not well prepared for the crisis and not even doing their best to manage the crisis. It is unfortunate that the most recommended remedy so far for the crisis is staying at home and working remotely. However, organizations are employing other strategies to keep their businesses stable until the crisis is managed, and they are working.