**STEP 1: Iceberg Tool**

**Key Events:** Jamal has expertise with the current software and little to none with the new one. Maria suggests changing to the new software. The CEO named Pat wants to have a competitive edge on the other companies that compete with him.

**Patterns:** The data analytics team is reluctant to change to the new software and that worries the company because of a possible drop in productivity and CEO Pat emphasizes the need to beat competitors and win market share.

**Structure:** The business relies on complicated analytical programs and high competition which causes a need to differentiate from others.

**STEP 2: Draw "Behavior Over Time" Diagrams**





The graphs that are above show the productivity of the employees before and after the change. The top graph shows the productivity before the change is made assuming that it won't be made in the future. As you can see, productivity is going down. This is because the technologies would be outdated sooner or later hence less access to new tools and technologies. The second graph on the bottom shows the company after it implements the new program. The productivity is going up because at first the productivity would be low but as it is slowly adopted the employees would be comfortable and good at using the program hence their productivity would be higher also the new technologies would help keep the company ahead of the curve and better helping its clients.

**STEP 3: Systems Archetype Selection**

1. **Which archetype did you select?** I selected the “fixes that fail” archetype.
2. **Why does this archetype best fit the given case study? Explain how its causal loop diagram and text description match up with the facts of the case study.** The “fixes that fail” archetype fits for the situation going on in this case study. This archetype describes a situation where an initial obvious solution to a problem has unintended side effects which, over time, worsen the problem or create new problems. The “fix” part in this case is that they want to move to the new software fast. The “fail” in this case is that the productivity will go down thus causing less quality service and potentially losing to the competition.
3. **What is the main problem that needs to be addressed in this case study?** The main problem that needs to be addressed is the transition of the softwares. It is undeniable that there needs to be a change because otherwise the technology will become outdated and we will miss out on new features. We can’t avoid the problem but we can do it slowly so that employees can adopt the new software while still using the old one.

**STEP 4: Proposed Solution**

1. **What solution do you propose for the problem in this case study?** After careful thought process the best course of action is gradually implementing the new software over time as well as using the old software and slowly replacing it with the new one.
2. **What are the strengths of this solution?** The strengths of this solution is that employees would not feel overwhelmed with a sudden and drastic change. It gives them time to adapt to the new software while still using the old one to satisfy current demands of clients. As employees get more comfortable with the new program the old program will be phased out completely.
3. **What are the challenges of this solution?** The challenges of this solution is that it takes time and money to train employees. This is unavoidable because if we don’t give them time then the quality of the service will go down and we will decrease our brand reputation. If we don’t spend money on training it will take longer for the employees to get trained and some won’t do their job as well.
4. **What other alternatives did you consider AND why is your selected solution superior to each of them?** We considered 2 alternatives. The first was to do a quick change to the new software. The second option was to not upgrade the software. Neither are as good as the proposed solution. Not upgrading would leave us behind in tools and technologies and in the future we would be using outdated technology and not providing as good of a service as competitors. Upgrading fast could possibly lead to employees quitting because of the sudden stress, they could start planning to leave the company because of something like this. It would also lead to decreased quality of the service we would be providing leading to loss of customers and a drop in brand reputation.
5. **What do you project the impact of your proposed solution will be on the overall system described in this case study?** The impact of the proposed solution would be positive because we are keeping up with emerging technologies. Apart from that our product is increasing while not irritating our employees which would lead to problems later on.