**Topic:** Info Tech Global Economy

* **Question 1:** what are the main advantages of using multiple models?
* **Question 2:** what simulation modeling relies upon?

**Instructions:**

* Need 3 Responses for other student posts (Each Response Separate paragraph for 2 questions)
* Minimum 150 words for each response (use uploaded document to see other student posts)
* No plagiarism please.

**Initial Post 1:**

**Illustration of the future state of practice of systems modeling and simulation.**

Modeling and Simulation is a process where systems are developed to deal with complex systems and resolve issues related to it. As many complex systems are very hard to understand and analysis manually hence this requires a computation power to manage these systems for crucial steps. Few examples of such computational multi modeling are System Dynamic Modeling, complex adaptive system modeling.  With new digital evolution, there is a growth in analyzing from model-based and decision making and moving from single model simulation to multi-model simulation and hybrid with real-time data. In the multi modeling from simulating and breaking down simulation runs to analyze while investigating from utilizing models for design strategy testing to utilize models as instruments for developing polices with integrated decision support. Sets of simulation models might be utilized for alternate points of view or different theories, to manage methodological vulnerability, or manage important characteristics without integrating them into a single model. The primary advantage of utilizing multiple models that makes every model can be manageable and makes the testing policy easier with a wide range of features that can be hosted.

**Simulation modeling relies upon**

A simulation model is a Computer program that develops the system to capture the input and outflow entries of the real-world system (Gilbert and Troitzsch 2005) it analyses the approximate working conditions which ways a part could fail and what loads avoid the repeated building of multiple physical prototypes. The output of the simulation is a set of measurements provides the details related to the performance of the Realtime system which are supportive for policy-making processes by understanding the real-world processes and relationships. Also, simulation models used for the formalization of social theories.

**Initial Post 2:**

**Advantages**

Classical models are being used in many organizations for ages but in recent days the companies felt the need to install multiple modeling in their workplace. These multiple modelings inspire the organization to achieve their goals faster, this way the companies can achieve the goals on their own and they can set new goals. This process really helps organizations to improve their business processes. Using more than one model can increase the efficiency of a device (Janssen, Wimmer & Deljoo, 2015). The different technical instrument is installed in an organization with various intention, an organization sets several goals that they want to achieve. Installing multiple models are becoming essential according to many researchers, they are also providing examples in order to prove their points. Modelings collect the basis of integration in an organization, and integration is important in a company. Integration is a principle that the IT unit follows, the IT unit is the heart of the organization. This department decides for the company if they think multiple models are going to help to improve the old business procedure, they will suggest the company to install it. Multiple models increase the understanding level between the users and the managers, it saves the organization from being part of any kind of misinterpretation. If the organization understands the need for maintaining an understanding level, it will automatically lead the company to the path of success. Models and simulations are becoming necessary for any kind of organization. There is a different type of organization who provides service to the customers in a different way but installing multiple models and simulations is becoming essential for each type of organization (Macal, 2016). From clinical stores to ship making companies, everyone is feeling the need for this system. This manages the accounts of the customers, as a part of integration this system stops unauthorized accounts from entering into the company.

**Clear narrative**

I made this report to show people the importance of multiple modeling in an organization. The managers of the organization set goals for the company they also make different teams who try to achieve the goals individually. Each team member has a different responsibility, the manager divides the work into them but if they all are working properly in the company cannot be seen by the manager. An organization needs to manage too many works and many departments. For the manager, it becomes impossible to check all the units at a time. Thus the companies need multiple models, it increases the flexibility of the company. It also inspires the employee, therefore, the working power of each employee gets increased too. Multiple models and simulation checks if all the employees are working their best if not these models try to find the problem hidden underneath the business. If the company installs multiple models the chances of finding those problems are high too. It increases the security as well, if these models find a problem they try to fix it or if they notice any suspicious behavior within the organization. They report the manager because of this unit the interrelationships do not get affected.

**Initial Post 3:**

**Advantages of utilizing various models**

Simulation and modeling is a kind of field which creates and applies various computational processes to study the difficult systems and solve various complex issues. For the past few decades, the methods of multiple modeling for simulating this kind of problems have been developed further. Some examples of multiple modeling are agent-based modeling, multi-actor system modeling, discrete event simulation as well as critical adaptive modeling. The development of these systems models has been implemented in various fields as the Agent-based modeling field or SD field (Janssen, Wimmer & Deljoo, 2015). The trending evolutions in simulation, as well as modeling with the effectual expansion in computational data, authority, public media and other developments in the field of information technology, have created various opportunities for effective decision making and social simulation. These external, as well as internal evolutions, are breaking the old benchmarks, opening multiple advantages for social simulation and stirring up the wider field of simulation and system modeling. Nowadays, various approaches of modeling have been used in series, parallel as well as mixed form, and certain hybrid approaches are constantly arising. However, the different traditions of modeling are matched and mixed up in distinct ways, the fields of simulation and modeling have boosted their implementation of practical techniques as well as methods from other approaches including analysis of policy, learning of machines, operations research, and computer knowledge. The concept of simulation and modeling is revolving into an integrative field in which different schools of modeling, as well as related approaches, are slowly integrated. Hence, it is concluded that a model-based design is a visual and mathematical method for addressing various issues which are associated with designing difficult signaling process, control and communication systems. The concept is widely used in many industrial types of equipment, motion control, automotive applications, and aerospace. Model-Based Design is a type of methodology which is applied in design an embedded software.

**A clear narrative**

In designing a smart city, a model-based design approach is mainly considered as it is the first and foremost step to implement. The participatory simulations mainly support the engagement of stakeholders and capacity building for the governance of natural resources. A participatory simulation provides various opportunities for learning of complex systems and for investigating the proper relationship among data connection, thinking of complex systems, decision-making, communication, behavioral changes, and social behavior. Therefore, a model-based design mainly provides a key approach for making a common framework for the process of communication throughout the process of design and supporting the development cycle as well (Abar, Theodoropoulos, Lemarinier & O’Hare, 2017). Furthermore, modeling techniques are widely used in encountering the complexity which is found when understanding and attempting to analyze an effective system. Model is considered as the most useful tools for the process of communication. The complex concepts and ideas can easily be captured on a paper and can be revealed to clients and users for feedback and clarification. These complex ideas can also be distributed to all the members, executive professionals and other contractors inside the organization. The final model, in this respect, is created in the development and design phases of a system which is also considered as a paper-based prototype. Hence, the most essential modeling techniques utilized in building and analyzing information systems are logical structure of data modeling, data flow diagramming and entity life histories.