**IFMS 311 - Enterprise Architecture (EA)**

Student’s Name

Institutional Affiliation

Course

Professor’s Name

Date

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**Introduction and definition of EA**

Enterprise architecture involves aligning an organization’s IT infrastructure through analyzing, designing, planning, and implementing strategies to assist in achieving business goals (Kotusev, 2019). EA gives businesses an edge by helping them structure their IT projects and policies thus achieving the required objectives and stay ahead of the competitors, industry's trends, and distractions with the help of enterprise architecture principles and practices. Companies have embraced the enterprise architecture following the need to have a long-term plan and strategy that support the continuous and rapid growth of technology without becoming obsolete. The modern EA has extended beyond the scope of IT to cover the entire business, to ensure is well-aligned with the digital transformation strategies. Therefore, the EA framework combines people, data, and technology successfully, demonstrating the comprehensiveness of the interrelationships within an organization that is IT-oriented. EA contributes significantly and is a core element in the systems development life cycle (SDLC), which is the process of transforming a new system until it becomes operational. This paper emphasizes the EA's contribution to each phase of the systems development life cycle (SDLC) including its effectiveness, how it fits in each phase, and the unique qualities and capabilities it brings to the organization.

**Initiation/planning/ concept phase**

The phase involves preliminary analysis of the identified problems, proposed solutions, cost, benefits, and give recommendations according to the system problems. The system developers are keen in this phase to ensure they prioritize predicting the impacts of any occurrence triggered by the system and how it should be addressed. Additionally, they execute feasibility studies, which tend to cover the operational, economic, technical, legal, and ethical landscapes, to evaluate the viability in the process of improving or replacing the system (Lagerstro et al., 2011). In this phase, the EA enables the identification of the critical input required including the assets and resources to purchased. The EA help identify the significant processes that will establish the course of the system development process and the application of resources in advance.

**System analysis and requirements phases**

The phrase emphasizes the characterizing of the project aims into functions and operations following the anticipated application and evaluates whether the system will meet the business' expectations (Innovative Architects, 2017). This stage also involves collecting and interpreting facts including the diagnosis of the actual system problems and recommending the areas of improvement in the system. The EA allows the analysis of the end users' information requirements to ensure there are no cases of inconsistencies and incompleteness. Additionally, the EA help assess the value of the planned systems and prepare the required specifications.

**System Design phase**

The phrase describes the preferred features and operations of the planned systems comprehensively. The features and operations are presented in the form of diagrams, screen layouts, codes, and rules. In this stage, the enterprise architects must work collaboratively with the developers to gain an insight into the planned systems as sets of modules (Kotusev, 2019). The EA practitioners must picture whether the modules are fit for their purpose in the enterprise and create patterns, which configure with the initial design. The EA practitioners must review the system designs, identify errors, and make required changes together with the designers before proceeding to the development stage.

**Development phase**

In this stage, the screen layouts and diagrams are put into actual codes. The EA practitioners play a significant role in improving the system coding efforts by giving insight and advice on the standards coding processes. Additionally, the EA practitioners must ensure the development phase follow the stipulated governance regulations.

**Integration and test phase**

In this phase, we collect and put all pieces of code in a testing environment to test errors, bugs, and compatibility, and interoperability. This stage also involves identifying the level of user acceptance, shortcomings, and edges through executing the system and unit tests. The EA practitioners will determine the areas to change according to the tests to improve the eventual utility of the system. In the cases, where they identify that there is a need to make architectural changes, they work together with the project team to review and make changes.

**Implementation phase**

The implementation phase involves producing and running the actual system in the business environment. The EA practitioners ensure the system is working and gives the required outcomes. They assist in identifying and evaluating the system shortcomings, complaints, and compliments from users to realize areas that require improvement.

**Operations and maintenance phase**

It is the last phase of SLDC; the operations involve completing the required tasks after the implementation phase. The maintenance step involves giving support to the users who raise complaints especially on the technical part of the system (Innovative Architects, 2017). Additionally, it entails assessing the system regularly to identify areas that require updates to prevent the system from becoming obsolete. In this phase, the EA practitioners guide the process of making changes in the original system to ensure the enhancements and changes do not affect the overall functioning of the system.

The unique qualities and attributes that enterprise architecture contributes to the organization include increasing reusability of the existing systems and components through providing a chance to make changes with the guidance of EA practitioners. EA has less risk and exposure to IT components thus reducing chances of loss in the business. Lowers total cost in the business by preventing task duplication. Additionally, it enables more innovation and provides stronger technological infrastructure.

**Conclusion**

In conclusion, EA contributes significantly to the respective phases of SDLC to align the IT infrastructure to the business' overall goals. EA allows for effective allocation of resources during the system development process, meaning that EA practitioners are helpful and critical in enabling the overall SDLC. The phases of SDLC are equally important since there are unique functions and activities, which sequentially lead to the building of the planned system. The qualities or attributes associated with EA include low cost, reusability, and less risk.

**References**

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