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Nature and Science

MARSLAND PRESS
Multidisciplinary Academic Journal Publisher

The use of agile enterprise architecture in the development of enterprise architecture

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Abstract
With the emergence of new areas of IT and business change is an integral part of their survival and success are far more serious problems faced. Changes in the needs of users who seek changes in the business environment requires organizations to the fluctuations requires not only flexible approach, but in order to grow their own benefit. To achieve this it will not be possible unless the enterprise architecture. With respect to the challenges and risks of the enterprise architecture, agile development in this paper based on the study of the subject that can-be enterprise architecture concepts used to develop agility? And the development of an agile enterprise architecture can be achieved qualitative characteristics of enterprise architecture?
[Elias yavari. **The use of agile enterprise architecture in the development of enterprise architecture.** *Nat Sci* 2022,20(10):17-21]. ISSN 1545-0740 (print); ISSN 2375-7167 (online). http://www.sciencepub.net/nature 04. doi:10.7537/marsnsj201022.04.

Keywords: architecture, agile development, enterprise architecture, agile, quality properties

Introduction

Today, advances in science and technology-different, especially those related to computer systems and the rapid evolution of hardware and software, a new level of competition has created for organizations, so that the organization has an obligation to keep the latest technologies, continually suffer huge costs. However, due to sudden challenges the organization may also affect their visions and strategic objectives.
and more saving act. In this context, the concept of enterprise architecture to achieve the strategic objectives of the organization into existence.

The documents focus on the development of more than enterprise architecture on the one hand, and the lack of adequate participation of stakeholders in architecture and neglect their Dghdghh¬Hay the other hand, they were among the risks not only of do not move a step forward for conservation purposes, but also by imposing financial and human costs, the organization was a waste of resources. Sometimes negligence on the application of enterprise architecture projects-in And sometimes too hard at this, the project will make it easier to-back.

All these factors led to a methodology that put into existence, in particular to the risks outlined in their enterprise architecture and try to eliminate them. In the meantime, new methodologies and agile enterprise architecture dramatically were welcomed.

The answer to this question, according to the article.

The basic question raised and to respond to the qualitative characteristics of the agile enterprise architecture-to explore and describe. Finally, the conclusion will have to answer a fundamental question.

General concepts

In this section, the implications for the question and answer it in an agile enterprise architecture as we followed Overview

Architecture

The architecture, determine the overall structure of a system and methods that enable these structures to provide the key features of the system.

it illustrates.

Researchers main three advantages for architectural activities are allowed [5]:

- Appropriate design decisions and achieve quality features

- Good communication among stakeholders

- Create an abstract model of the system

In this context, the quality and features quality factor is greater than expected, the need for architecture-will increase.

. Enterprise Architecture

There are several definitions for enterprise architecture. One of the most comprehensive-definition of enterprise architecture as follows: a database of information assets enterprise architecture strategy that mission business, information and technology necessary to carry out its mission, and the transitional processes for implementing new technologies in response to mission's changing needs [6].

Agility

Agility is the idea of a new concept in recent years to overcome the turmoil and confusion, and the scene in Software Engineering

Potential concepts such as speed, agility, speed, lightness and subtlety associated with them and in this case requires creativity, imagination and innovation. The Agility can be more evolved form of quality traits such as tenderness, reusability, flexibility, versatility and flexibility in mind [1]. their production [2].

Agile Enterprise Architecture

Following the Mshy¬Hay Shyvh¬ of agility and consider the challenges and Rysk¬Hay raised in enterprise architecture, enterprise architecture, agile concept can be defined as: enterprise architecture and agile way to describe Jnbh¬Ha different layers of a turbulent not predict changes in mission and technology have vastly more influence on it. These changes are due to the non predict, Nmy¬Tvan a special plan for them, and so there is flexibility however, not be coped with. In this regard, the Agile Enterprise Architecture enables the use of specific methods and techniques there where, to describe the current situation or status of the storm.

In addition to the agile enterprise architecture with the transition plan as well as how to achieve the desired status quo of an organization stems Specifications. Enterprise architecture, agile, results-oriented and more focused on the creativity and initiative of individuals.

The most important goals are agile enterprise architecture [3]:

- Increase flexibility and adaptability to changes

- Increase the effectiveness of enterprise architecture

- Better use of resources and efficient management of business processes

-Increase the ability of the organization to maintain enterprise architecture

- Increase user satisfaction

So the architecture is agile in a turbulent organizations affected by unpredictable changes is extensive, not only to stop, inertia or failure of the enterprise architecture to avoid, but the desired effect is achieved [3].

Quality model ISO / IEC9126

The compilation and publication of standards is a milestone. In fact, as the bottom-most level of acceptable standards in their particular subject, a major source of human experience that we have a very structured format.

In the area of software standards, one of the standards is central, the standard model ISO / IEC9126 is. This model is due to the urgent need to evaluate the software industry software standard, ISO standard published by the International Institute for Reform and was completed in 2001 by experts in the field. This International Standard, the first level model, the quality of a software product, which is divided into six qualitative characteristics of each of them made a few minor features.

The most important advantage of this model is that internal and external quality characteristics of the software is at the segregated Shdh¬. In fact, this model provides a way of assessing the quality of the software-is. One of the strengths of this standard feature is compatible with most systems.

According to this standard, would-be indicators measuring the quality of software Dsth¬ classified as follows:

- Operational factors such as suitability, accuracy, interoperability, security

- Reliability indices such as fault tolerance, reliability evaluation

- Portability, such as compatibility, installation, replaceable, adaptability

- Ability to maintain, such as sustainability, flexibility, scalability testing, usability analysis

- Performance: such behavior, the use of resources

- Reusable, such as the ability to understand, ability to learn, the ability to attract users

The concept of enterprise architecture analysis and evaluation of software quality standard ISO / IEC9126, are key features of the enterprise architecture is to be reached. These features include [4]:

- Alignment: alignment with the goals of information systems, information systems alignment tasks

- Convergence: The objectives covered by the processes, the processes covered by the information systems, the entities covered by the Process Information, the information covered by the entity-information systems

- Ability to maintain and develop the capability analysis, variability

- Integration: integration platform and business environment, data integration, integration of software systems

- Reliability: to improve fault tolerance, the ability to return an error

- Efficiency: the efficiency of the performance of resources

- Security: protection, availability, integrity

- Ability to use and the implementation of cost and time of implementation, compatibility with the organization

The next section, each of these features, we studied the agile enterprise architecture

Qualitative Study of agile enterprise architecture

good organization must provide (in the previous section was introduced), to discuss the issue of whether agile enterprise architecture can have these features covers.

Is agile enterprise architecture that features quality covers?

In response to this question, every feature in detail are:

1. Alignment

Each organization based on its own raison d'être, and the formulation of policies and their visions and strategies to achieve the purposes stated by management on the basis of the design. Communication technology in this regard to facilitate business process at all levels of the organization-are widespread. The components of enterprise architecture alignment means consistent with the strategic objectives of the organization. [7]

What is certain is that agile enterprise architecture, architect quick to note that with the knowledge and understanding of all stakeholders, objectives, requirements and constraints they can provide a better solution. He know that as users and those who pay for it-that, the developer, the maintenance, support, operating system and user interface as well as those who provide stakeholders are also part of the group, so try respond to professional requirements and in accordance with its distributed architecture provides system-developed communication and information.

2. Maintenance and development

We have a flexible and innovative structure that promotes rapid decision making and the changes make to grow, but with the agility can not be provided, because the main goal of agile, respond rapidly to market changes and customer needs-if.

that is, it can be stated that in some agile methods in order to achieve the quality, usability testing before developing code-do. The design architecture that can support test, you can ensure that an organization's ability to control and Visibility can be achieved. The test can be easily performed and observed that the error occurred.

3. Usability and implementation

This is the feasibility of implementing the concept of enterprise architecture and ease of use is its component. The relevant features include: cost and time of implementation and compliance with the organization [8]. In general, one of the advantages of agile strategy, saving time and cost. and it matches the capabilities of the organization, organized.

4. Performance

Feature, the optimal use of IT systems for enterprise resource shows. This behavior by the characteristics of the time and resources of architectural elements will be determined. Since agile strategies aim to respond quickly and it is important that information flows are short and fast. Therefore the delivery time features in this model are crucial.

On the other hand, to the efficiency of resources, avoid duplication of data is stored. This can be agile strategies explained that the objective is to model and agile architect documentation that is good enough and

no more. The only models and documents are stored and when absolutely necessary-that hit their target, they throw away. This resource productivity, will help.

5. Security

Information and technology related to organizational resources has become one of the most respected IT security is absolutely essential. In fact, the security of means of control and protection mechanisms-access and modify data in the following components of enterprise architecture and its features include: protection, availability and integrity. Achieve this by having the user management system is possible-possible [9].

Such as enterprise architecture, agile enterprise architecture is the basis for, and according to the developers even in the knowledge of the general principles of security, to meet some security needs require an overview and complete control over all parts of the organization, this It further investigation is needed. At the same time, security requirements are not something that can be ignored Brhy Nzrkrd stages during the life cycle and should be addressed properly.

6. Reliability

This feature is available in enterprise architecture means reliability and proper functioning of the components in the enterprise architecture. The following features discussed in this index are: to improve fault tolerance and the ability to return the error [10].

In fact, agile architecture, one of the architects of the tasks is to not only understand their stakeholders, but also the stakeholders to understand each other, because the architect, the only person who can be an effective bridge between the business and technical side is seen. From this perspective, if the developers of this method to operate, can be associated with language professionals the ability to talk. The ability to fix bugs that result from a lack of understanding of stakeholders will be.

the customer is, would-be technical bugs to be fixed faster, which increases the dependability of the system over time.

7. Integration

Create a data integration and information sharing with the integration of the results of the use of information architecture. Information architecture to create specific standards, rules for sharing data-is created. Agile architecture, by holding regular meetings and quickly, the information sharing can be achieved.

8. Convergence

Due to the widespread use of information technology in organizations and their diversity, must be considered an architectural design is for them. This integration means that the function converged enterprise architecture components and adapting their activities to achieve the same goal.

This well is an agile architecture is intuitive, because all the chain rings swift, coordinated and integrated manner to customer demands My¬Darnd steps. The overall goal is to adapt to changes and conditions imposed on the organization's objectives.

conclusion

In this study, we have tried to appropriate actions to deal with the huge cost to the organization, resources, and changes in strategic goals of the organization. To this end, enterprise architecture as a factor reducing the complexity and changes were introduced. Then, depending on the preferences expressed in terms of agility, the new concept was introduced agile enterprise architecture. In order to assess the quality of the concept, considered a key indicator of the standard ISO / IEC9126 and we use an analogy with the quality features of enterprise architecture. The results of the analysis suggest that, given the characteristics of agile methods, we can provide the answer-interview all the agility of enterprise architecture and quality indicators provide an ideal surface for evaluation.

References

[1]. Bass, L., Clements, P. and Kazman, R., *Software Architecture in Practice*, Addison-Wesley Professional, 2003.

[2]. Chief Information Officer (CIO) Council (1999), The Federal Enterprise Architecture Framework, CIO Council.

[3]. Betz, S. , Wohlin, C. , "*Alignment of Business, Architecture, Process, and Organisation in a software development context*", Empirical Software Engineering and Measurement (ESEM), 2012 ACM-IEEE International Symposium on, pp. 239 – 242, Lund, Sept. 2012.

[4]. Bettina Biela, Thomas Grillb, Volker Gruhna, "*Exploring the benefits of the combination of a software architecture analysis and a usability evaluation of a mobile application*", Journal of Systems and Software, Vol. 83, Issue 11, pp. 2031–2044, November 2010.

[5]. Lior Malka, Santa Clara, "*VMCrypt: modular software architecture for scalable secure computation*", Proceedings of the 18th ACM conference on Computer and communications security, pp. 715-724, ACM New York, NY, USA, 2011.

[6]. Anne Martens, Heiko Koziolek, Steffen Becker, Ralf Reussner, "*Automatically improve software architecture models for performance, reliability, and cost using evolutionary algorithms*", Proceedings of the first joint WOSP/SIPEW international conference on Performance engineering, pp. 105-116 , ACM New York, NY, USA, 2010.

[7]. K. Mohan, B. Ramesh, "*Traceability-based knowledge integration in group decision and negotiation activities*", Decision Support Systems, Vol. 43, pp. 968–989, 2007.

[8]. F. Lanubile, T. Mallardo, F. Calefato, "*Tool support for geographically dispersed inspection teams*", Software Process: Improvement and Practice, Vol. 8, No. 4, pp. 217–231, 2003.

[9]. R. Kuni, N. Bhushan, "*IT application assessment model for global software development*", IEEE International Conference on Global Software Engineering, pp. 92–100, Florianopolis, Brazil, October 2006.

[10]. J.S. Persson, L. Mathiassen, J. Boeg, T.S. Madsen, "*Managing Risks in Distributed Software Projects: An Integrative Framework*", Engineering Management, IEEE Transactions, Vol. 56, pp. 508-532, Aug 2009.

10/8/2022