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Haytham Mohammad

Omar El-Gayar

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Haytham M. Mohamed
*Dakota State University*, hmmohamed@pluto.dsu.edu

Omar El-Gayar
*Dakota State University*, omar.el-gayar@dsu.edu

# How Microservices Architecture is Successfully Implemented in Organizations

*TREO Talk Paper*

**Haytham Mohamed**
Dakota State University
hmmohamed@pluto.dsu.edu

**Omar El-Gayar**
Dakota State University
omar.el-gayar@dsu.edu

## Abstract

A microservice is a small application that can be deployed independently, scaled independently, and tested independently and that has a single responsibility (Thönes, 2015). Although microservices architecture (MA) was introduced a few years ago, many organizations are still in the process of implementing it to modernize their business-critical applications and provide quick market value. Implementing MA comes with its own challenges and could impact organizational practices, existing systems, and supporting infrastructure. Adopting a microservices pattern requires suitable settings and preparation. Further, the technology changes required when implementing a microservices-based application are only one part of the equation. The business and organization situations will also most likely be impacted. While resources are available to describe how to technically implement and maintain microservices, the organization context's (people, technology, process, structure) characteristics needed are rarely examined. Investigating the implementation practice of microservices patterns helps decision-makers understand how to enable their organizations to successfully leverage the advantages of microservices architecture.

Accordingly, this research aims to explore organizational characteristics associated with the adoption and implementation of microservices architectures. The effort uses an exploratory single case study method to examine a successful implementation of a microservices architecture pattern in an organization. Exploratory case studies are used when the "research looks for patterns, ideas, or hypotheses rather than research that tests or confirms hypotheses" (Miller et al., 2008). Specifically, the research investigates the following questions:

- Based on the business situation, what are the main factors that lead organizations to adopt the microservices architecture?
- How did the organization successfully implement the microservices architecture?
- How adoption of microservices architecture impacts the organization's characteristics, operation practice, people, and technology stack?

The investigation is guided by the situational context framework (Connor et al., 2016). The framework highlights the complexity surrounding software process context in terms of the situational characteristics of the organization, personnel (people/team), process, and technology. The project participants in the targeted organization are interviewed to examine and match the guided criteria. Supplementary data is obtained from reports, emails, and instant messages. The results and findings provide insights into implementation success factors for microservices architecture in organizations.

## References

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