Technical University of Sofia
Union of Scientists in Bulgaria
Union of Electronics, Electrical Engineering and Communications
Institute of Electrical and Electronics Engineers, Section Bulgaria

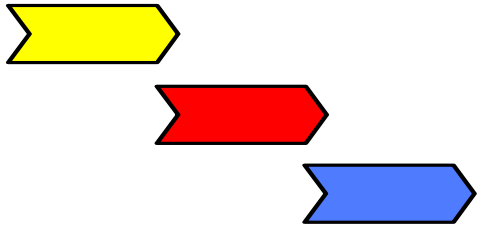
USING AGILE METHODOLOGY IN ERP-SYSTEM IMPLEMENTATION PROJECTS

International Conference on Information Technologies
(InfoTech-2021)

Dmitry Yu. Stepanov,
PhD of technical sciences,
MIREA – Russian Technological University

16-17 September 2021

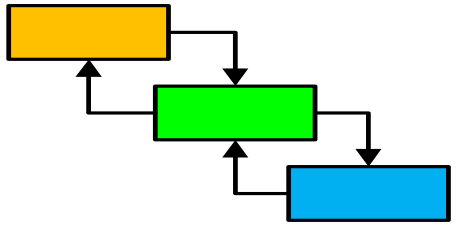
1. Introduction



1. Cascade

Implementation models

2. Iterative



3. Spiral

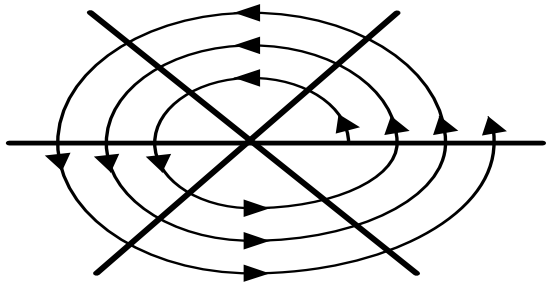


Fig. 1. Classical implementation models

2. Problem statement

The purpose of study is analyzing Agile based methods can be used in ERP-system implementations to reduce project costs, man-days and duration. Following tasks will be performed to achieve the goal:

– considering differences between corporate information systems and other applications;
– exploring incremental and spiral implementation approaches;
– mapping Agile principals with ERP-system implementations.

3.1. Overview of ERP-systems

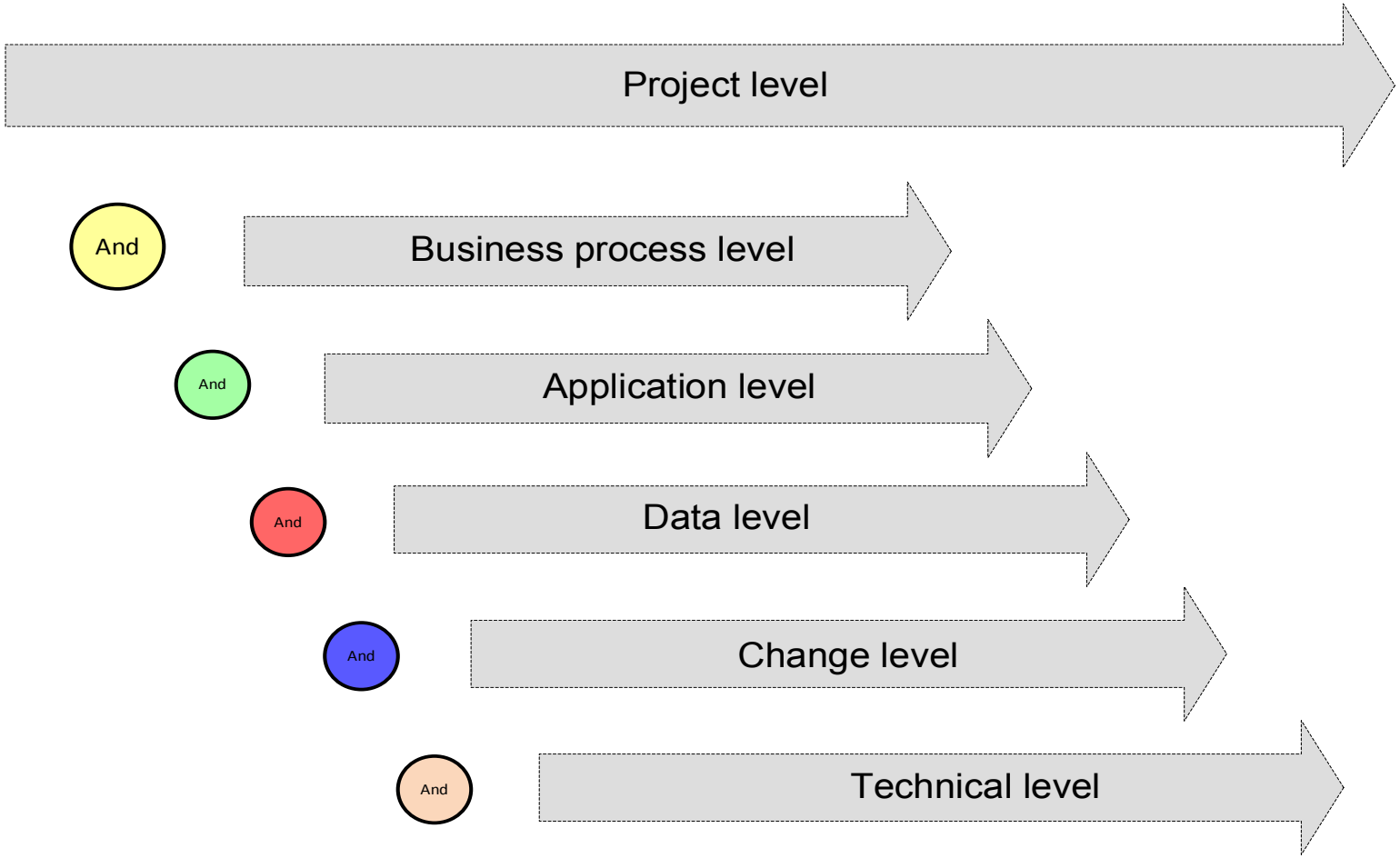


Fig. 2. Levels of implementation ERP-system

3.2. Overview of Agile methodology

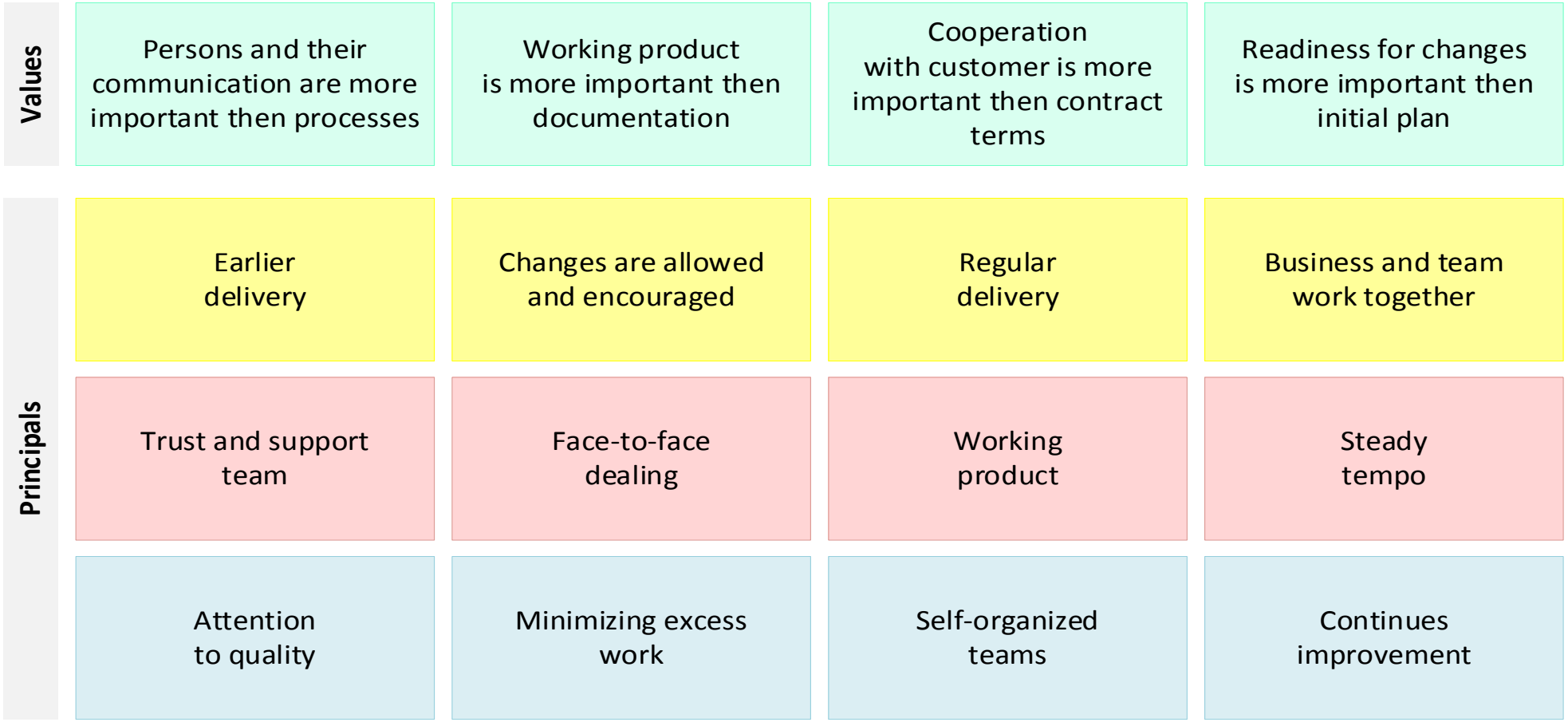


Fig. 2. Agile values and principals

4.1. Implementation of Agile principals in ERP-projects: earlier, regular delivery and working program

Statement 1. Earlier, regular and workable delivery principals of Agile methodology are not relevant for rollout and from the scratch ERP-projects. However, it can be applied in evolution ERP-projects, where core system has already been deployed and fine-tune modification needed. In this case Agile can drive fast and flexible solution delivery.

4.2. Implementation of Agile principals in ERP-projects: continues face-to-face demonstration

Statement 2. Due to restricted number of business objects used for ERP-system developing and limited variations how requirements can be customized, continues demonstration of product will not bring much value for any type of ERP-project.

4.3. Implementation of Agile principals in ERP-projects: changes are allowed and encouraged

Statement 3. Changes in requirements are not encouraged in ERP-projects from the scratch and rollouts. Due to ERP is a core system, to make it run only obligatory requirements will be realized.

5.1. Using one and multi-pass models in ERP-projects

TABLE 1. PERCENT OF USING ONE AND MULTI-PASS MODELS

ERP project type	Number of projects	One-pass	Multi-pass
From the scratch	3	3 (100%)	
Rollout	5	5 (100%)	
Evolution	3	2 (66%)	1 (34%)

5.2. Evaluation

Statement 4. Agile methodology can be widely used in ERP-projects only if it's adopted for rollout and from the scratch projects. Currently it's too expensive to drive rollout and ERP-projects from nothing based on waterfall implementation model, then transform team for evolution projects, where Agile is used nowadays.

6. Conclusions

- In this paper we have considered Agile methodology and its usage in ERP-system implementation projects. Key differences between ERP-system and other applications were discussed.
- A brief review of multi-pass methods was done to underline its strong points. Key Agile principals were mapped with ERP projects to understand if multi-pass model was applicable.
- It was shown the original idea of Agile was far away from complex ERP-system implementation. As a result, about 10% of ERP implementation projects are driven by Agile-based methods, mostly for modification of already existing system.

Thank you!

Dmitry Yu. Stepanov,
PhD of technical sciences,
MIREA – Russian Technological University