SUMMA 2024

The lifecycle of corporate information systems

MIREA – Russian Technological University, Moscow, Russia
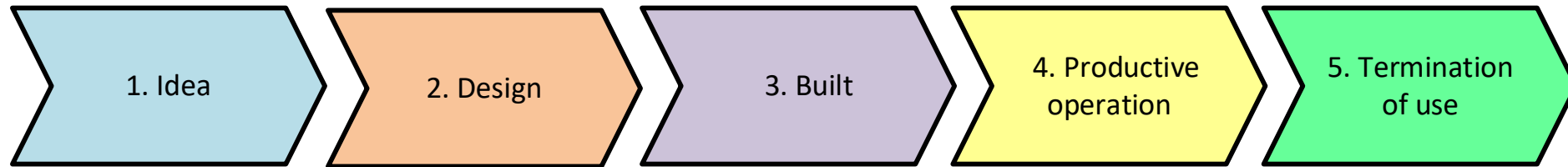
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1. Introduction

Fig.1. Lifecycle of program software

2. Problem statement

The purpose of the study is to analyze and clarify the lifecycle of corporate information systems from business case to termination of their use. Consideration of the lifecycle will make it possible to highlight the activities preceding the implementation project that are poorly described at the moment, as well as to emphasize the tasks that organizations face and resolve after the completion of software deployment. To achieve the goal following tasks to be resolved:

- consideration of lifecycle of software solutions;
- dividing the entire lifecycle into the parts;
- analysis of unfamiliar parts of the lifecycle.

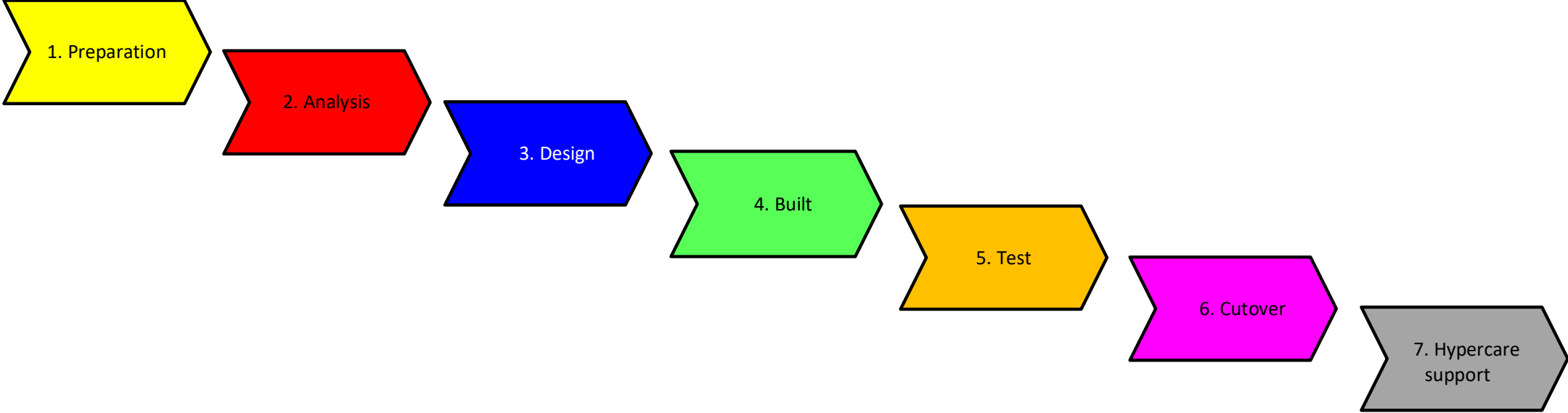# 3. Well-known lifecycle of ERP-system implementation project

Fig.2. Lifecylce of ERP-system implementation project

4. Unfamiliar lifecycle of ERP-system pre-implementation project (1 of 3)
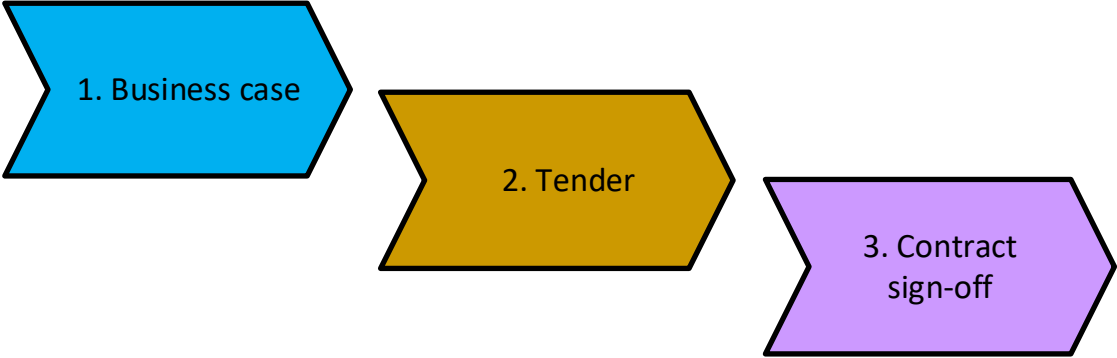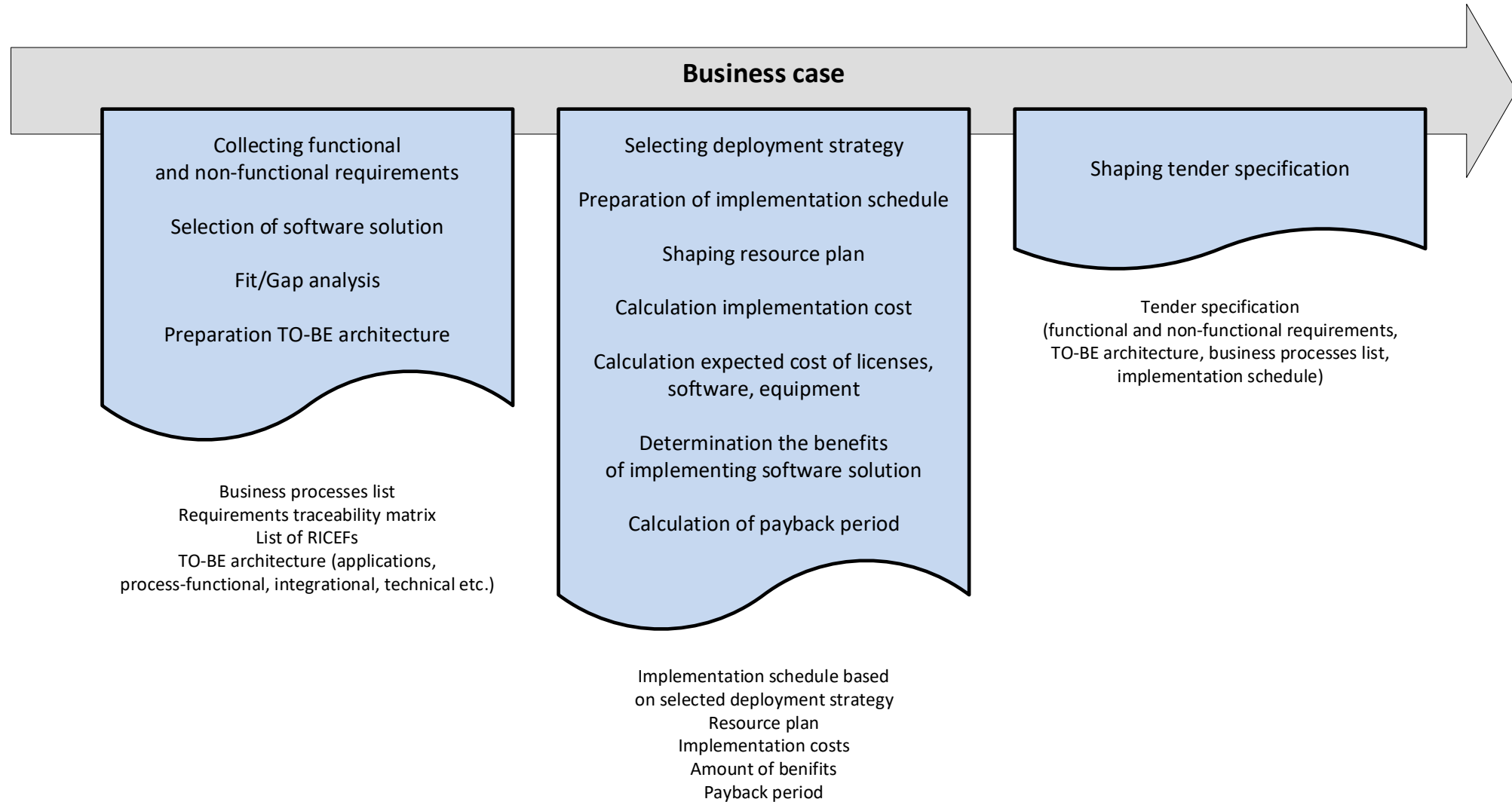

Fig.3. Lifecycle of ERP-system pre-implementation project

Business case

Collecting functional
and non-functional requirements

Selection of software solution

Fit/Gap analysis

Preparation TO-BE architecture

Business processes list
Requirements traceability matrix
List of RICEFs
TO-BE architecture (applications,
process-functional, integrational, technical etc.)

Selecting deployment strategy

Preparation of implementation schedule

Shaping resource plan

Calculation implementation cost

Calculation expected cost of licenses,
software, equipment

Determination the benefits
of implementing software solution

Calculation of payback period

Implementation schedule based
on selected deployment strategy
Resource plan
Implementation costs
Amount of benifits
Payback period

Shaping tender specification

Tender specification
(functional and non-functional requirements,
TO-BE architecture, business processes list,
implementation schedule)

Fig.4. Business case stage

4. Unfamiliar lifecycle of ERP-system pre-implementation project (3 of 3)

Tender specification
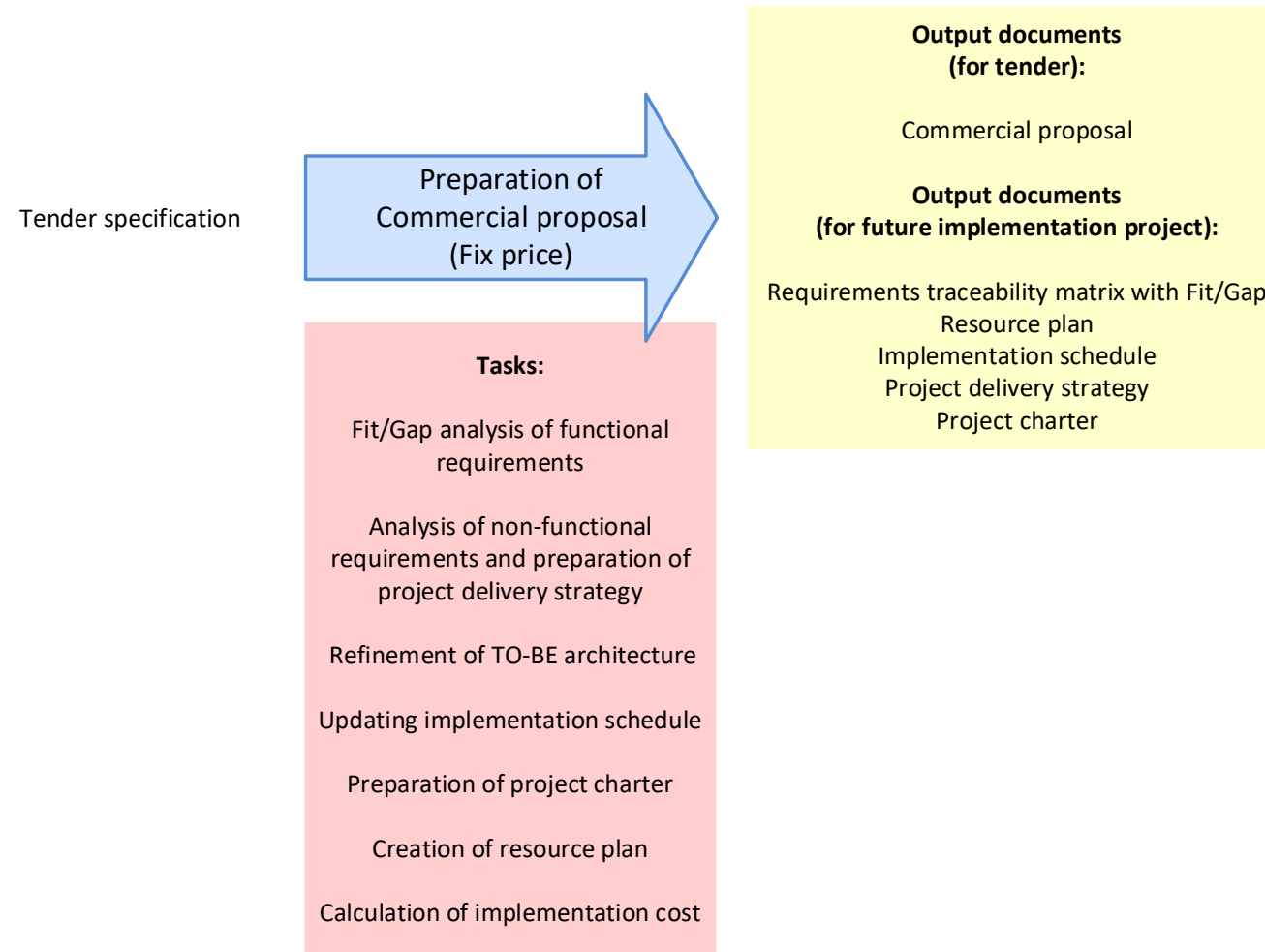
Preparation of Commercial proposal (Fix price)

Output documents (for tender):

Commercial proposal

Output documents (for future implementation project):

Requirements traceability matrix with Fit/Gap
Resource plan
Implementation schedule
Project delivery strategy
Project charter

Tasks:

Fit/Gap analysis of functional requirements

Analysis of non-functional requirements and preparation of project delivery strategy

Refinement of TO-BE architecture

Updating implementation schedule

Preparation of project charter

Creation of resource plan

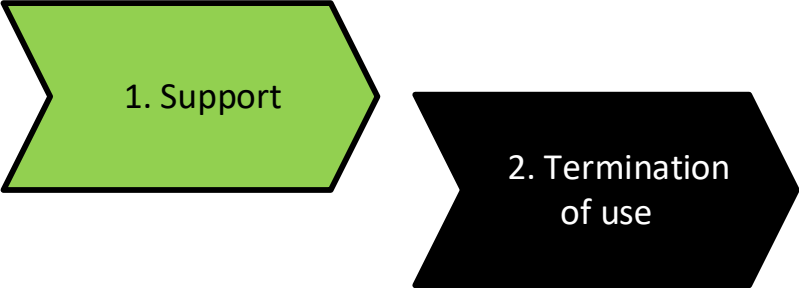Calculation of implementation cost

Fig.5. Tender stage

5. Obvious lifecycle of ERP-system post-implementation project (1 of 3)

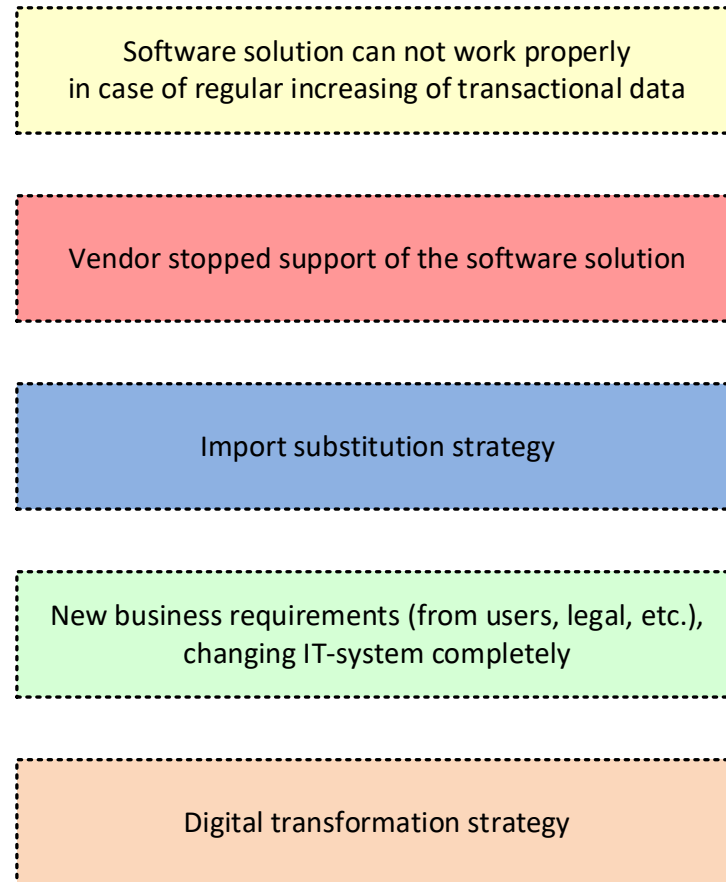Fig.6. Lifecycle of ERP-system post-implementation project

Fig.7. Support stage

Software solution can not work properly
in case of regular increasing of transactional data

Vendor stopped support of the software solution

Import substitution strategy

New business requirements (from users, legal, etc.),
changing IT-system completely

Digital transformation strategy

Fig.8. Reasons for termination of use

6. Lifecycle of corporate information system
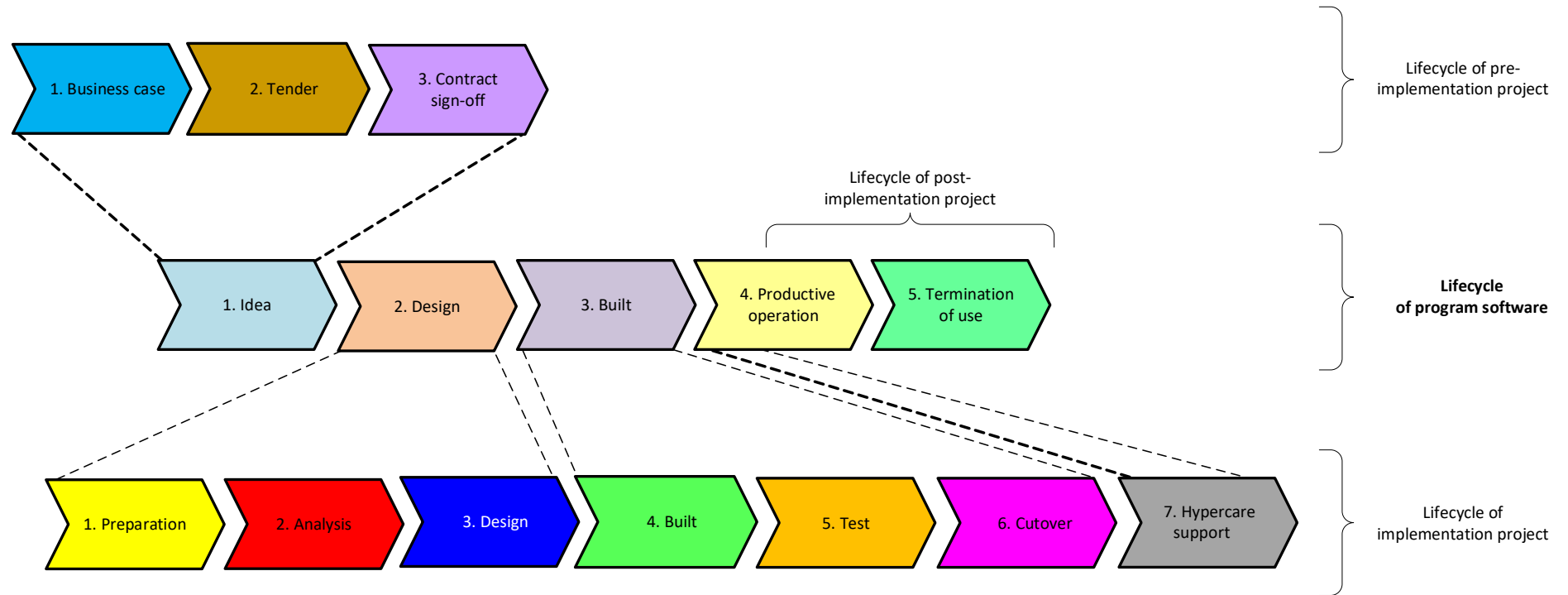
Fig.9. Lifecycle of program software and corporate information system
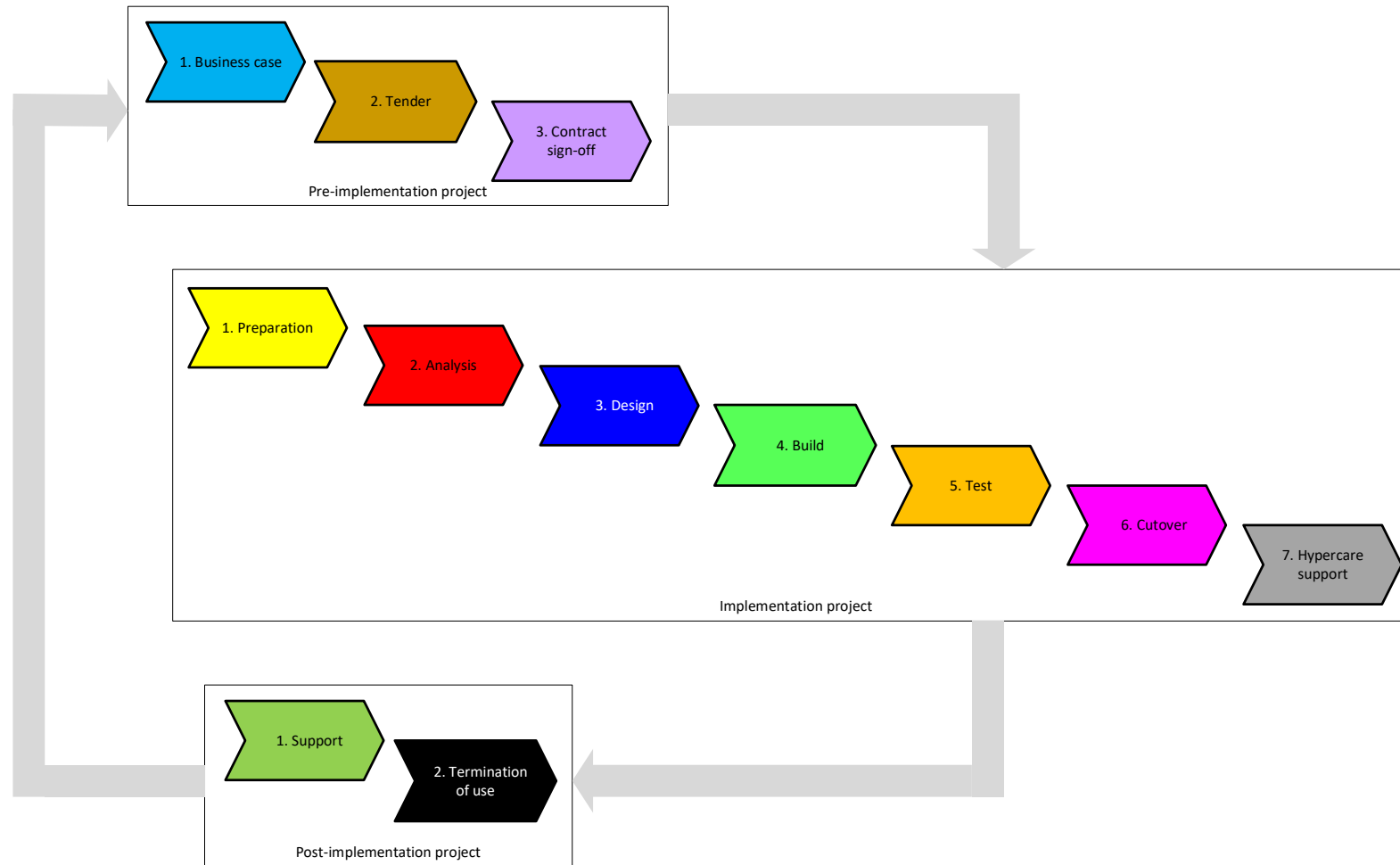
7. Spiral but not linear lifecycle

Fig.10. Spiral lifecycle of program software

8. Conclusions (1 of 2)

The study contains analysis of the lifecycle of corporate information systems. Unlike similar works, there is overview from business case to termination of using software product, not limited only by implementation project in the given article.
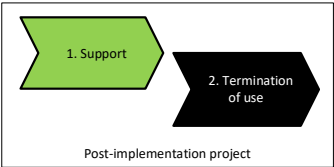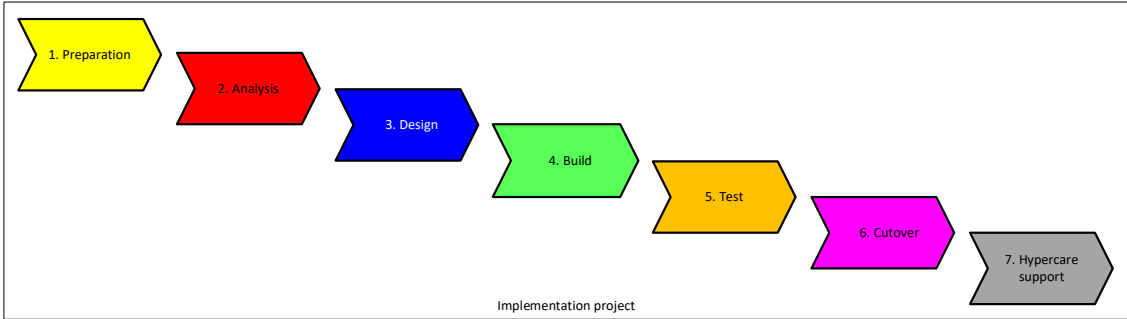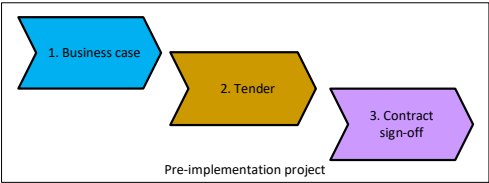
The entire lifecycle is divided into three parts: pre-project, implementation project and post-implementation phases. The most of scientific papers on information systems describe the implementation project, paying less or no attention to pre- and post-projects.

It is concluded that the lifecycle of corporate information systems is spiral, but not linear, in addition, the phase of termination is completed only when the implementation of a new and more advanced software product will be done.

8. Conclusions (2 of 2)

Design thinking

1. Business case
2. Tender
3. Contract sign-off

Pre-implementation project

1. Preparation
2. Analysis
3. Design
4. Build
5. Test
6. Cutover
7. Hypercare support

Implementation project

1. Support
2. Termination of use

Post-implementation project

Thank you for the attention!

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