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## **Abstract**

The purpose of this research is to identify specific functional requirements and capabilities of the modern agile process management systems. Author proposed the classification and requirements to the modern process management systems. Based on the research results the distributed approach for agile process management systems was proposed.

### **Keywords:**

Agile bussiness process management, third wave process management system, adaptive case management system, market research of process management systems, decenralized model for process management, distributed cooperation management, framework for agile process management.

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**1.1. -**

[9, . 31], [9, . 148],

[11, . 55] « — ,

». [11, . 55]

1.1.2. -

- ( . [9, c. 148],

[7, . 17], [10]) :

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[14, . 110]

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## 1.2.

### 1.2.1.

[16],

[17, . 27],

[9, . 30 - 31], [17, . 30]

[9, . 31]

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[17, . 30],

[78, . 6]

( )

PMBOK [45, . 8],

### 1.2.2.

. 34]

### 1.3.

[17, . 14]

#### 1.3.1.

2006 .

[7, . 27].

[17, . 15], --  
 — *BPMN* ( ), *EPC*  
 (c ).

. , [17, .  
 15], :,  
 , , .

. SADT (Structured  
 Analysis and Design Technique) IDEF (Integration Definition for Functional  
 Modeling).

- . - -  
 [17, . 17] c  
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- . - -  
 UML (Unified Modeling Language).

- . - -  
 [17, . 18] -  
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BPMN (Business Process Model and Notation),  
 ARIS (Architecture of Integrated Information Systems), EPC (  
 ).

### 1.3.2.

. [13]

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, [13, . 15]  
 $C = (P, T, I, O)$ , 4- :

1.  $P$ ;
2.  $T$ ;
3.  $I$ ;
4.  $O$ .

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[13, . 18]  
 $G = V, A$ ,

$v_i \in V$   $a_i \in A$ .  $V$   
 $P ($  )  
 $T ($  ).

**1.3.3.** -

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**BPMN.** BPMN - ,

— - ,

OMG BPMN.

BPMN

[58, . 26]

: [58, . 30]

1. (flow objects);
2. (data);
3. (connecting objects);
4. (swimlane);
5. (artifacts).

( ,  
. .). BPMN , -  
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**YAWL** *YAWL (Yet Another Workflow Language)*  
(Aalst) (Hofstede) 2003

[77],  
, YAWL  
. ,  
[77, c. 3] :

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YAWL, [77, . 10],  
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YAWL  
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YAWL ( . 1.3.2 . 16).

1.4.

1.4.1.

WfMC [29, . 9] (Workflow) , (workflow engine). , , , , . , - , - , - . , - , - , - . [19, . 31 -- 35], workflow- ( ) , , : — , ( ) —

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**Workflow-**

Workflow,

[4, . 127],

Workflow

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Workflow,

[4],

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**Workflow-**

workflow

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Cunningham LLP Zagiel S.A.,

[25], [20].

Cunningham LLP

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Zagiel S.A.

#### 1.4.2.

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BPM-

[24]

( , BPMS)

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. BPMS

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»[55]

### 1.4.3.

PMBOK Guide [45, . 33]

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[5, c. 91 - 93]),

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## 2.1.

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### 2.1.1.

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 — [35], -  
 [73], [33],  
 [51].

### 2.1.3.

(agility) - .

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 , [52] [51],  
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 [35] .  
 workflow, .  
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 [76]  
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 c ( . [60], [61])  
 workflow -  
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 , [6, . 95] -  
 ( . . 56).

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 [57],  
 [22] —  
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 eTOM [74] — SCOR [54]  
 — .  
 , APQC [21].

## 2.2.

### 2.2.1.

Gartner Inc. ([31]) Forrester Research [66]) 2009 – 2013

[31], [66],

The Forrester Wave [75], [67], [27], [26],

Gartner Magic Quadrant [46], [47], [48], [49].

: PegaSystems, IBM, Appian, Progress Software,

Metastorm —

: Fujitsu, EMC, Global360,

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: Tibco Software, Software AG, SAP —

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: Appian BPM Suite[30], OpenText MBPM [71], Cordys BPMS [70], Pegasystems BPM [62], Fujitsu Interstage BPM [39], Tibco Active Matrix BPM [72];

: jBPM [50], BonitaBPM [23], Taverna Workflow [56], Activiti BPM [68], Pegasus [64], Intalio BPMS [69].

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2.2.3.

OpenText (Cordys BPMS, MBPM), Appian. Appian (jBPM, Activiti)

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jBPM	Activiti		,	-
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3.1.1.

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[79] — ,

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TOGAF. TOGAF 9

[40]

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GERAM [36].		GERAM	
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<b>3.1.2.</b>			-
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Appian	OpenText MBPM,		
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### 3.1.3.

VERAM [18],

GERAM.

VERAM

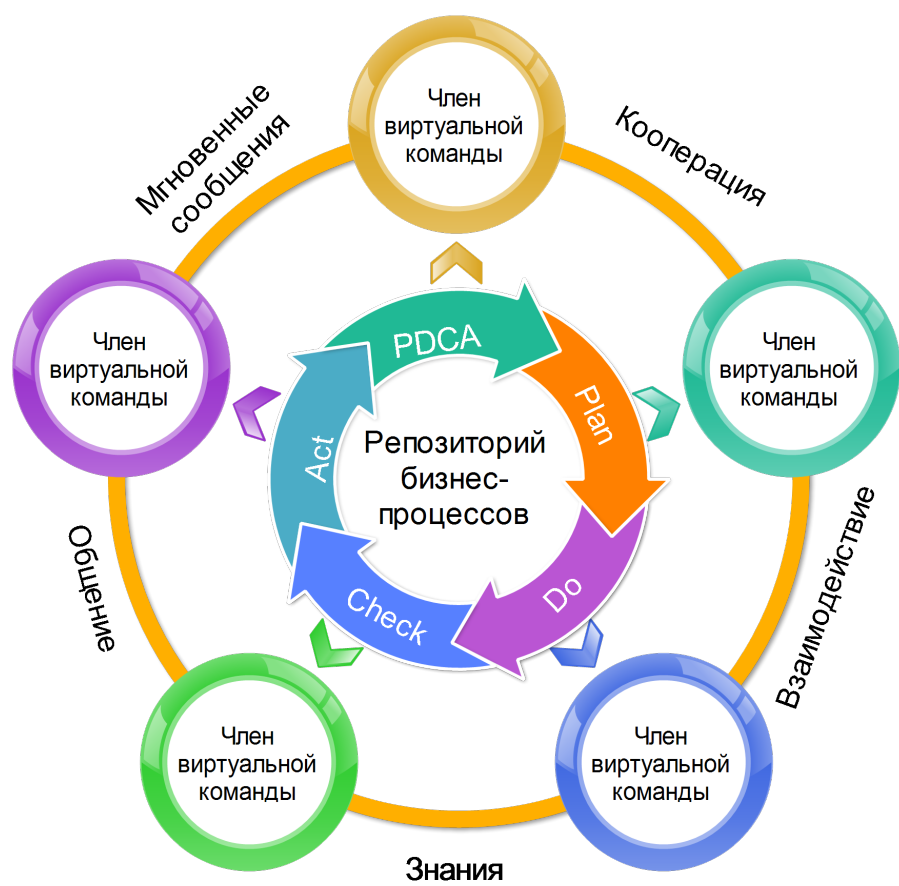
VERAM

### 3.1.4.

TOGAF.

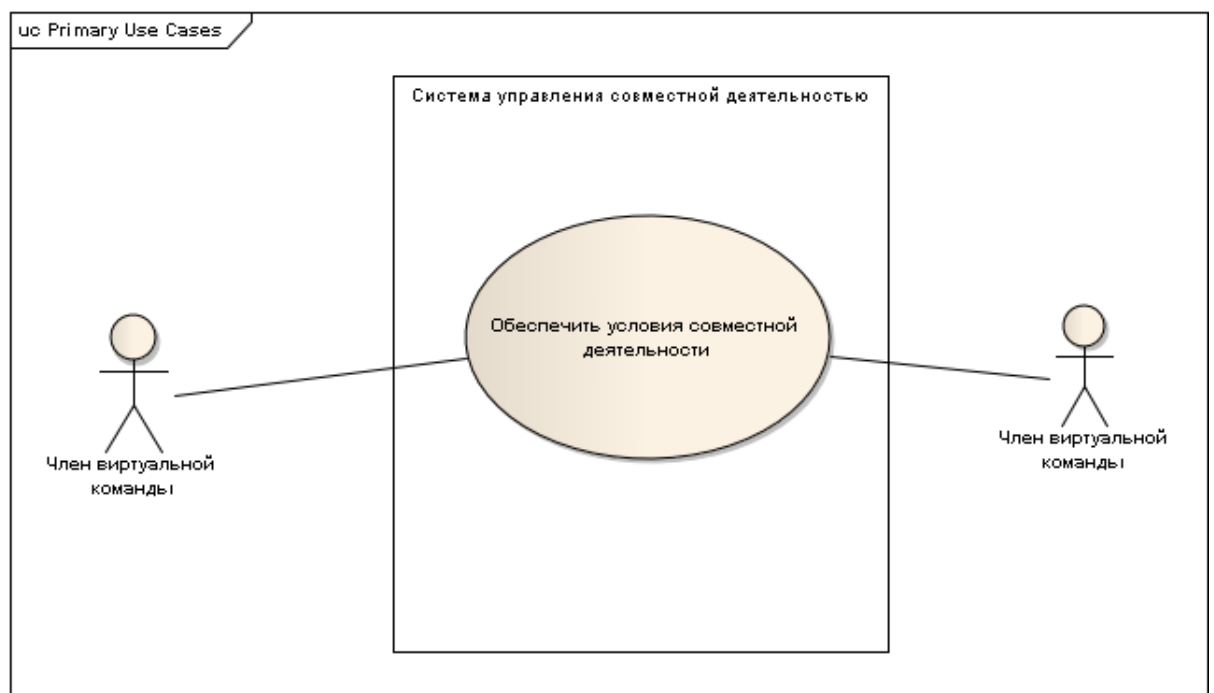
3.2.

3.2.1.



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3.1



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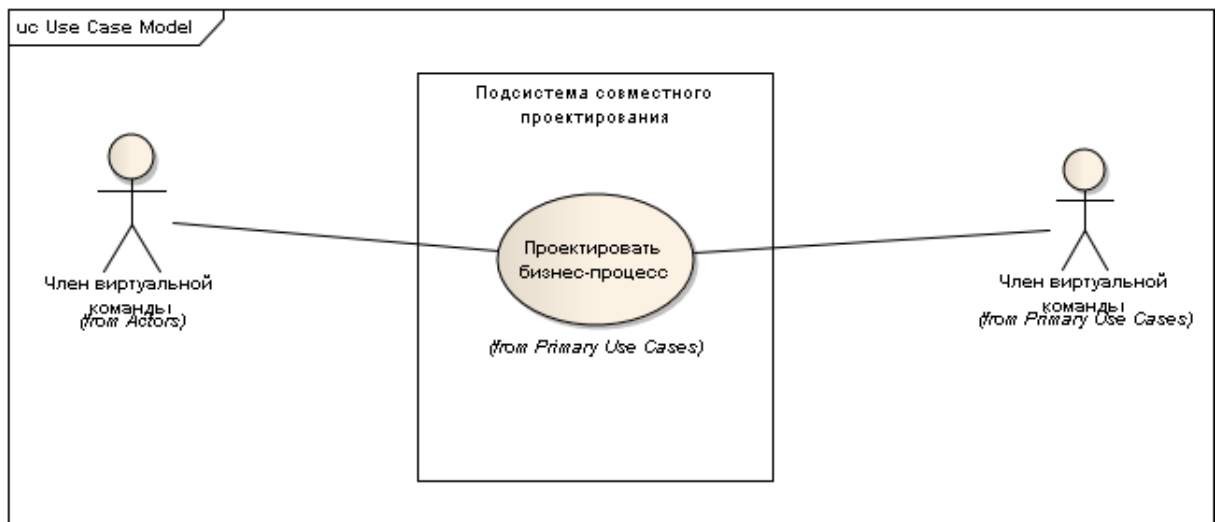
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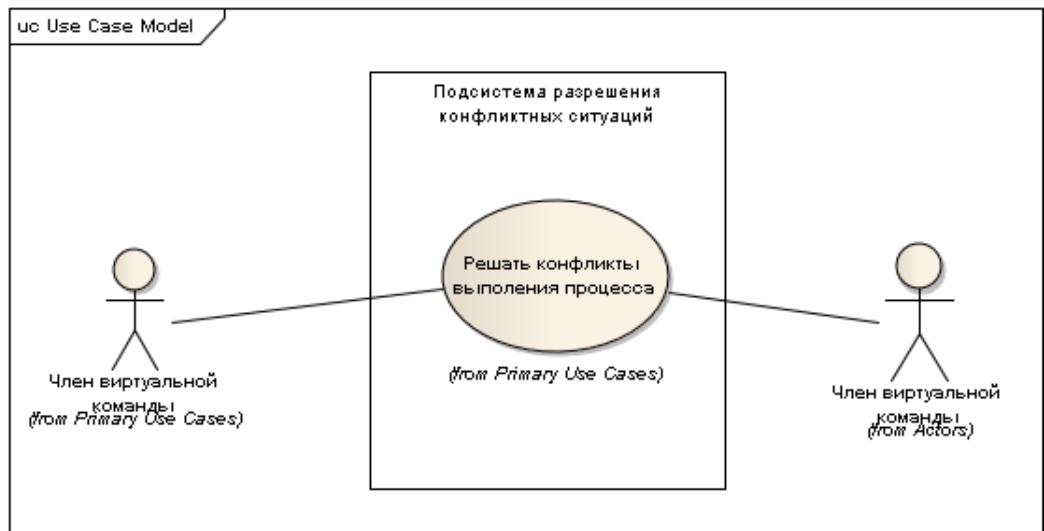
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### 3.2.2.

**jBPM      Activiti.**

(      2.2.2      . 32)

jBPM      Activiti.

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Activiti.

Activiti

(BPMN 2.0 XML),

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jBPM

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jBoss Drools,

XML

jPDL.

Activiti,

[68],

Alfresco [43],

- .

Activiti

Apache, -

, [37],

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**Activiti.**

Activiti -

-

(Activiti Modeler, Activiti Designer)

- (Activiti Engine). . 3.5

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Activiti.

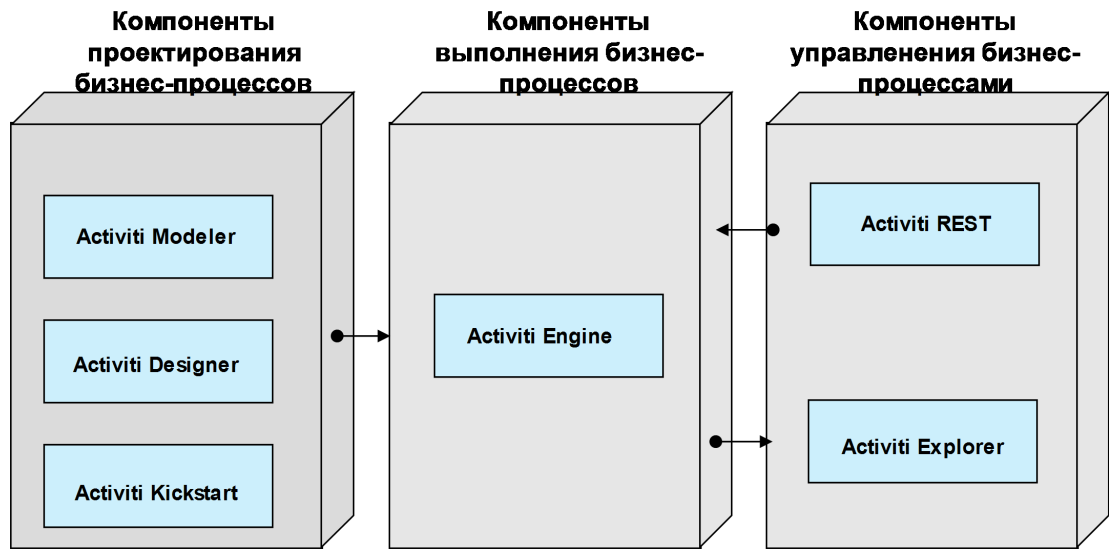
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Eclipse IDE.

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BPMN 2.0 XML.



. 3.5. "

Activiti [68]

BPMN XML,

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git.

git,

[59], [63],

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XML

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XMPP.

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XMPP

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Openfire. XMPP

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[38],

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OpenFire

[65]. OpenFire

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Openfire

LDAP,

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Openfire Open Source Apache,

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3. . . . : , 2001. 336 .
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5. . . I. - :  
<< - >>, 2004. 400 .
6. *e* . : , 2007.  
370 .
7. . . , ,  
- . : , 2006. 240 .
8. . . - . : - -  
, 2009. 120 .
9. . . :  
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: , 2006. 528 .
10. . . . -  
- . : : , 1997. 224 . . .  
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11. . : , 2006. 287 . . . . .
12. . - : , 2006. 400 .
13. . : , 1984. 264 . . .
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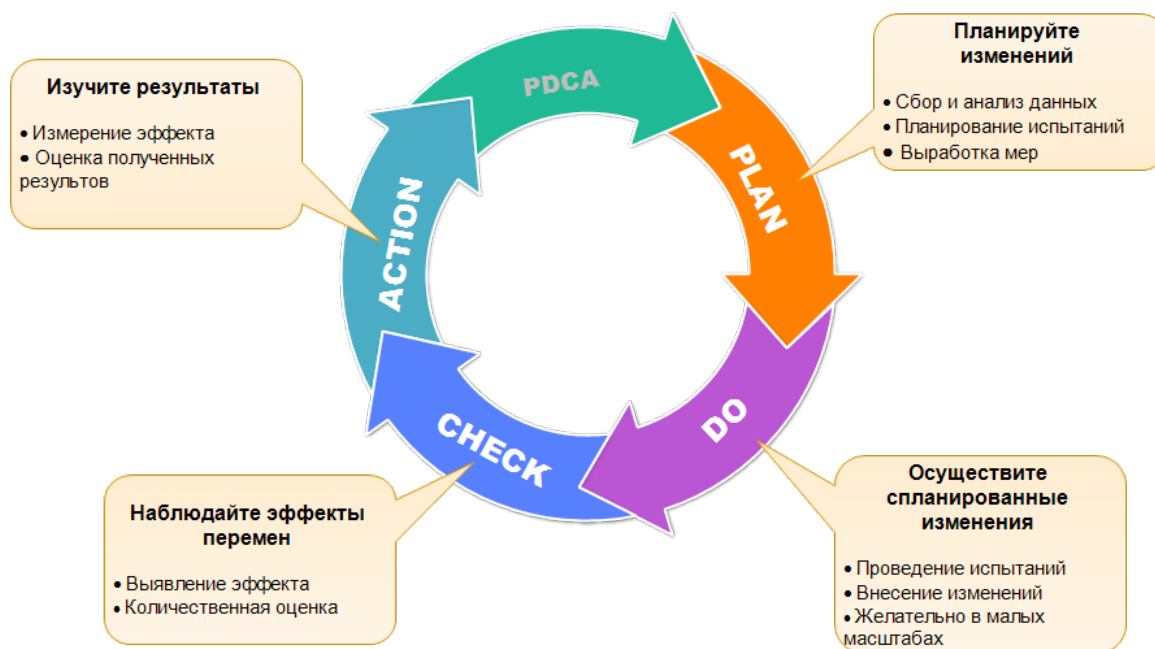
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[6, . 97]



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	<b>Des</b>	<b>Org</b>	<b>Ctrl</b>	<b>Res</b>
Appian BPM Suite	9	8	9	7
OpenText MBPM	8	7	8	10
Cordys BPMS	10	8	6	9
Pegasystems BPM	10	9	10	9
Fujitsu Interstage BPM	7	7	6	5
Tibco Active Matrix BPM	6	10	9	9
jBPM	8	7	8	7
BonitaBPM	8	8	10	7
Taverna Workflow	5	10	6	7
Activiti BPM	7	6	7	5
Pegasus	5	10	8	8
Intalio BPMS	9	6	8	5

**Des**

**Org**

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	VE	LC	KM	AM
Appian BPM Suite	8	5	8	6
OpenText MBPM	7	8	6	7
Cordys BPMS	3	10	3	1
Pegasystems BPM	4	10	5	9
Fujitsu Interstage BPM	8	5	8	8
Tibco Active Matrix BPM	0	1	2	0
jBPM	2	6	2	0
BonitaBPM	7	5	3	3
Taverna Workflow	3	2	4	0
Activiti BPM	0	2	0	2
Pegasus	1	0	1	0
Intalio BPMS	1	1	3	1

VE  
LC  
KM  
AM