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eHealth expert's attitude towards processes of digitization:

contradictions between stakeholders

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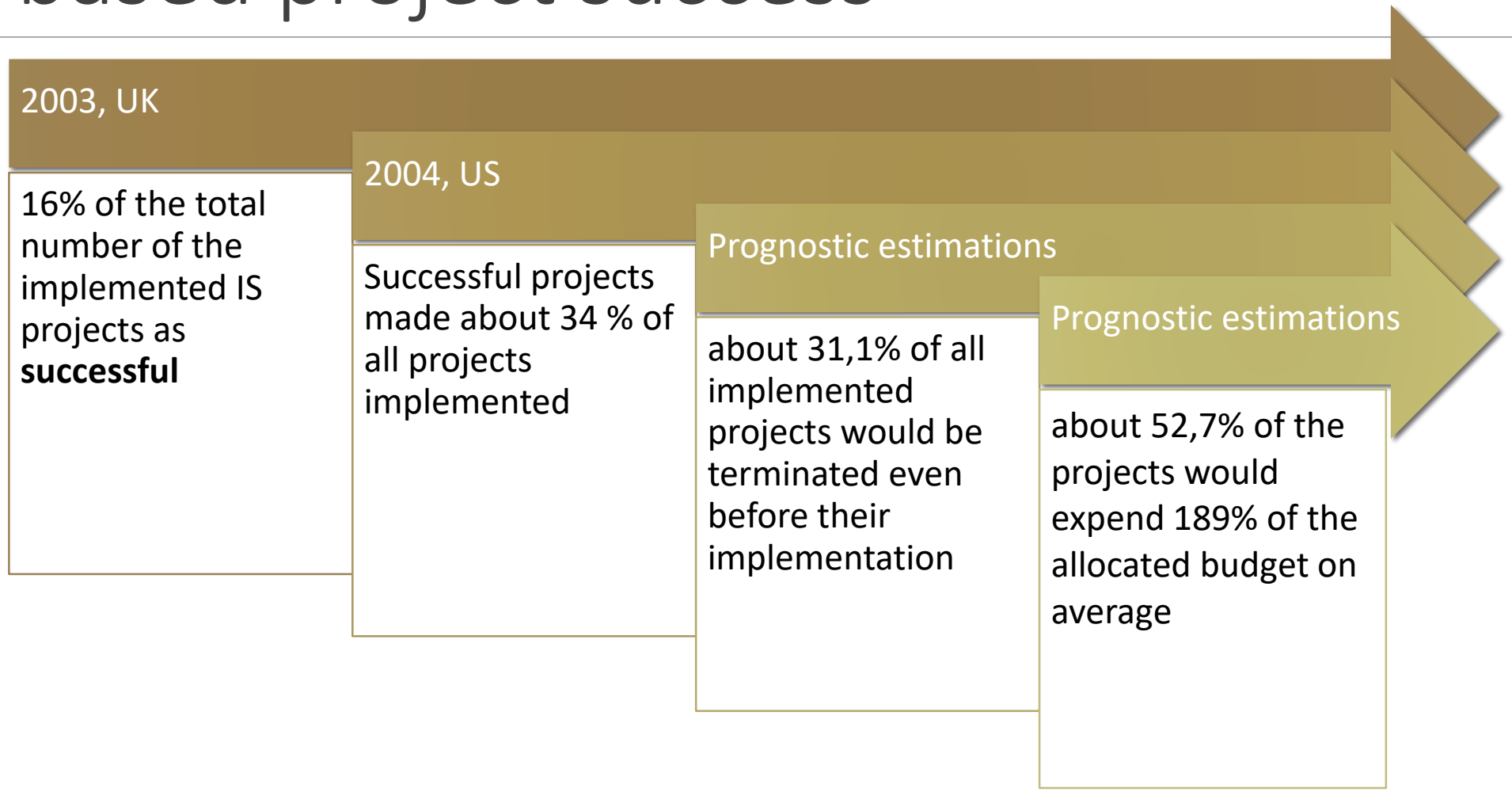
IT based project success



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Expenditure on IT on Health

- US:
  - the expenditure on information technologies (IT) in the health care sector increased
    - from $21.6 billion in 2002 to the foretasted $40 billion in 2012–2014 (2011).
- European Union
  - Similar trends (2013)
- Lithuania has been developing its eHealth system since 2000 and has already spent about €40 billion during the recent 16 years.
  - Already in 2011, it was noted that no IS management processes were set up in the development of the eHealth system and no IS policies, no risk assessment and no incident monitoring were present and therefore some of the goals failed to be achieved and legal regulations were neglected in spite of the fact that the terms of delivery were extended twice

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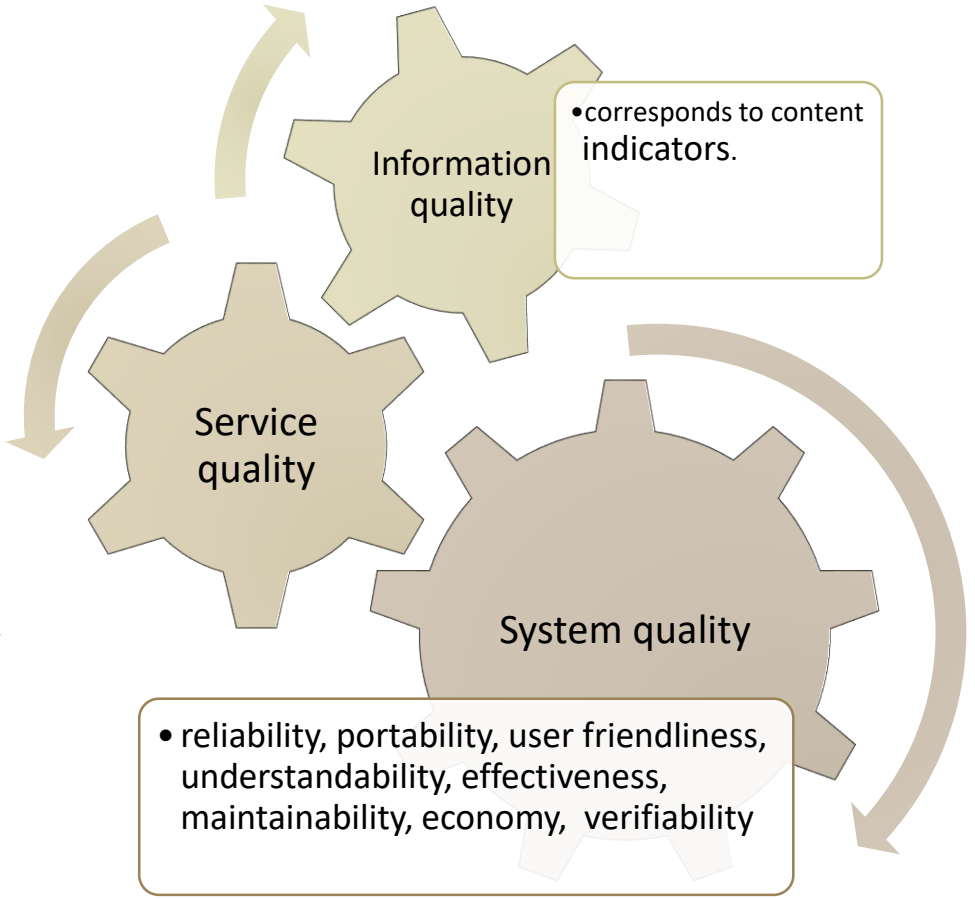
Performance management for e.Health

Seeking the effectiveness

- To monitor and assess the development and outcomes of the ongoing processes
- To create indicators of the system evaluation.
- When selecting indicators for the general assessment system, it is essential to choose indicators and measurements applicable in recurrent situations.

Progress is reached in the sphare of “technical indicators”

- DeLone and McLean’s **model of information systems success** (Delone & Mc Lean, 2003).



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Problem and goal

- PROBLEM
  - New trends of supplementing technical indicators with those to correspond stakeholder needs have emerged.
  - Stakeholder input is still not monitored and stakeholder potential to contribute systemically is still unacknowledged to identify additional, conceivable and acceptable assessment indicators.

The extent of research and endeavours to take into consideration stakeholders are growing both on national and international level

GOAL

- is to compile a corpus of indicators of eHealth development evaluation that would essentially reflect stakeholder approaches and complement technology associated and subject matter indicators of assessment of an eHealth system.

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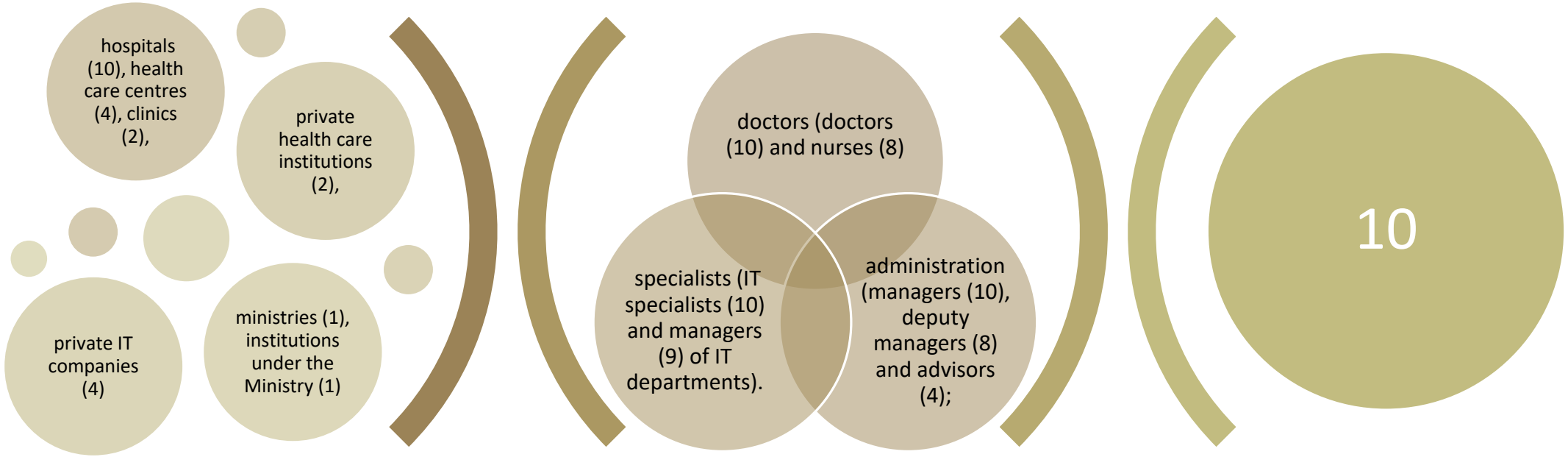
Methodology

- Methods
  - a secondary data analysis.
    - The primary study was a three-year study investigated the eHealth stakeholder network and stakeholder impact on eHealth development in Lithuania
  - interviews (59 interviews)



Organizations | Jog positions | Cities of Lithuania

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Methodology

Analysis

- Interviews have been transcribed.
- The text of responses were grouped into categories and subcategories by means of quality data analysis software NVivo.

Some statistics:

- A total of 215 pages of text
- 523 coded notions
- Three generalized categories: human resources, financial resources and management resources.
- The most relevant topics were selected and arranged into a hierarchical system according to their importance.

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Numeric and percentage value of the codes

Nr	Codes*	Count	Coverage**
01	Quality of information	68	0.114%
02	Compatibility of technologies	68	0.114%
03	Funding	67	0.112%
04	Legal regulation	66	0.110%
05	Shortage of time	58	0.097%
06	Design	39	0.066%
07	Satisfaction	38	0.064%
08	Computer literacy	36	0.06%
09	Training	31	0.052%
10	Motivation	24	0.040%
11	Shortage of employees	18	0.031%
12	Management competences	10	0.017%
TOTAL		523	0.877%

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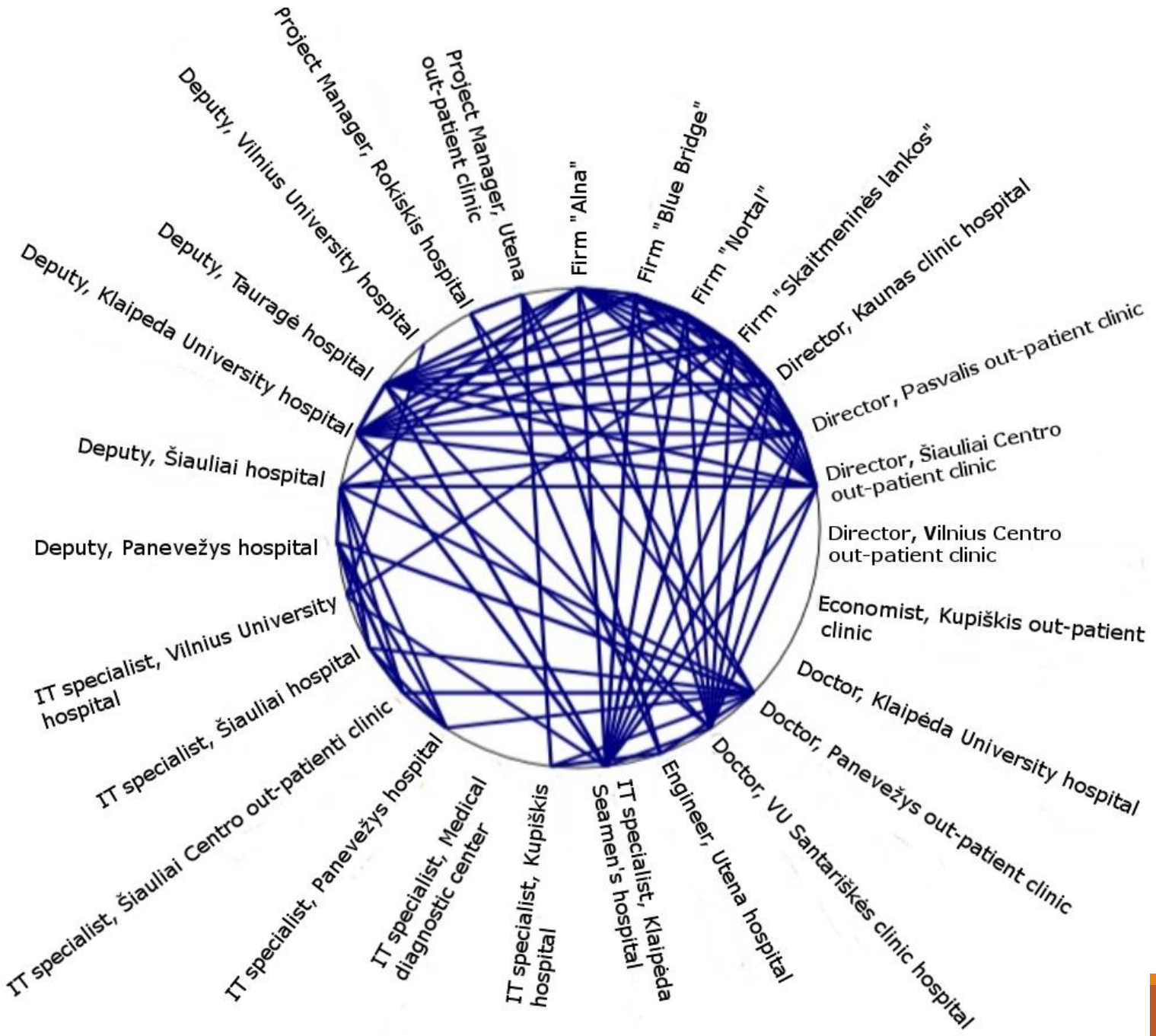
Sources (Respondents) clustered by word similarity



Dominating statements by various respondent groups (key values are highlighted as stakeholder priorities)

Nr	Codes	IT companies	Health care institutions			
			In total	Doctors of health care institutions	Administration of health care institutions	Specialists of health care institutions
01	Quality of information	8* (1,53%)	60 (11,47%)	**45 (8,60%)**	15 (2,87%)	0 (0%)
02	Compatibility of technologies	5 (0,96%)	63 (12,05%)	37 (7,07%)	17 (3,25%)	9 (1,72%)
03	Funding	3 (0,57%)	**64 (12,24%)**	20 (3,82%)	34 (6,50%)	10 (1,91%)
04	Legal regulation	7 (1,34%)	59 (11,28%)	6 (1,15%)	**46 (8,80%)**	7 (1,34%)
05	Shortage of time	**22 (4,21%)**	36 (6,88%)	4 (0,76%)	23 (4,40%)	9 (1,72%)
06	Design	0 (0%)	39 (7,46%)	33 (6,31%)	6 (1,15%)	0 (0%)
07	Satisfaction	0 (0%)	38 (7,27%)	15 (2,87%)	17 (3,25%)	6 (1,15%)
08	Computer literacy	7 (1,34%)	29 (5,54%)	1 (0,19%)	6 (1,15%)	**22 (4,21%)**
09	Training	1 (0,19%)	30 (5,74%)	8 (1,53%)	5 (0,96%)	17 (3,25%)
10	Motivation	0 (0%)	24 (4,59%)	3 (0,57%)	2 (0,38%)	19 (3,63%)
11	Shortage of employees	0 (0%)	18 (3,44%)	0 (0%)	15 (2,87%)	3 (0,57%)
12	Management competences	2 (0,38%)	8 (1,53%)	3 (0,57%)	0 (0%)	5 (0,96%)
	Total			175 (33,46%)	186 (35,56%)	107 (20,46%)
	Total	55 (10,52%)	468 (89,48%)			
	TOTAL	523 (100%)				

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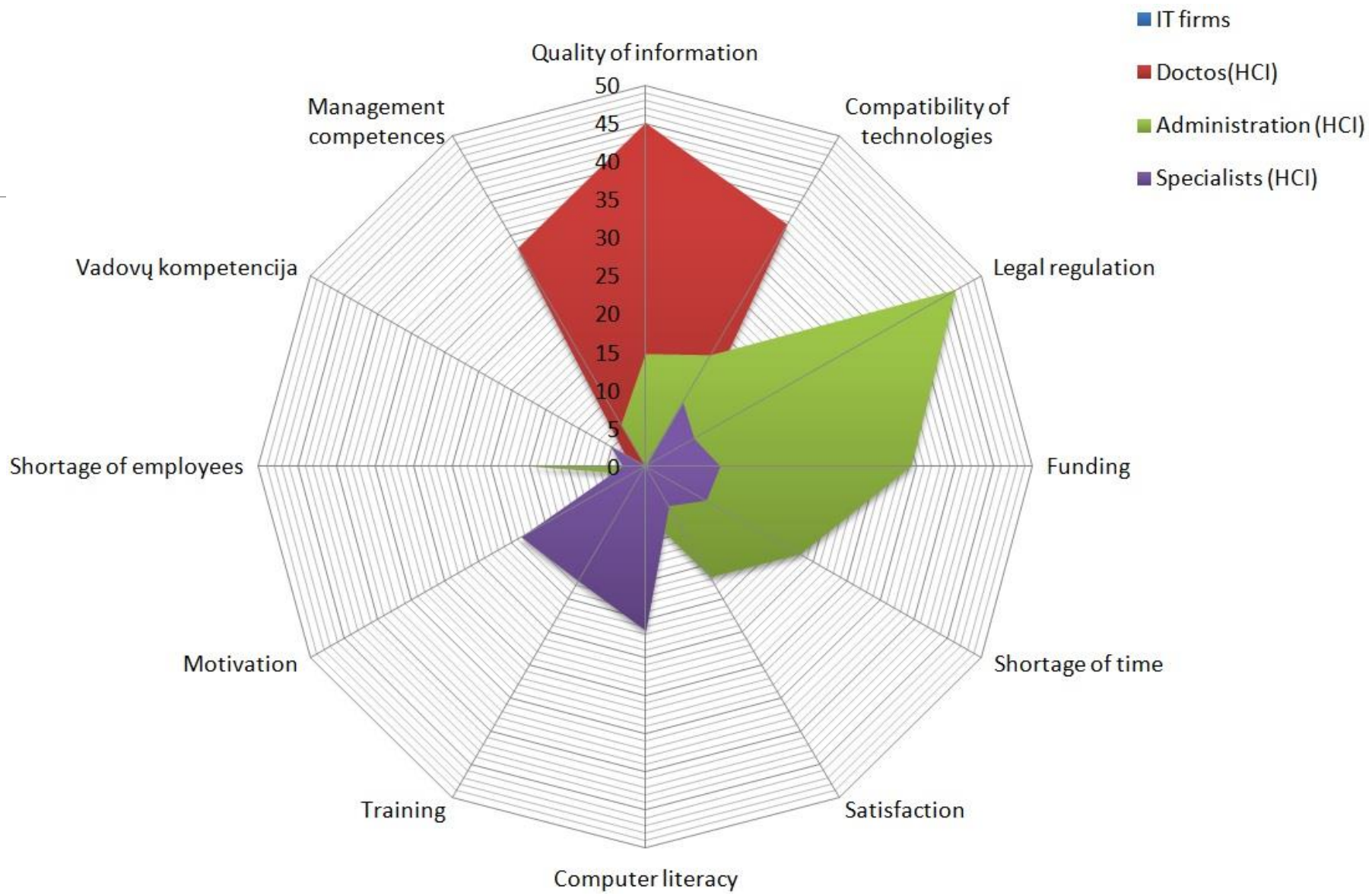
Stakeholder problem distribu-tion



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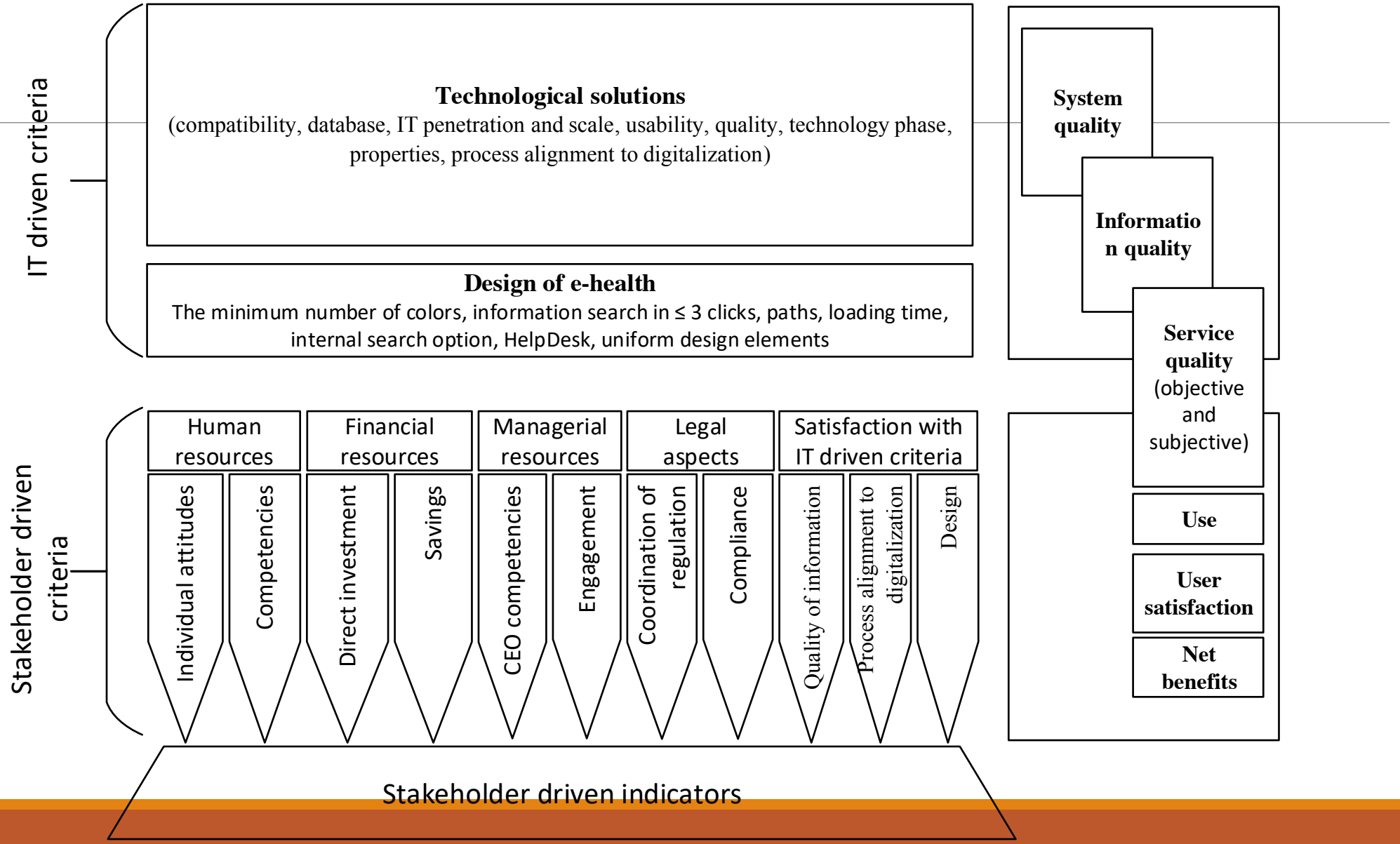
Corresponding components of DeLone and McLean IS success model (2003)



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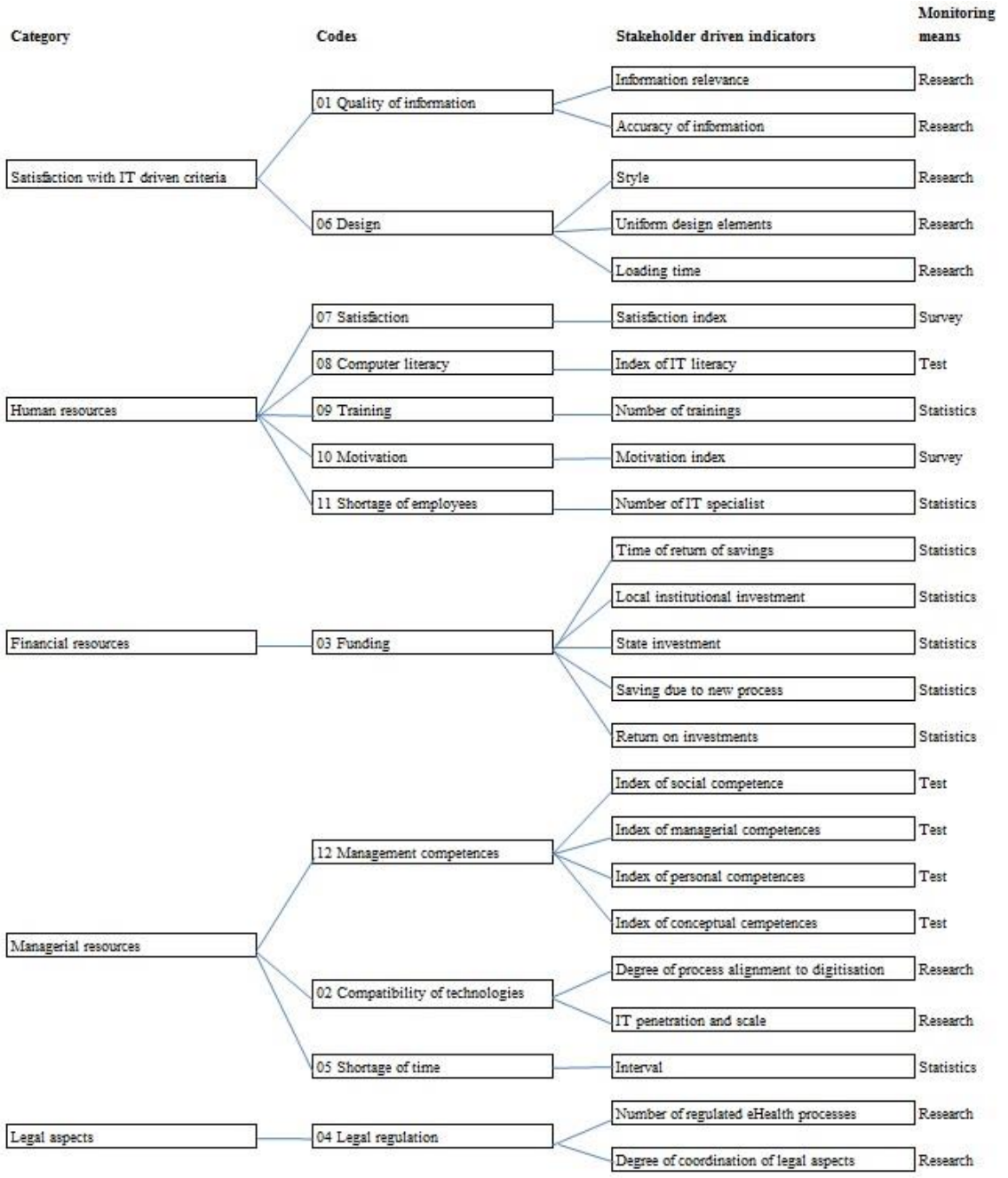
Indicators and monitoring means



Category	Codes	Stakeholder driven indicators	Monitoring means
Satisfaction with IT driven criteria	01 Quality of information	Information relevance	Research
		Accuracy of information	Research
	06 Design	Style	Research
		Uniform design elements	Research
		Loading time	Research
Human resources	07 Satisfaction	Satisfaction index	Survey
	08 Computer literacy	Index of IT literacy	Test
	09 Training	Number of trainings	Statistics
	10 Motivation	Motivation index	Survey
	11 Shortage of employees	Number of IT specialist	Statistics
Financial resources	03 Funding	Time of return of savings	Statistics
		Local institutional investment	Statistics
		State investment	Statistics
		Saving due to new process	Statistics
		Return on investments	Statistics
Managerial resources	12 Management competences	Index of social competence	Test
		Index of managerial competences	Test
		Index of personal competences	Test
		Index of conceptual competences	Test
	02 Compatibility of technologies	Degree of process alignment to digitisation	Research
		IT penetration and scale	Research
	05 Shortage of time	Interval	Statistics
Legal aspects	04 Legal regulation	Number of regulated eHealth processes	Research
		Degree of coordination of legal aspects	Research

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Conclusion

The research reveals that eHealth quality is assessed by stakeholders in terms of actual phenomena, i.e. design and technological solutions, in the first place.

Design is the most important criterion in eHealth implementation and has the most significant effect on the further use of the project

Distinction of respondent importance emphases has revealed characteristic limitation of stakeholder approaches.

- Such limitation clearly demonstrates that **no individual stakeholder group is able to spotlight all possible problems in eHealth development**.
- Thus, the more diverse approaches and stakeholders are timely involved into IT development the more effectively the development success may be controlled.

THANK YOU FOR YOUR ATTENTION

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