Most Popular Theories in Information Systems Research

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ABSTRACT
The objective of this work is to identify the theories most widely applied in information systems research. In order to achieve this purpose, an exploration of literature 2015 is realized, based on co-citation analysis. Results indicate that Dynamic Capabilities Theory appears as main in the discussion of information systems research.

Categories and Subject Descriptors
K.6.m [Management of Computing and Information Systems]: Miscellaneous.

General Terms
Management, Theory

Keywords
Co-citation analysis, Theories, Information Systems, Research.

1. INTRODUCTION
Information Systems is a new discipline with its own accumulative tradition and history[1]. To progress in the understanding of the information systems, it is necessary to conduct research built on theory. Indeed, information systems have an important tradition of developing and appropriating theories to examine main disciplinary topics [2].

As the discipline matures, total of new articles published every year increases. Consequently, the identification of the most widely used theoretical fundamentals becomes a formidable task for those students interested in the discipline[3].

In this context, the objective of this study is to identify the theories most widely applied in information systems research from the literature of the year 2015.

The remaining of the paper is organized as follows. Section 2 presents briefly the methodology. Section 3 presents the results. Finally, section 4 discusses the results.

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2. DATA AND METHODOLOGY
The data collected on citations obtained from the Journal Citation Reports at Thomson-Reuters' Web of Science (formerly ISI Citation Index). In particular, articles from journals of the discipline belong to the category of Web of Science *management* were considered. These journals were identified using data from the *Index of Information Systems Journals* [4] as in January 2016. Finally, 3,035 articles published in 2015 in 52 ISI journals were obtained (see annex).

In order to obtain the most relevant authors in the literature 2015, a co-citation analysis was performed. It was used in VOSviewer software for this purpose. VOSviewer has been developed for creating, visualizing, and exploring bibliometric maps of science (see http://www.vosviewer.com/).

A total of 113,426 citations were identified. For analysis with VOSviewer, the authors cited 100 times or more were considered. Within that this list of authors, the authors associated with techniques were eliminated. Finally, each author was associated with a theory, based on the specific articles cited and a literature review [2].

3. RESULTS
Below we show the main results of bibliometric analysis of literature. Figure 1 shows the result in relation to journals cited five or more times.

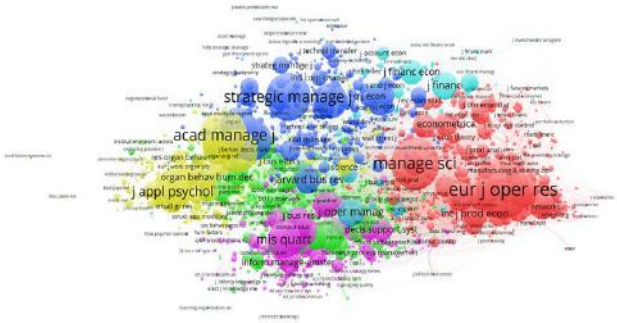

Figure 1. Journals most widely cited

Figure 2 shows the result in relation to cooperation between authors from different countries.

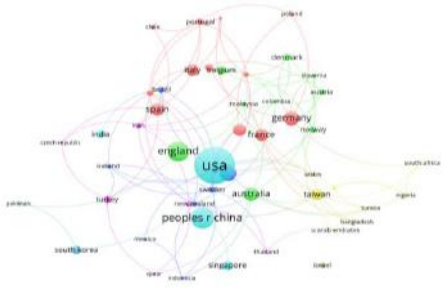

Figure 2. Cooperation between countries

Figure 3 shows the result in relation to cooperation between authors from different institutions.

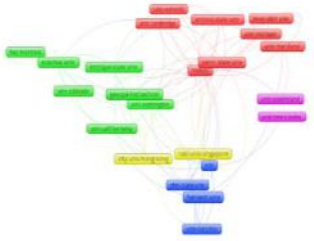

Figure 3. Cooperation between institutions

Figure 4 shows the result of the co-citation analysis. Table 1 shows these authors and theories associated with them.

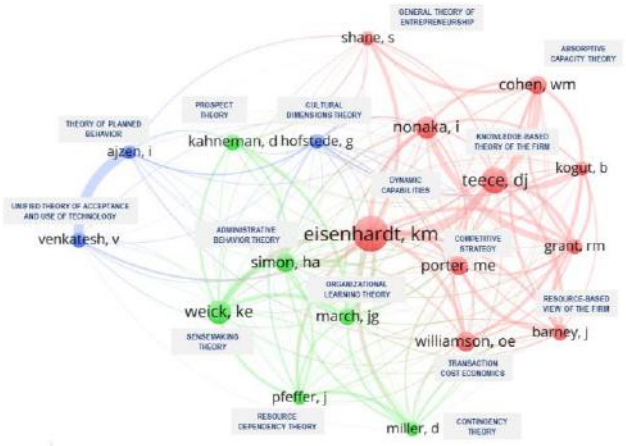

Figure 4. Co-citation analysis

Additionally, as presented in Figure 4 and Table 1, analysis identified three clusters. First cluster (in red) is the largest centre, and it is associated mostly organizational level theories. Second cluster (in green) has a size slightly smaller than the previous one, and it is associated with theories of individual behavior. Third cluster (in blue) is the smallest, and it is associated with theories of acceptance of technologies.

Table 1. Authors and theories

Cluster	Theory	Author	Cites
1	Dynamic capabilities	Eisenhardt, KM	258
		Teece, DJ	190
	Transaction cost economics	Williamson, OE	144
	Absorptive capacity theory	Cohen, WM	137
	Competitive strategy	Porter, ME	136
	Resource-based view of the firm	Barney, J	114
	Knowledge-based theory of the firm	Nonaka, I	161
		Grant, RM	112
		Kogut, B	104
	General theory of entrepreneurship	Shane, S	102
2	Sense making theory	Weick, KE	173
	Administrative behavior theory	Simon, HA	138
	Organizational learning theory	March, JG	122
	Prospect theory	Kahneman, D	120
	Contingency theory	Miller, D	108
	Resource dependency theory	Pfeffer, J	101
3	Unified theory of acceptance and use of technology	Venkatesh, V	112
	Cultural dimensions theory	Hofstede, G	108
	Theory of planned behavior	Ajzen, I	102

4. DISCUSSION

This paper presented the initial results of an exploration of the literature of information systems in 2015, with focus in find the most-used theories.

Three points in relation to the results must highlight. First, Dynamic Capabilities Theory [5] appears as main in the discussion of management information systems. Second, wide used theories associated with the acceptance of technologies (*Theory of planned behavior* [6] and *Unified theory of acceptance and use of technology* [7]) appear in the periphery of the central core. Third, the classical theory about the *DeLone and McLean Information Systems Success Model* [8] not appear in this analysis.

This research will continue to examination the results presented in detail, and in particular, how these findings relate to other studies published in the literature on theories in information systems.

5. REFERENCES

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ANNEX: JOURNALS LIST

1. *Academy of Management Journal*
2. *Academy of Management Learning Education*
3. *Academy of Management Perspectives*
4. *Academy of Management Review*
5. *Administrative Science Quarterly*
6. *Australian Journal of Management*
7. *Business Process Management Journal*
8. *California Management Review*
9. *Decision Analysis*
10. *Electronic Commerce Research*
11. *European Journal of Operational Research*
12. *Group Decision and Negotiation*
13. *Group Organization Management*
14. *Harvard Business Review*
15. *IEEE Transactions on Engineering Management*
16. *Information and Organization*
17. *Information Management*
18. *Information Systems and E Business Management*
19. *Information Systems Research*
20. *Information Technology Management*
21. *Interfaces*
22. *International Journal of Accounting Information Systems*
23. *International Journal of Forecasting*
24. *International Journal of Project Management*
25. *International Journal of Technology Management*
26. *Journal of Information Technology*
27. *Journal of Knowledge Management*
28. *Journal of Management Information Systems*
29. *Journal of Operations Management*
30. *Journal of Organizational and End User Computing*
31. *Journal of Organizational Behavior*
32. *Journal of Organizational Change Management*
33. *Journal of Service Management*
34. *Journal of Strategic Information Systems*
35. *Journal of Supply Chain Management*
36. *Journal of Technology Transfer*
37. *Journal of the Operational Research Society*
38. *Knowledge Management Research Practice*
39. *Management Communication Quarterly*
40. *Management Science*
41. *MIT Sloan Management Review*
42. *New Technology Work and Employment*
43. *Omega International Journal of Management Science*
44. *Organizational Behavior and Human Decision Processes*
45. *Project Management Journal*
46. *Science Technology and Society*
47. *Small Group Research*
48. *Strategic Management Journal*
49. *Systemic Practice and Action Research*
50. *Systems Research and Behavioral Science*
51. *Technovation*
52. *Total Quality Management Business Excellence*