# Bibliometric analysis: project management research field

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PhD Researcher

Escritório de Projetos do Exército

UnB

# Agenda


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# Method

SALSA Framework (Booth *et al.*, 2013) and Bibliometric Network Analysis

Web of Science Core Collection (SCI-EXPANDED; SSCI; A&HCI); ESCI:

("project manage*") OR
("management of project*") OR
("program* manage*") OR
("management of program*") OR
(megaproject*) OR
(megaprogram*) OR
(PMO) OR
("project management office")

Search

Appraisal

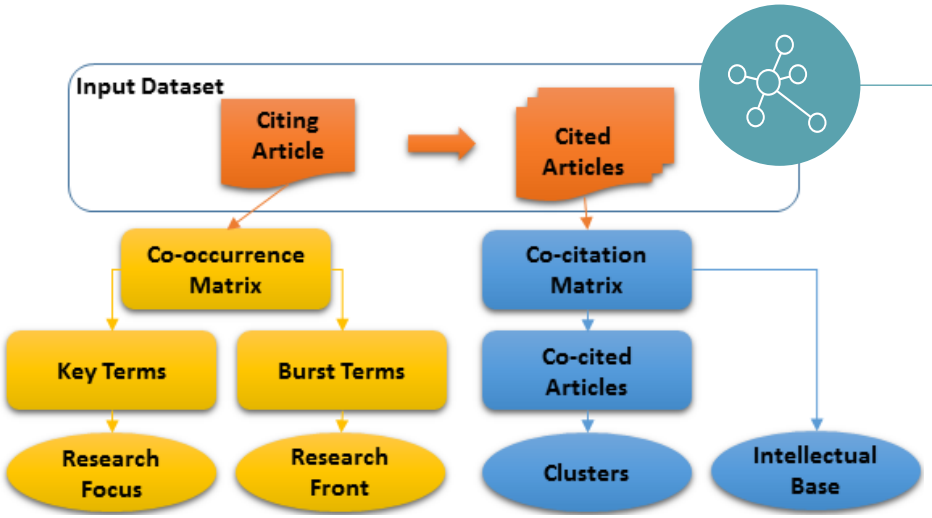
Synthesis

Analysis

Title, abstract and full text (s.o.s.):

7.325 articles from 1959 to 2019

False positives




Sense making and interpretation of patterns

- Focuses
- Trends
- Findings

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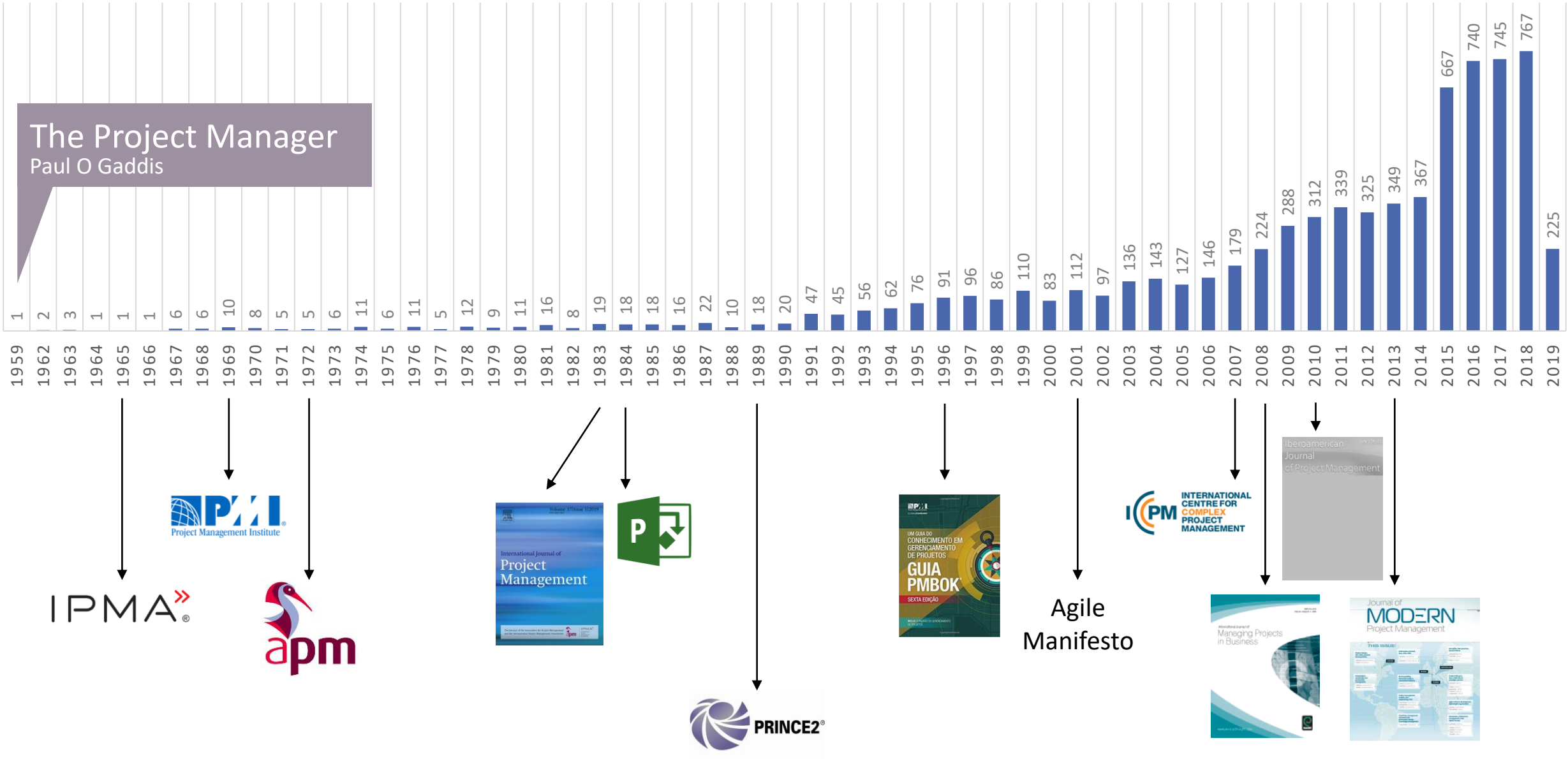
# Publications per year



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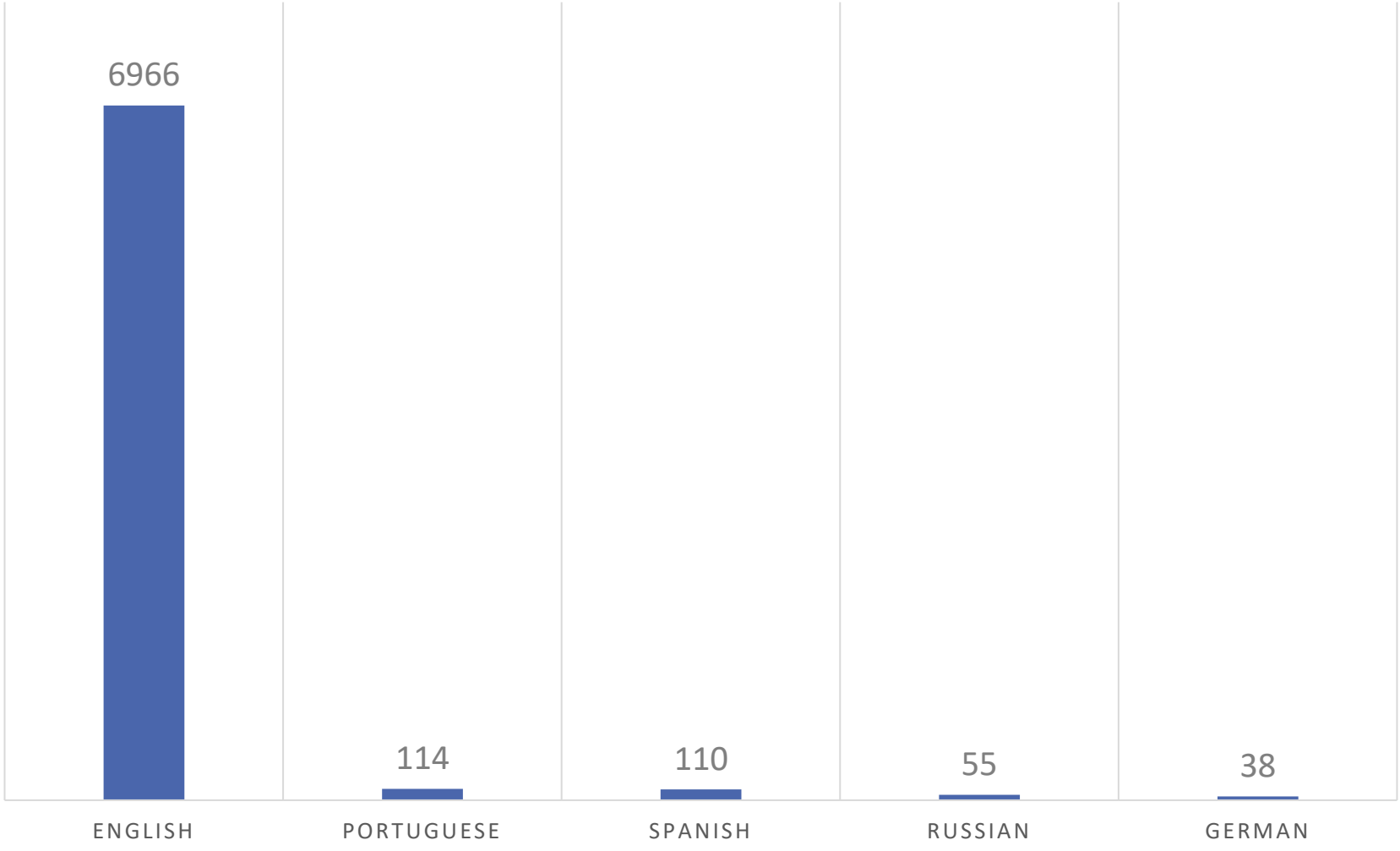
# Language


6966
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110
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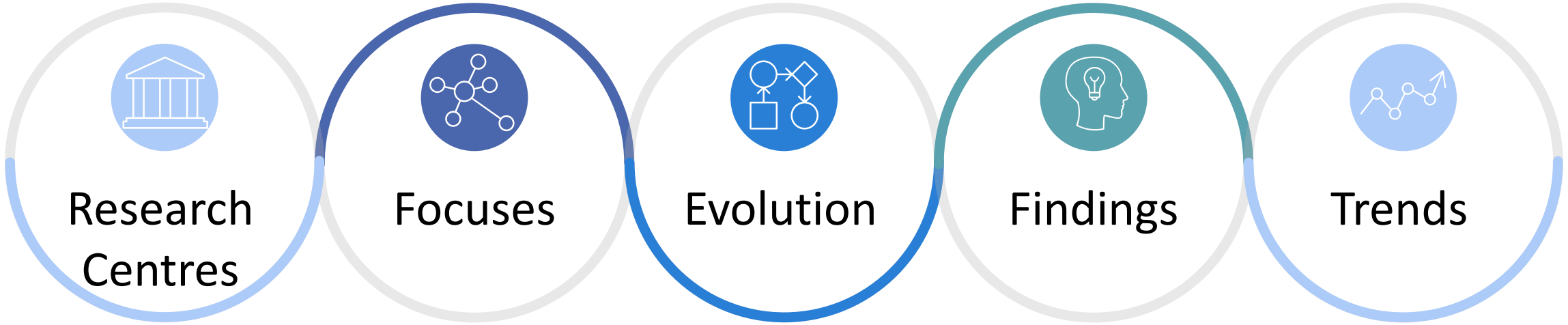
ENGLISH
PORTUGUESE
SPANISH
RUSSIAN
GERMAN

# Agenda


Method
Publications
Languages
Journals
Countries


Research Centres
Focuses
Evolution
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# Journals


Publications
Citations
591
International Journal of Project Management
11688
293
Project Management Journal
4326
230
Journal of Management in Engineering
2903
217
Journal of Construction Engineering and Management
2969
111
International Journal of Managing Projects in Business
241
144
IEEE Transactions on Engineering Management
5022
134
Automation in Construction
3364
131
European Journal of Operational Research
4526
41
Management Science
4358
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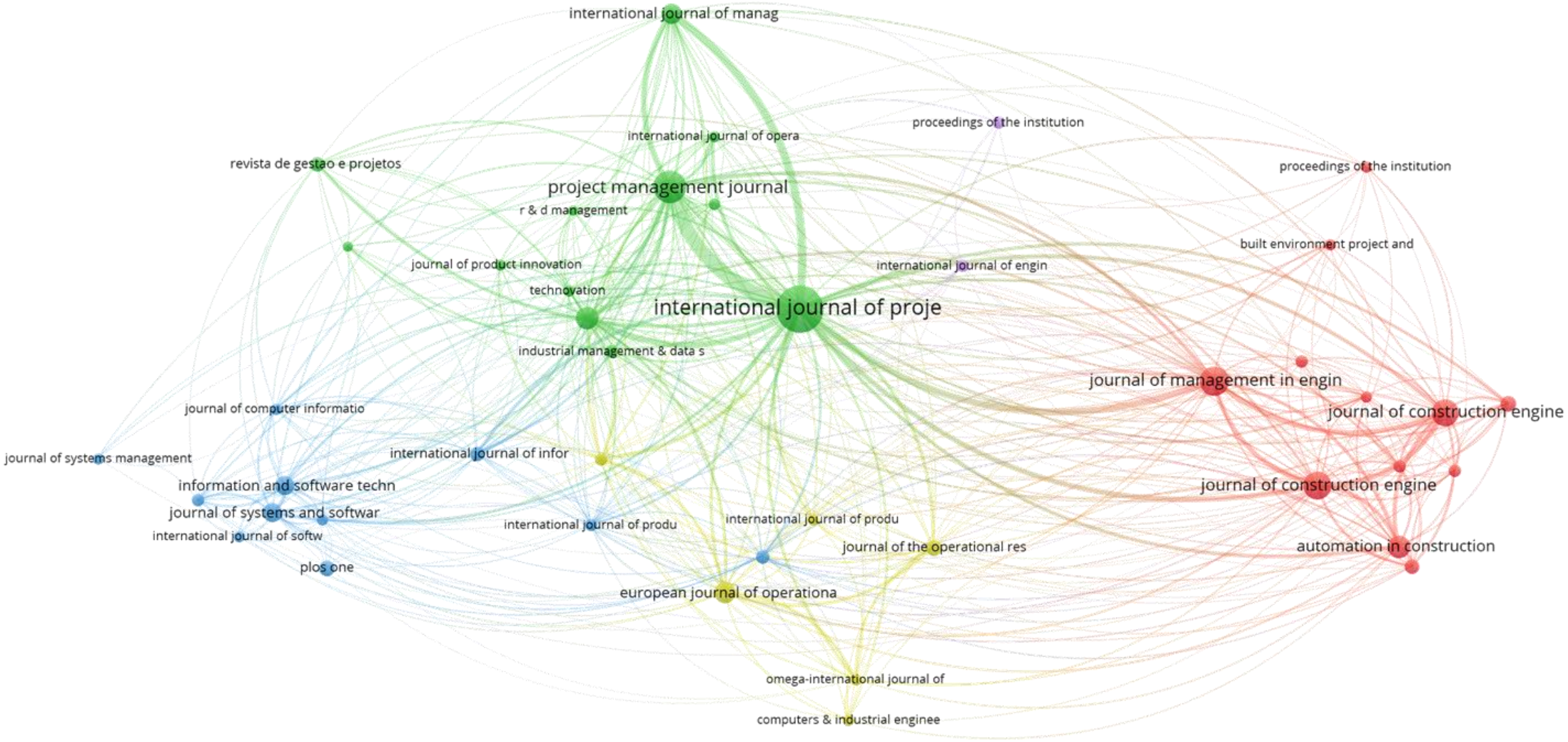
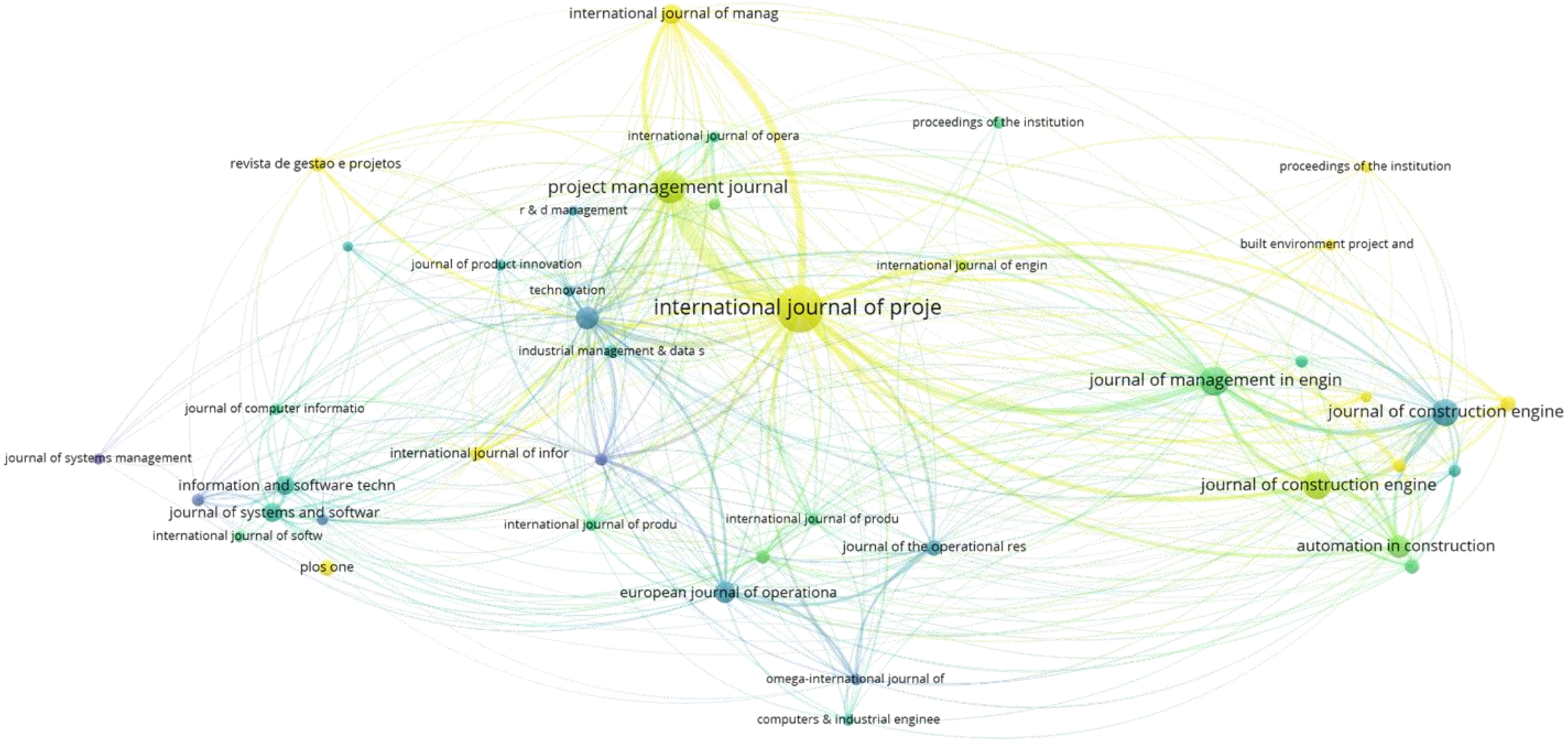
# Journals




Size = Number of publications
Colour: Cluster

# Journals




Size = Number of publications
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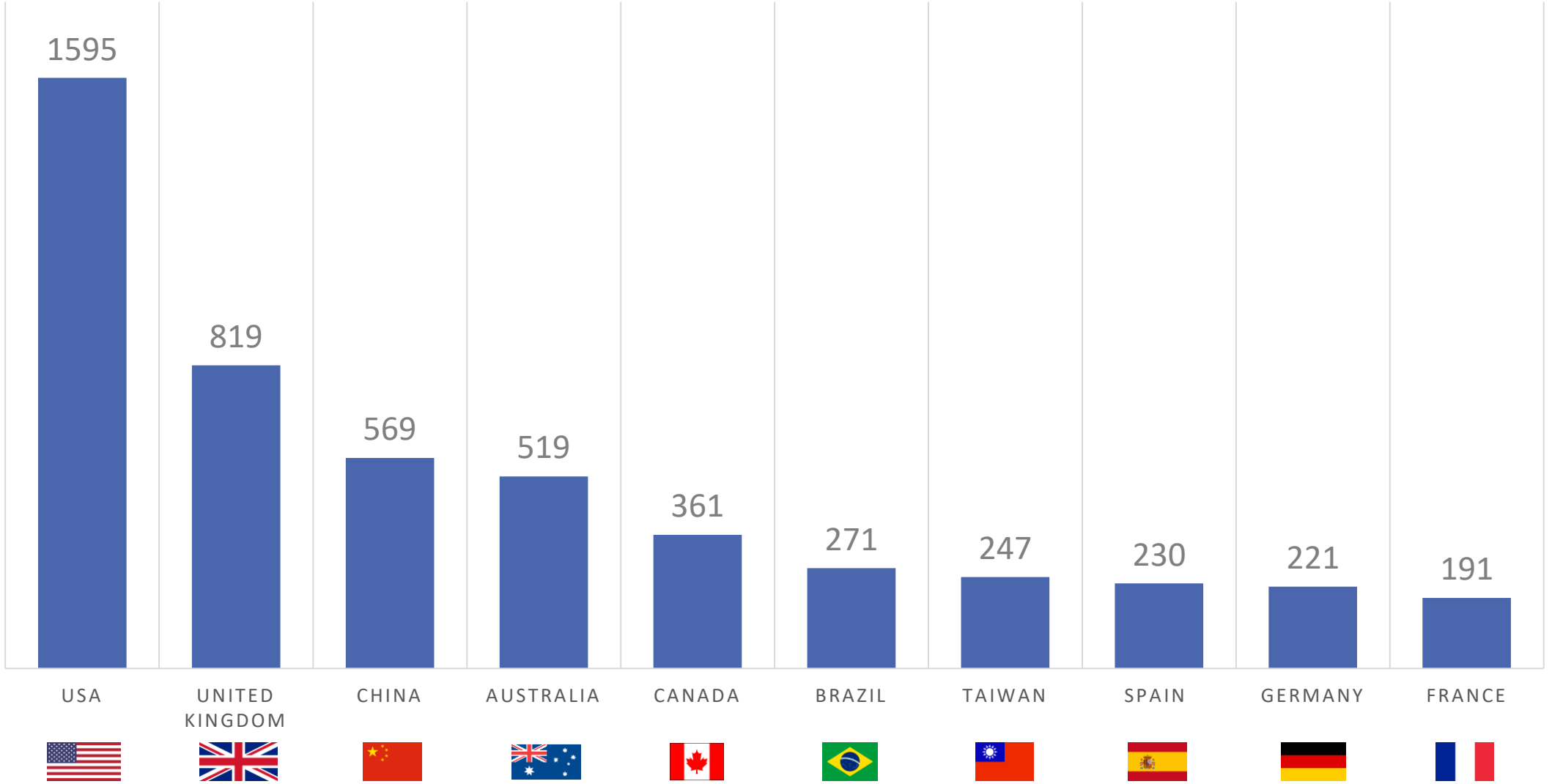
# Countries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TAIWAN
SPAIN
GERMANY
FRANCE

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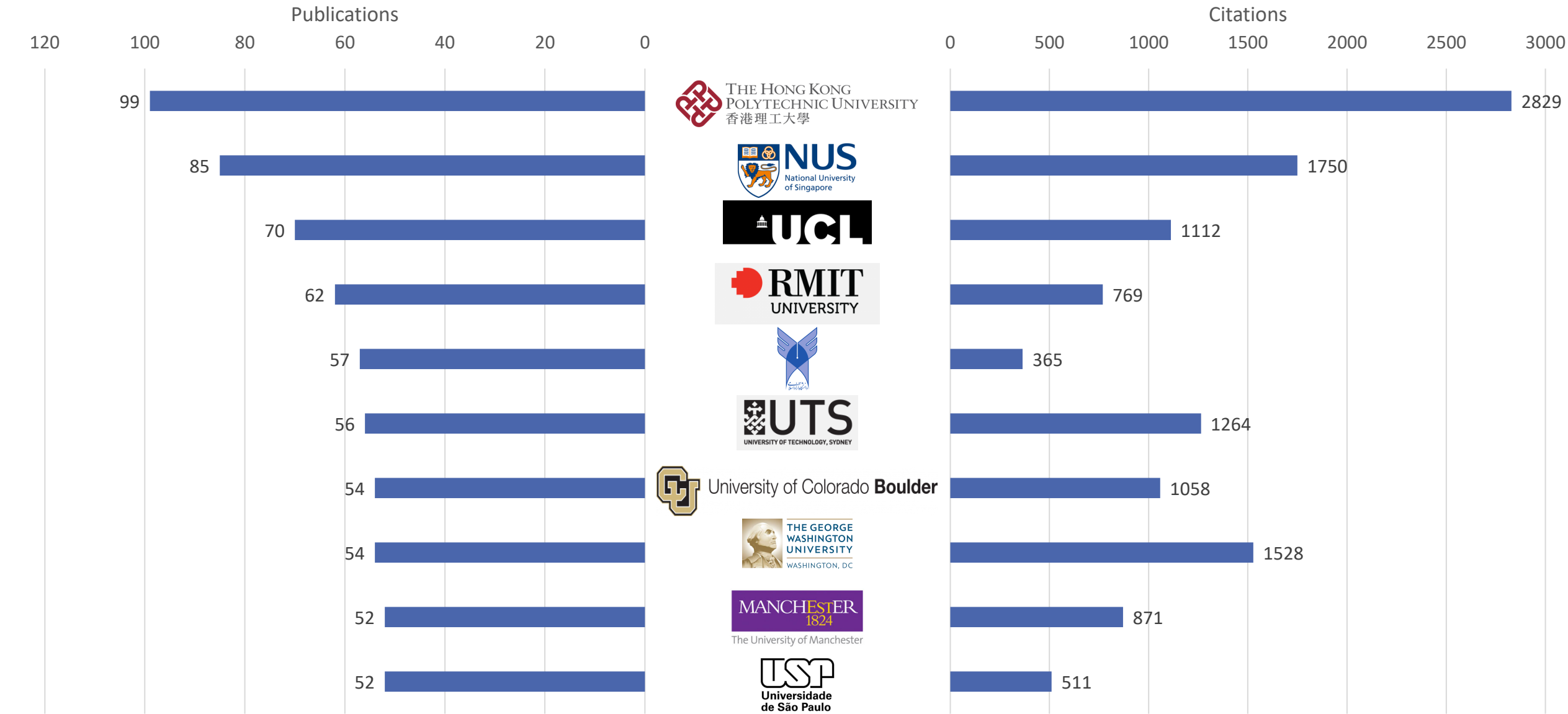
# Research Centres



# Research Centres

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

# Research Centres

NUS National University of Singapore

# Research Centres

RMIT UNIVERSITY

# Research Centres

# Research Centres

UTS
UNIVERSITY OF TECHNOLOGY, SYDNEY

# Research Centres

# Research Centres

University of Colorado **Boulder**

THE GEORGE WASHINGTON UNIVERSITY
WASHINGTON, DC

# Research Centres

The University of Manchester

# Research Centres

Universidade de São Paulo

# Research Centres

# Research Centres

The Hong Kong Polytechnic University 香港理工大學

NUS National University of Singapore

UCL

RMIT University

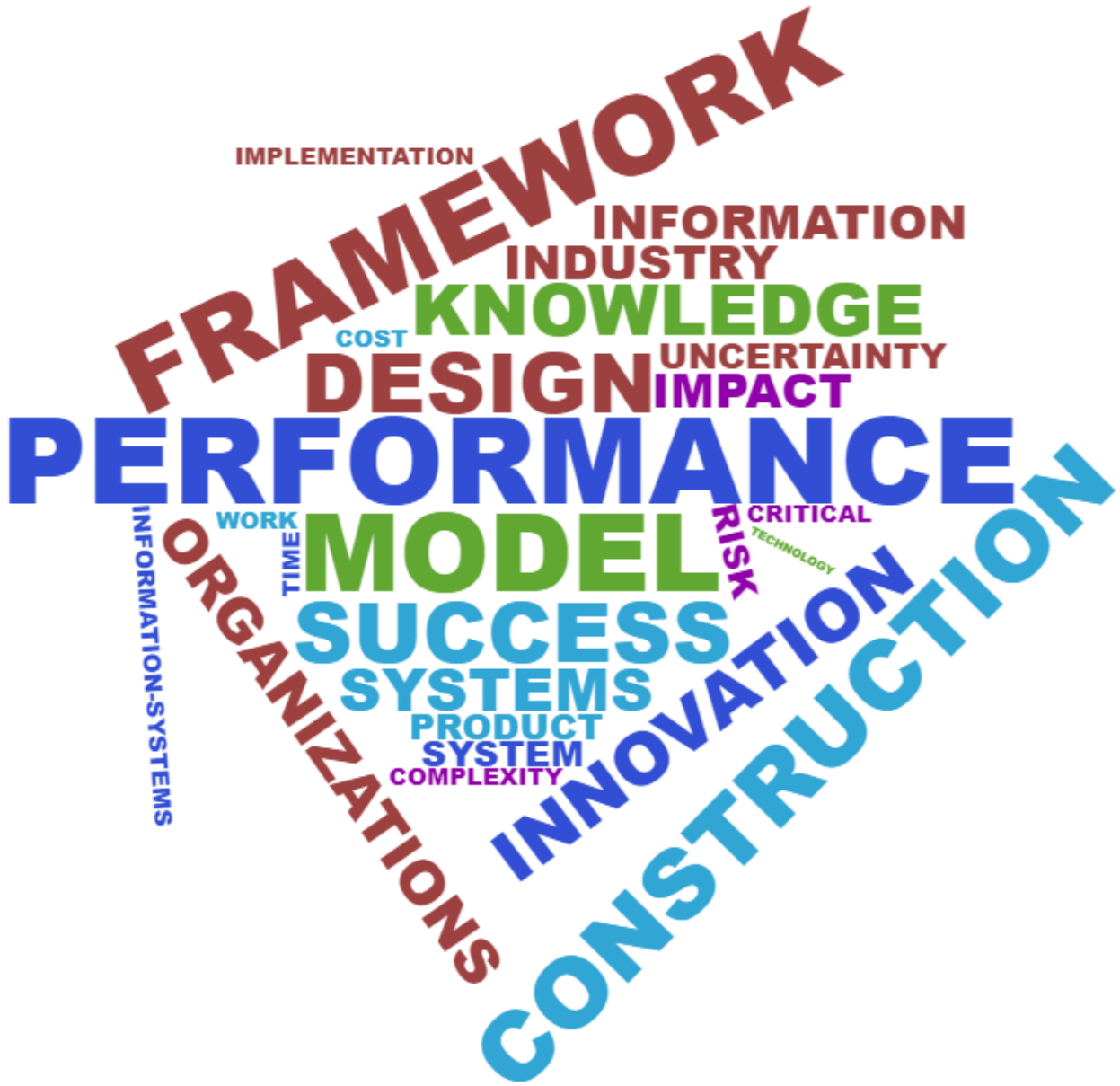
UTS University of Technology, Sydney

University of Colorado Boulder

The George Washington University Washington, DC

Manchester 1824 The University of Manchester

USP Universidade de São Paulo



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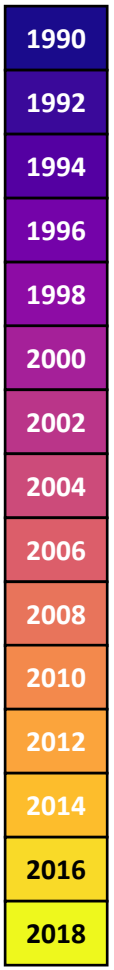
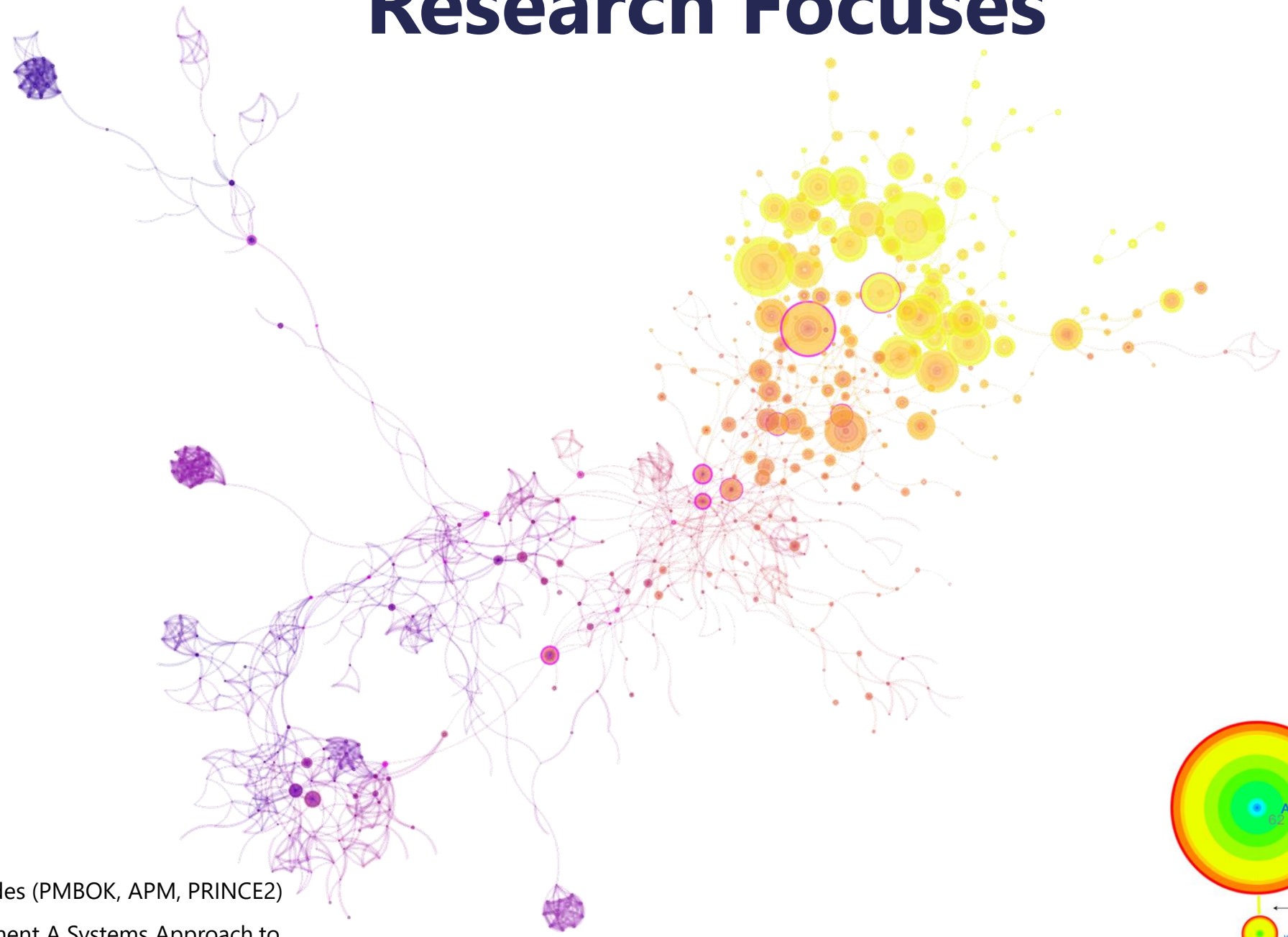
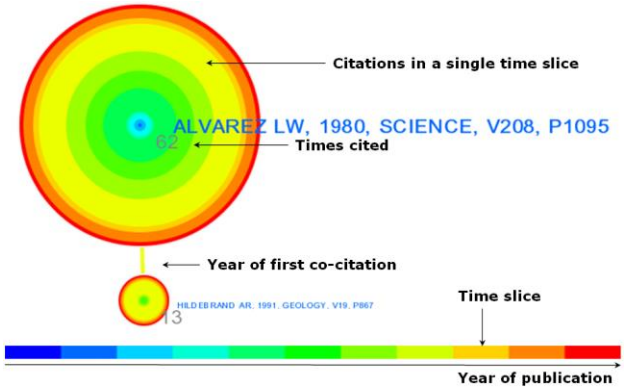
# Research Focuses



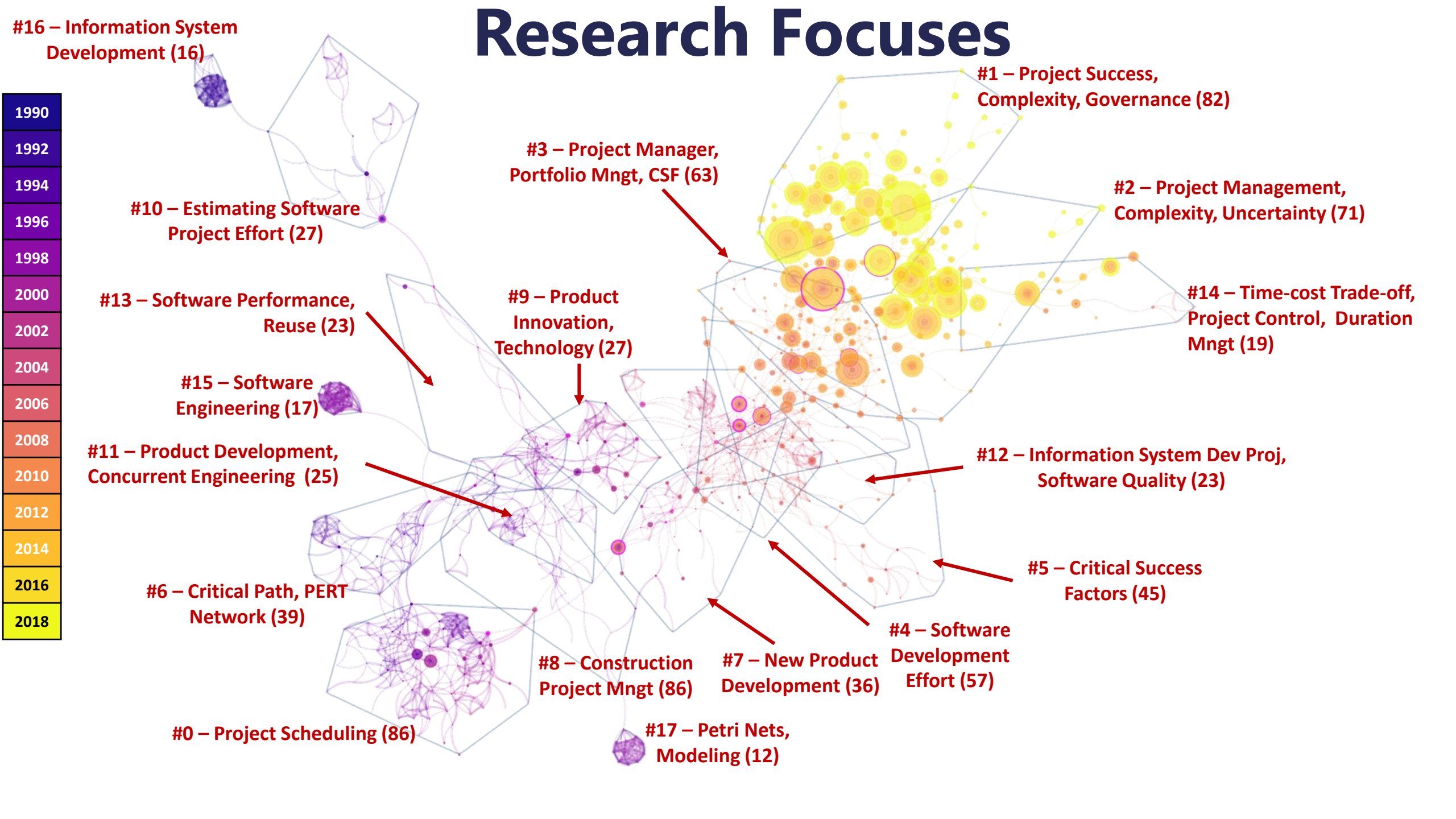






**Ignored**:

- Professional Guides (PMBOK, APM, PRINCE2)
- Project Management A Systems Approach to Planning, Scheduling, and Controlling - Kerzner

# Research Focuses



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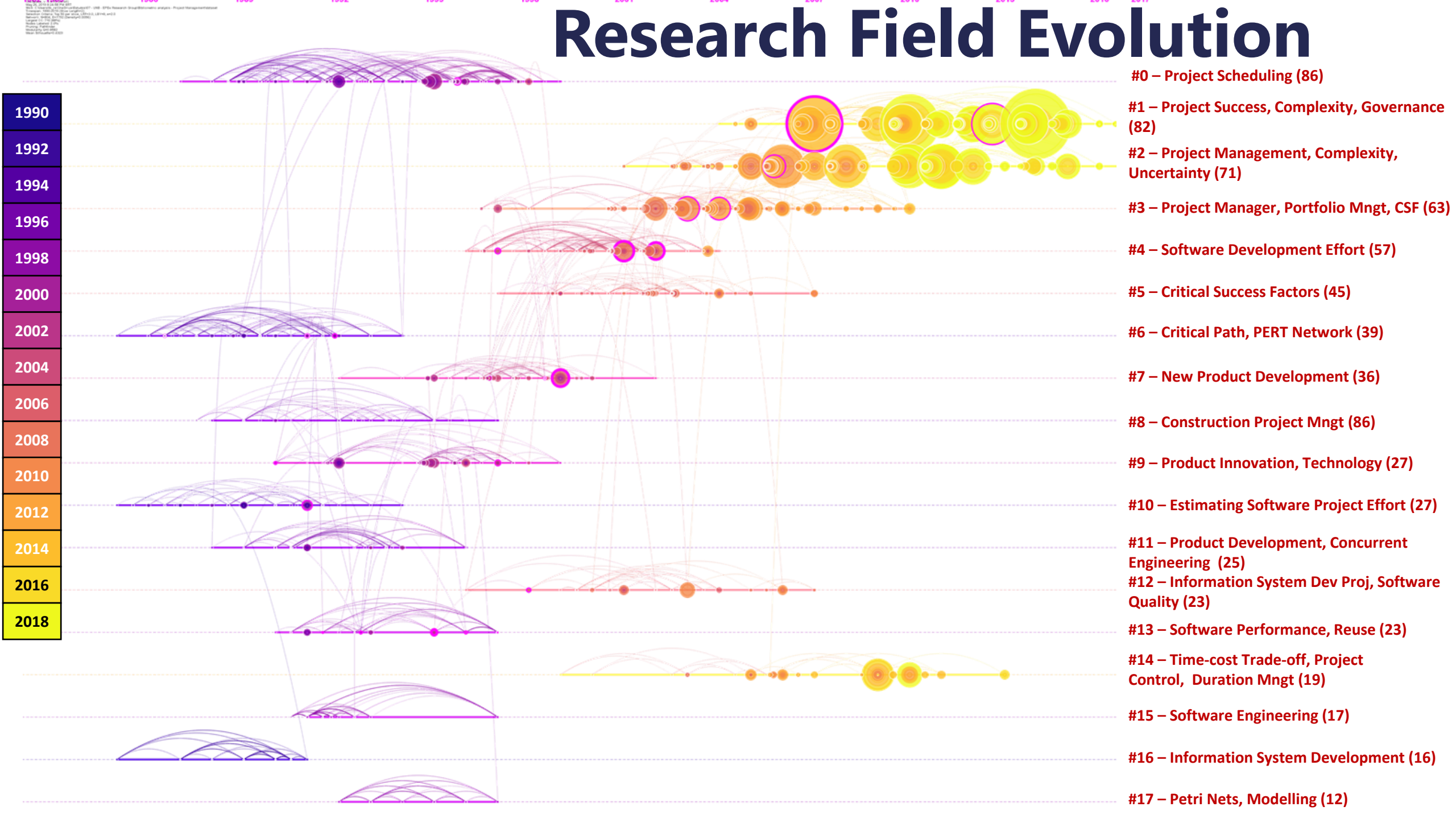
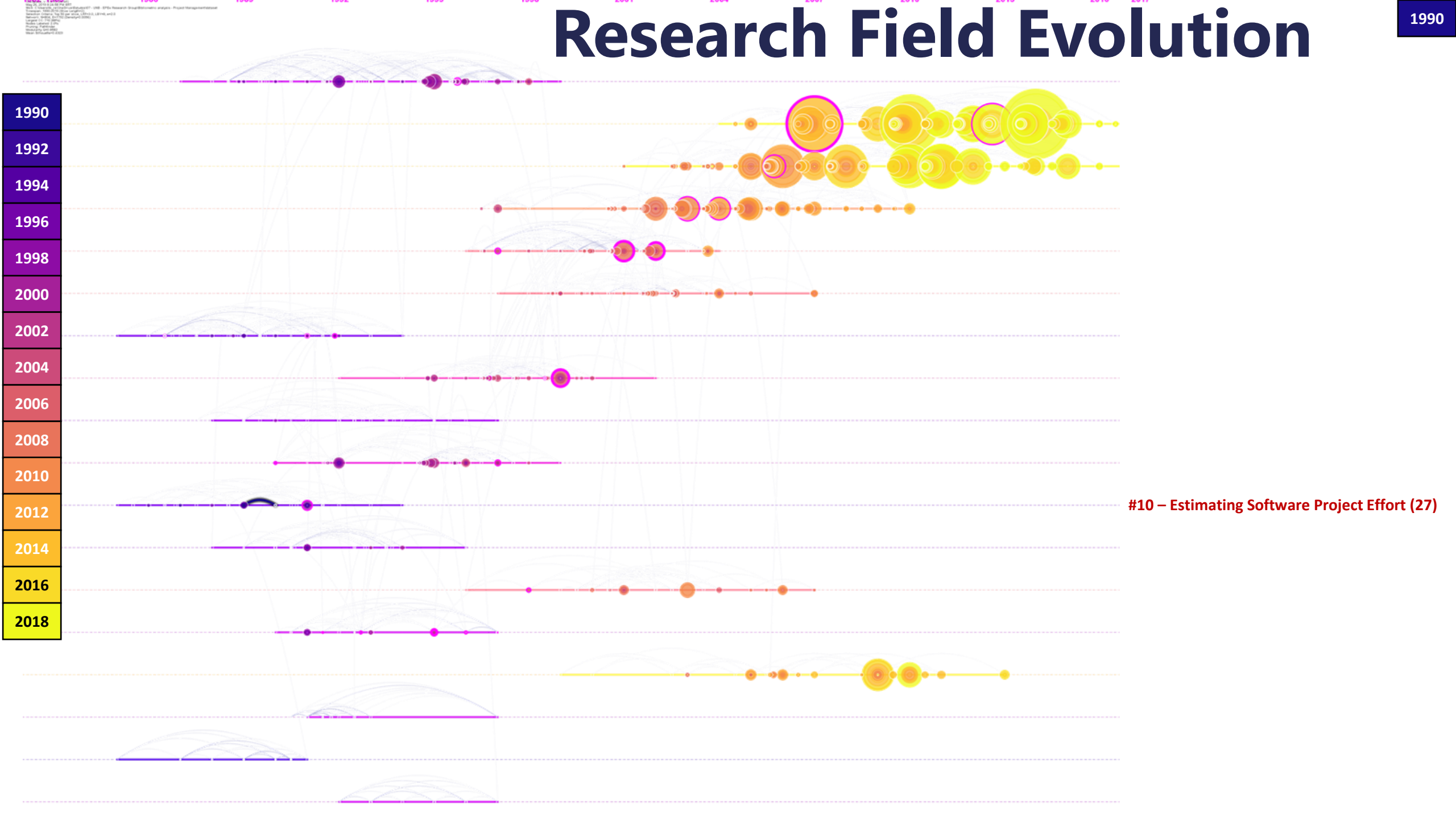
# Research Field Evolution



# Research Field Evolution

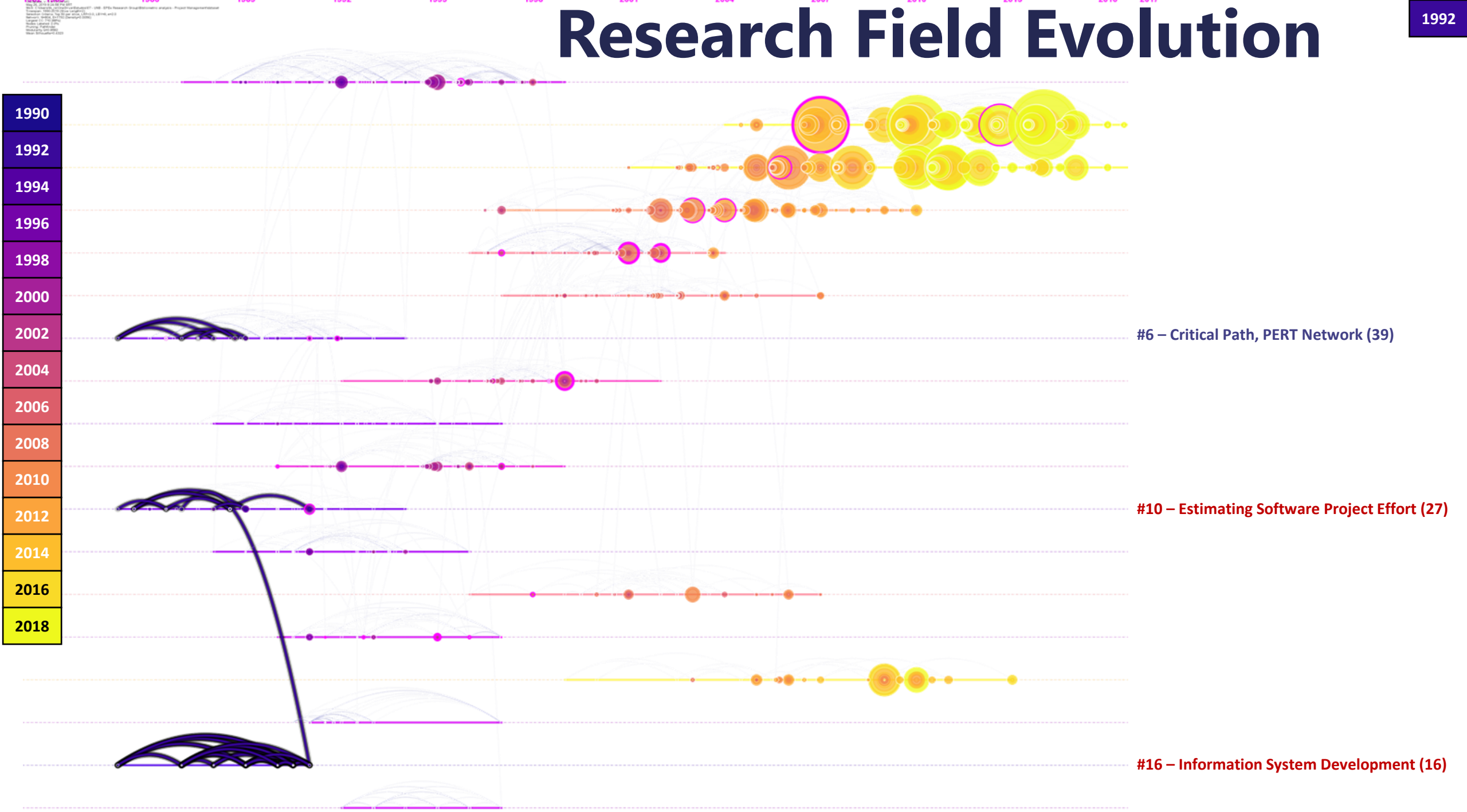





#10 – Estimating Software Project Effort (27)

# Research Field Evolution





# Research Field Evolution

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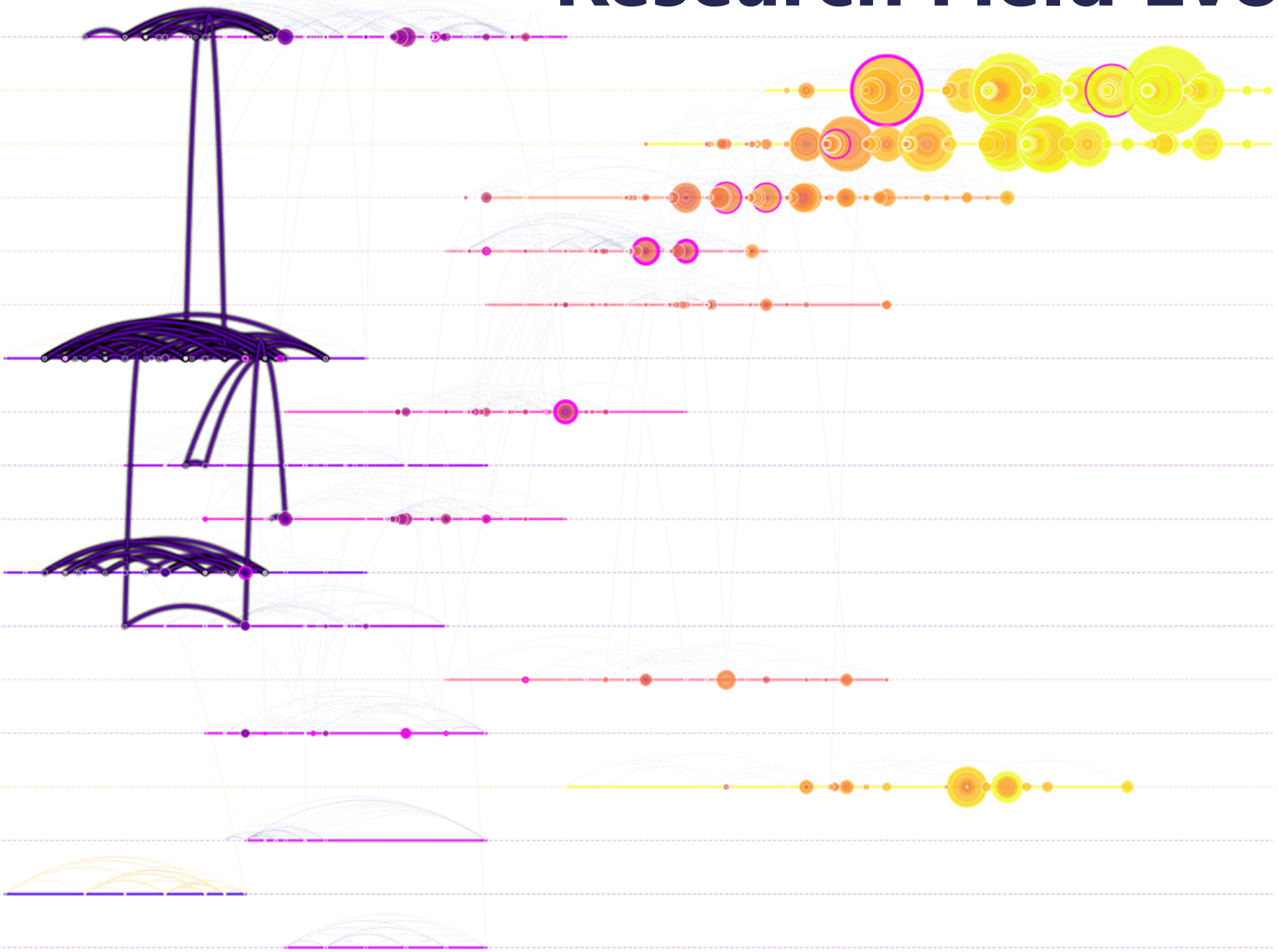


#0 – Project Scheduling (86)

#6 – Critical Path, PERT Network (39)

#8 – Construction Project Mngt (86)

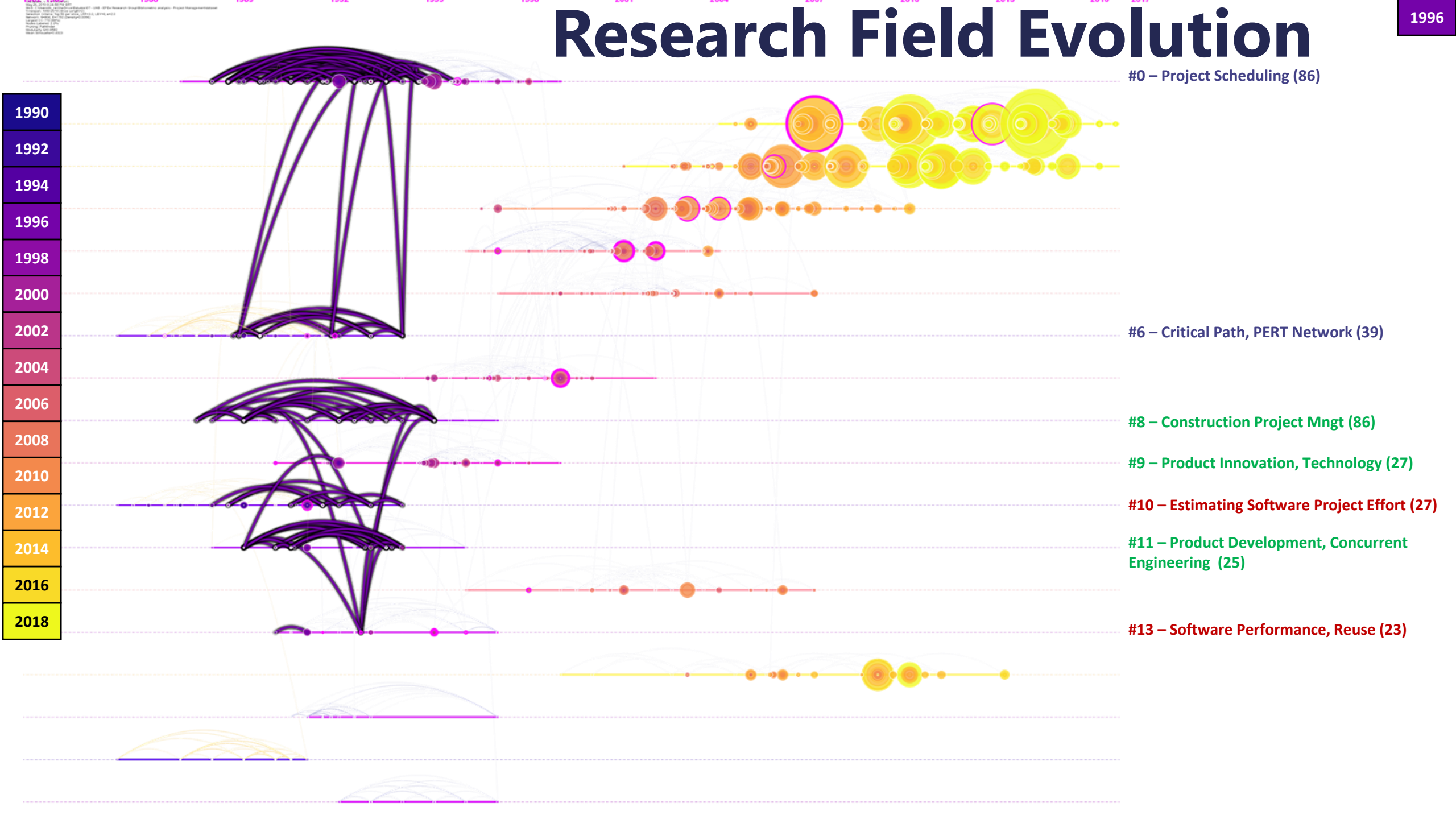
#9 – Product Innovation, Technology (27)

#10 – Estimating Software Project Effort (27)

#11 – Product Development, Concurrent Engineering (25)

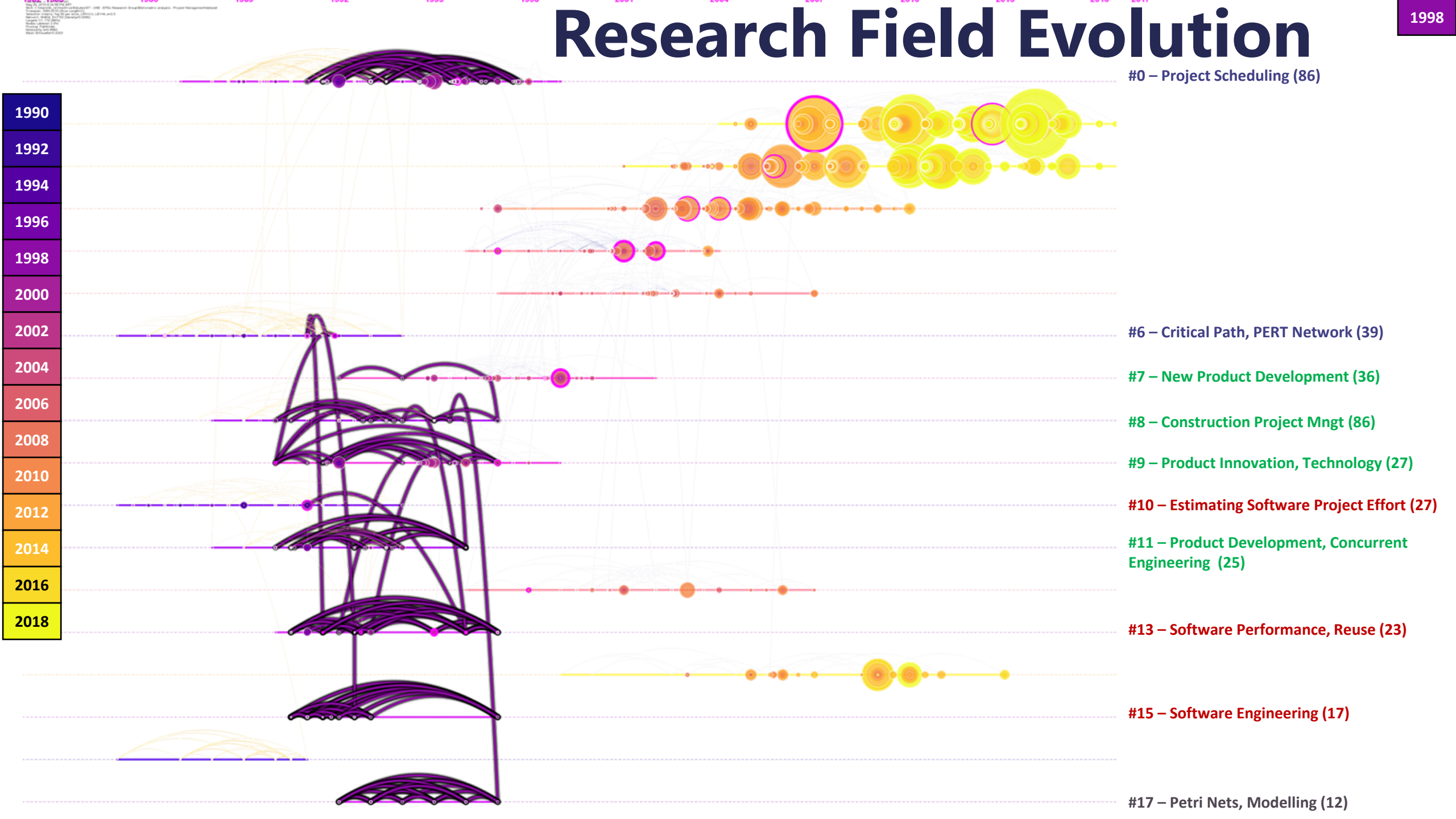
# Research Field Evolution



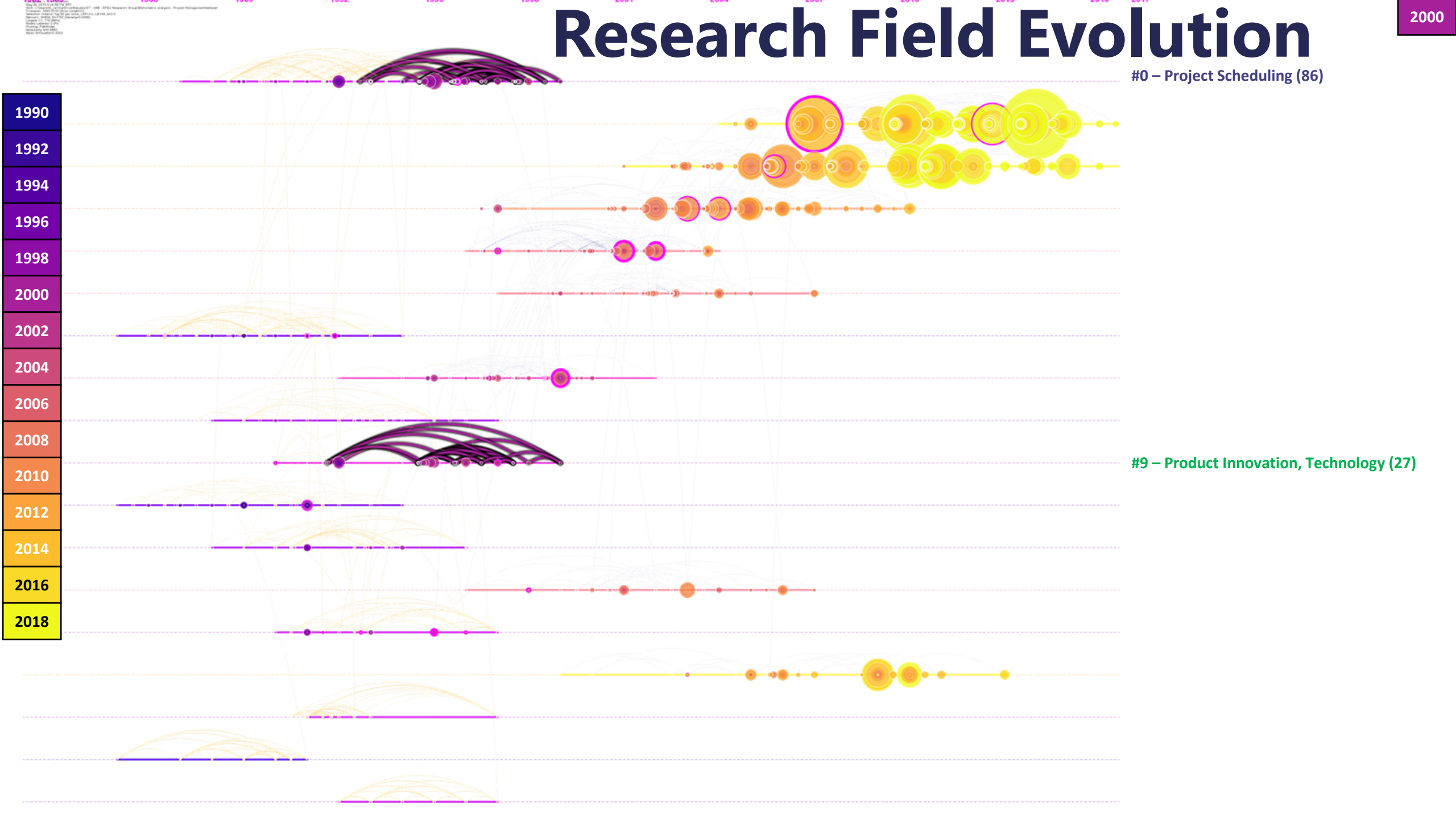


# Research Field Evolution





# Research Field Evolution



# Research Field Evolution

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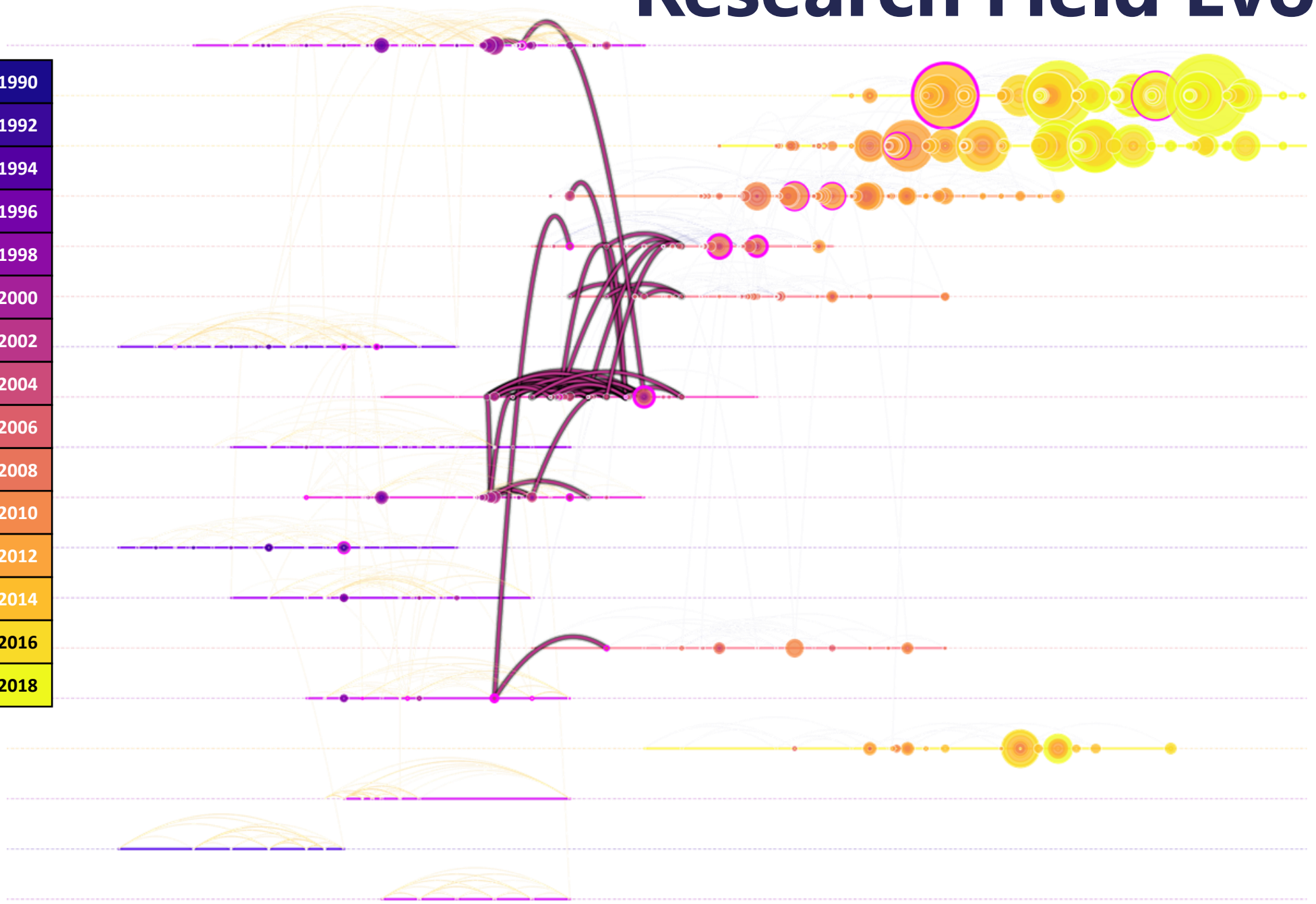


#0 – Project Scheduling (86)

#3 – Project Manager, Portfolio Mngt, CSF (63)

#4 – Software Development Effort (57)

#5 – Critical Success Factors (45)

#7 – New Product Development (36)

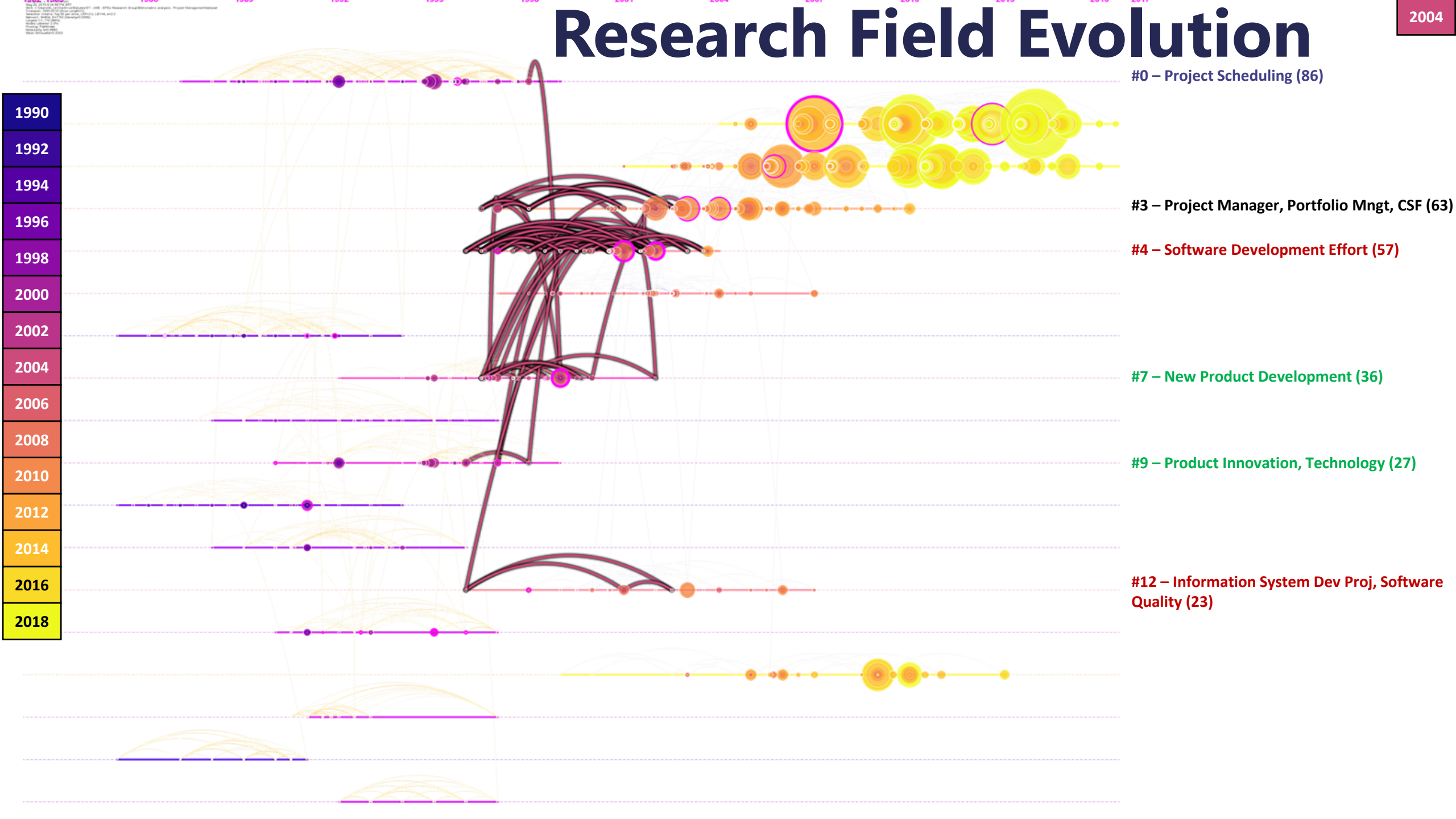
#9 – Product Innovation, Technology (27)

#12 – Information System Dev Proj, Software Quality (23)

#13 – Software Performance, Reuse (23)

# Research Field Evolution





# Research Field Evolution

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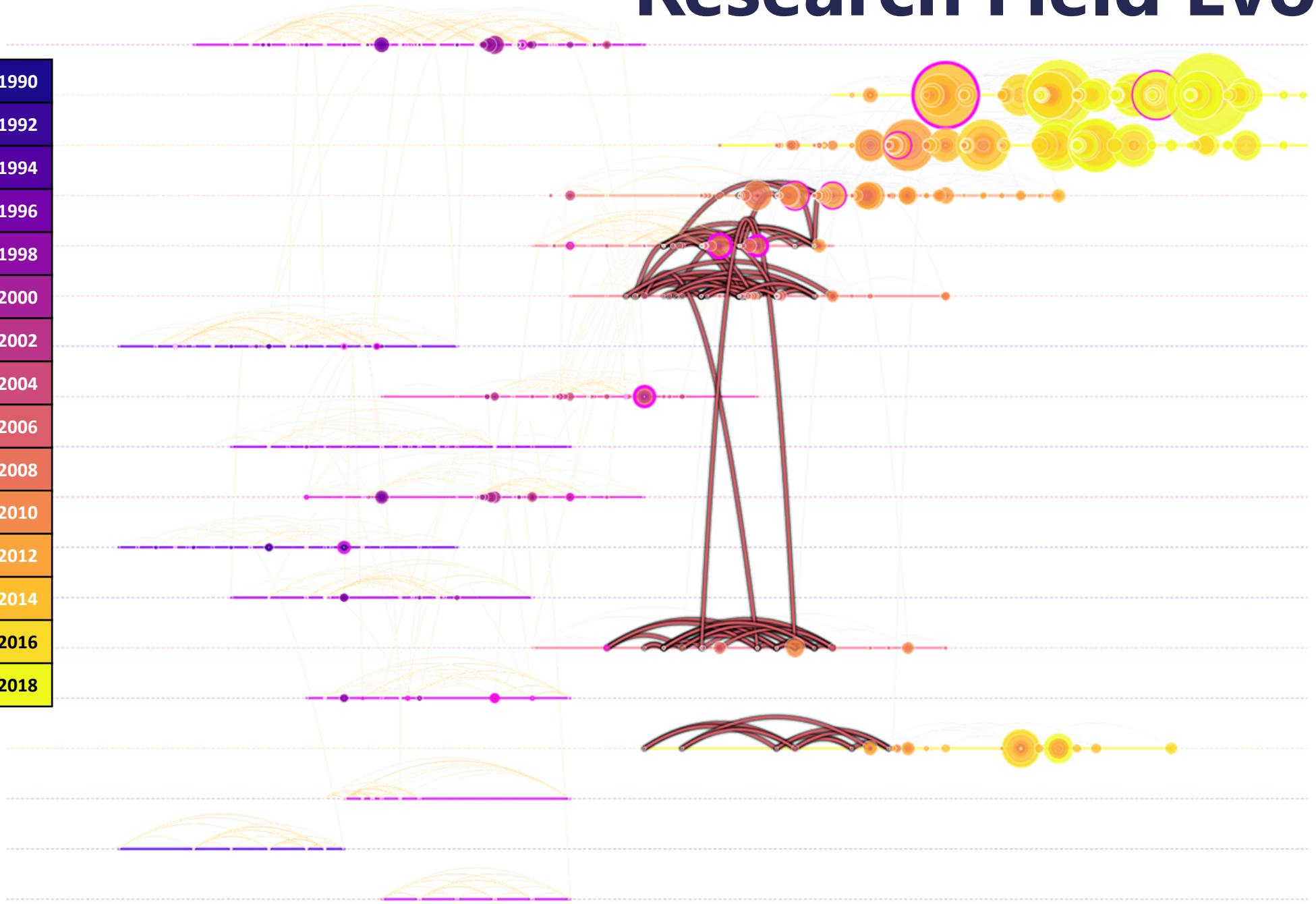


#3 – Project Manager, Portfolio Mngt, CSF (63)

#4 – Software Development Effort (57)

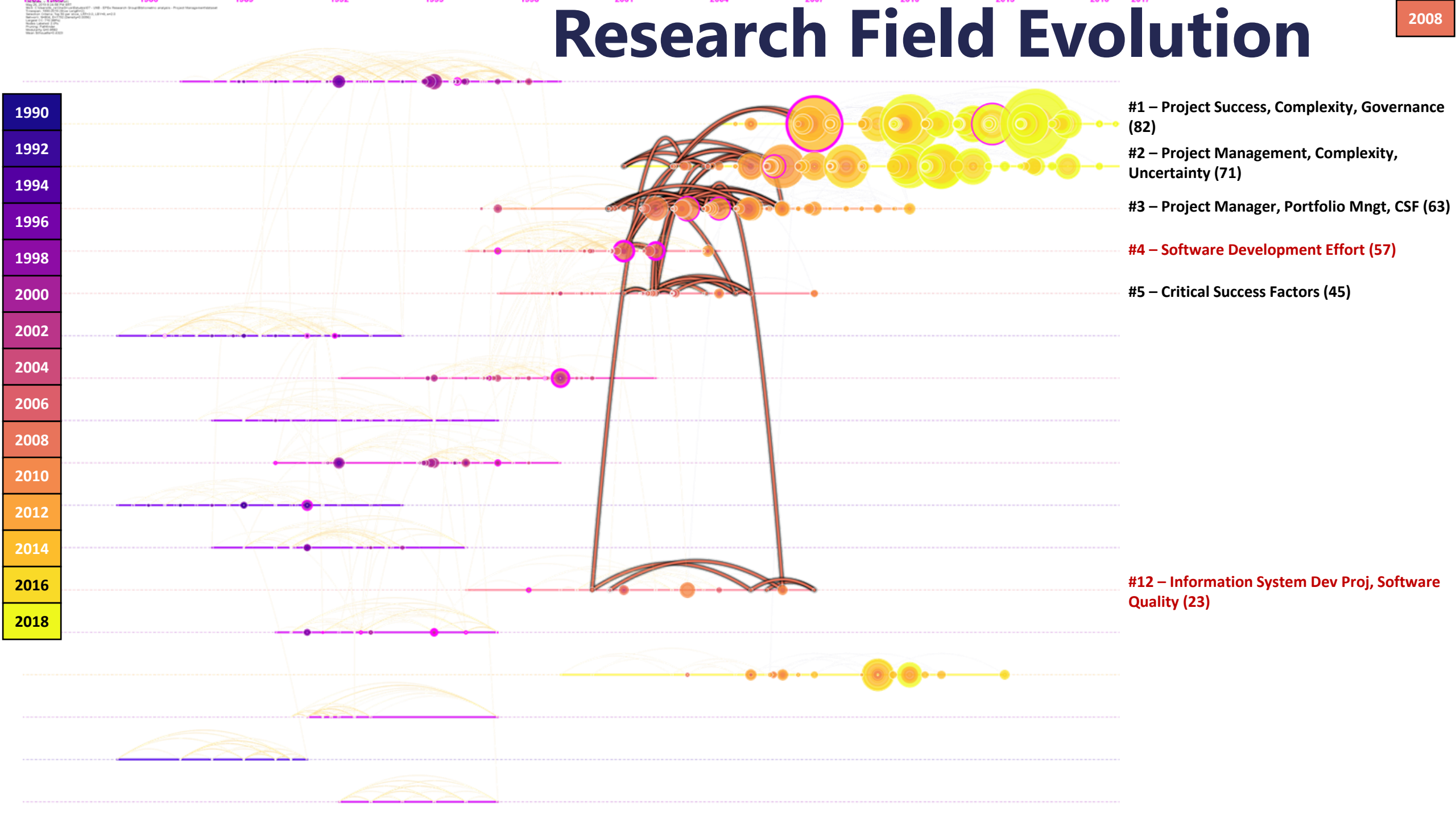
#5 – Critical Success Factors (45)

#12 – Information System Dev Proj, Software Quality (23)

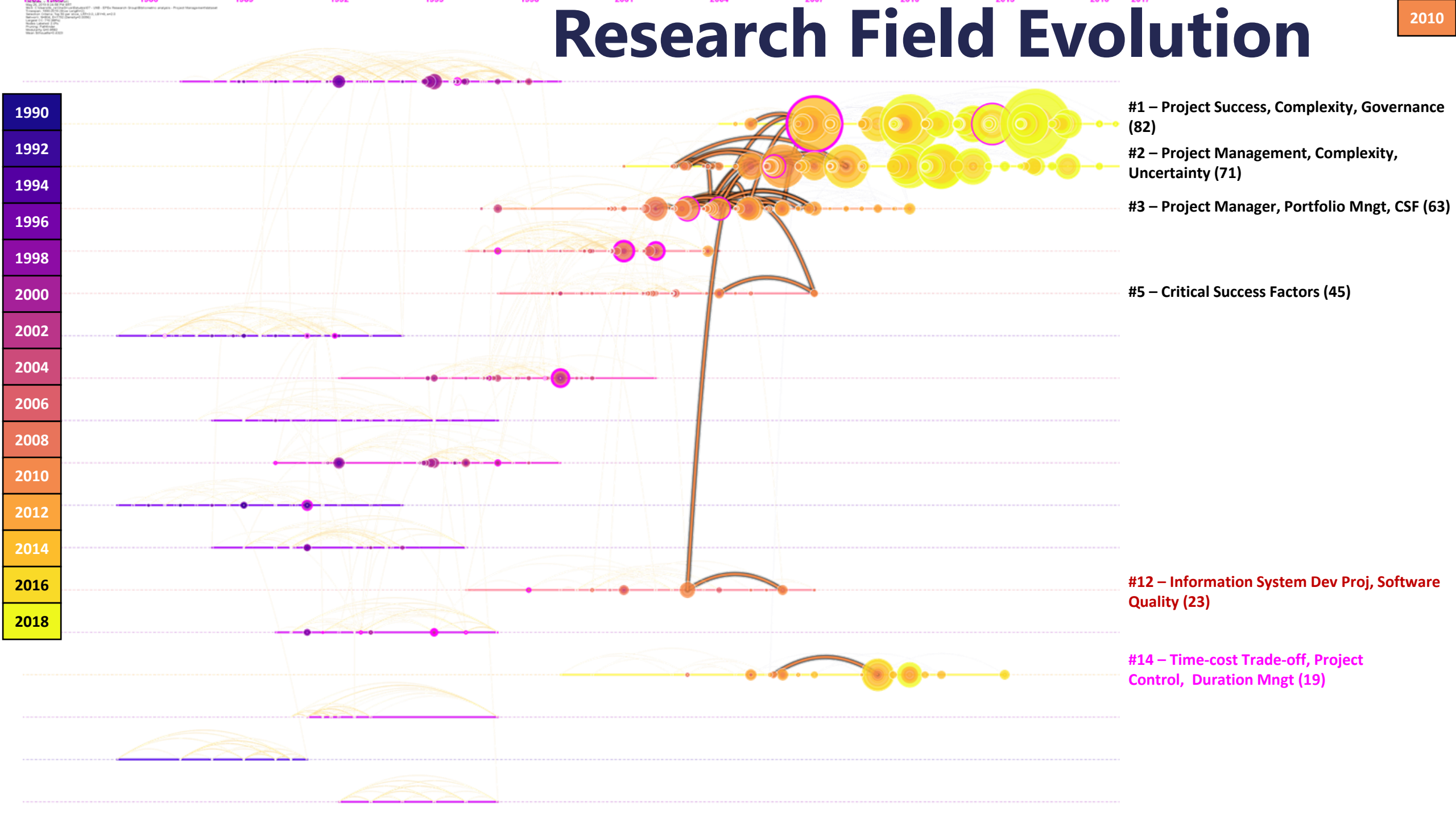
#14 – Time-cost Trade-off, Project Control, Duration Mngt (19)

# Research Field Evolution

2008



# Research Field Evolution



# Research Field Evolution

2012


**#1 – Project Success, Complexity, Governance (82)**

**#2 – Project Management, Complexity, Uncertainty (71)**

**#3 – Project Manager, Portfolio Mngt, CSF (63)**

**#4 – Software Development Effort (57)**

**#14 – Time-cost Trade-off, Project Control, Duration Mngt (19)**

# Research Field Evolution

2014


**#1 – Project Success, Complexity, Governance (82)**

**#2 – Project Management, Complexity, Uncertainty (71)**

**#3 – Project Manager, Portfolio Mngt, CSF (63)**

**#14 – Time-cost Trade-off, Project Control, Duration Mngt (19)**

# Research Field Evolution

2016

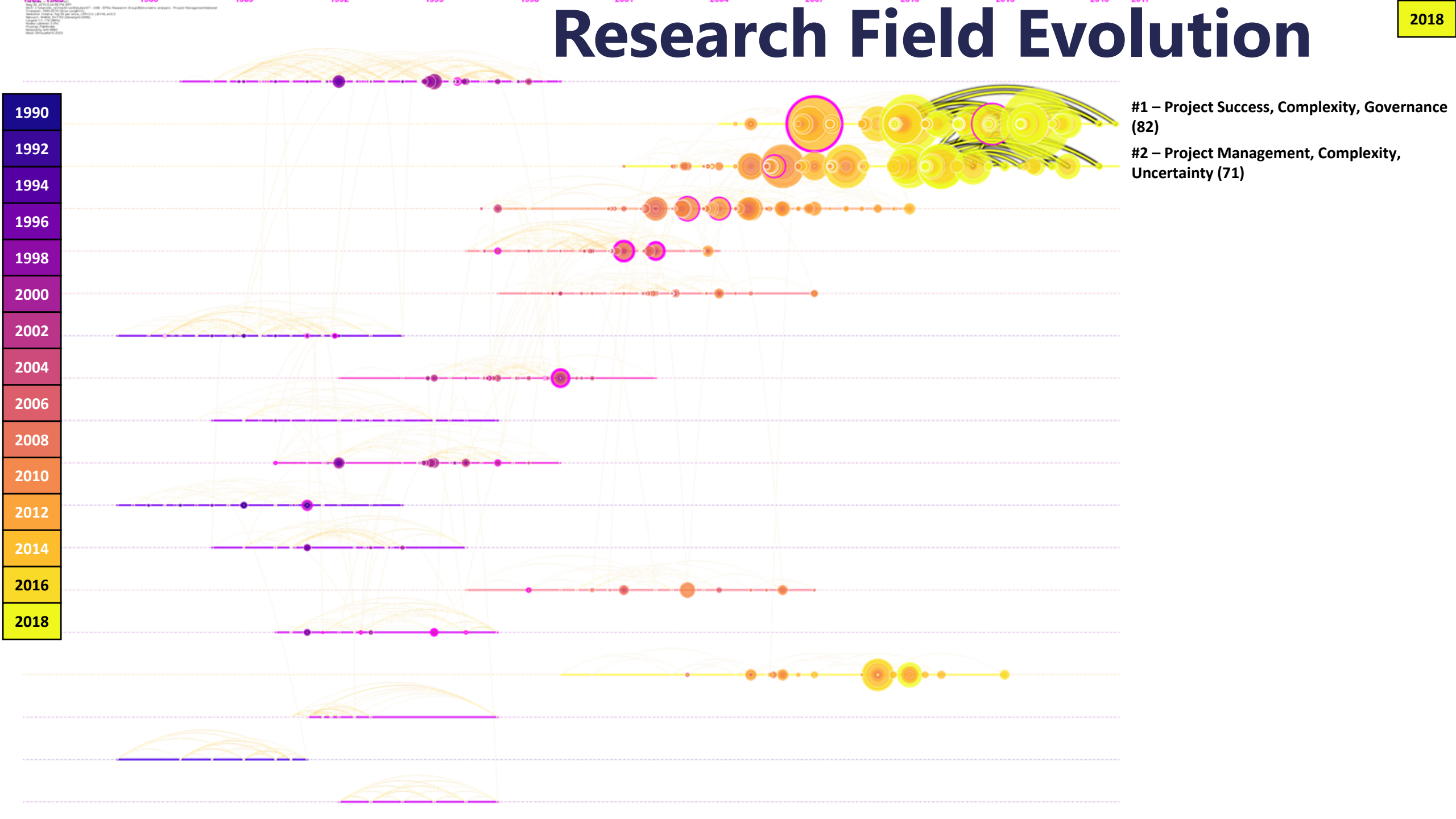

**#1 – Project Success, Complexity, Governance (82)**

**#2 – Project Management, Complexity, Uncertainty (71)**

**#14 – Time-cost Trade-off, Project Control, Duration Mngt (19)**

# Research Field Evolution

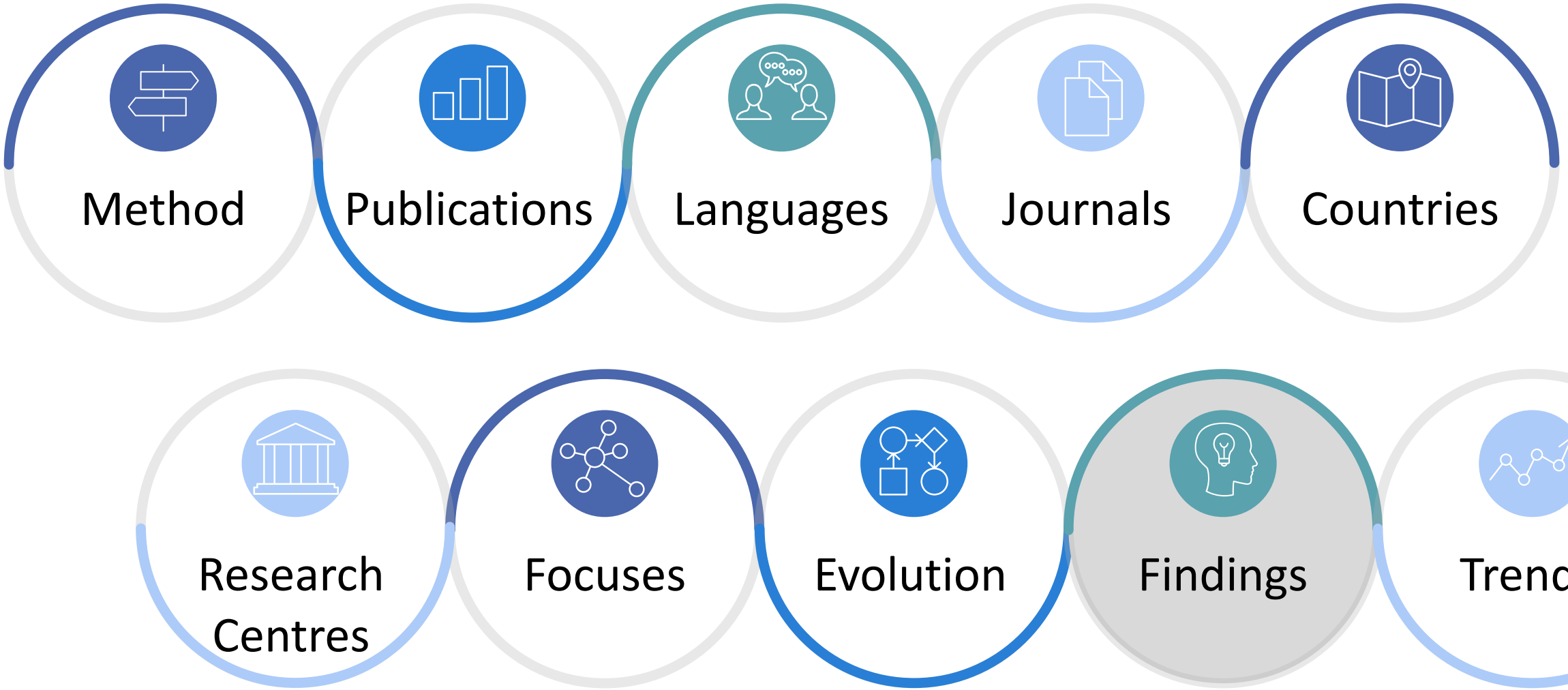
2018




**#1 – Project Success, Complexity, Governance (82)**

**#2 – Project Management, Complexity, Uncertainty (71)**

# Agenda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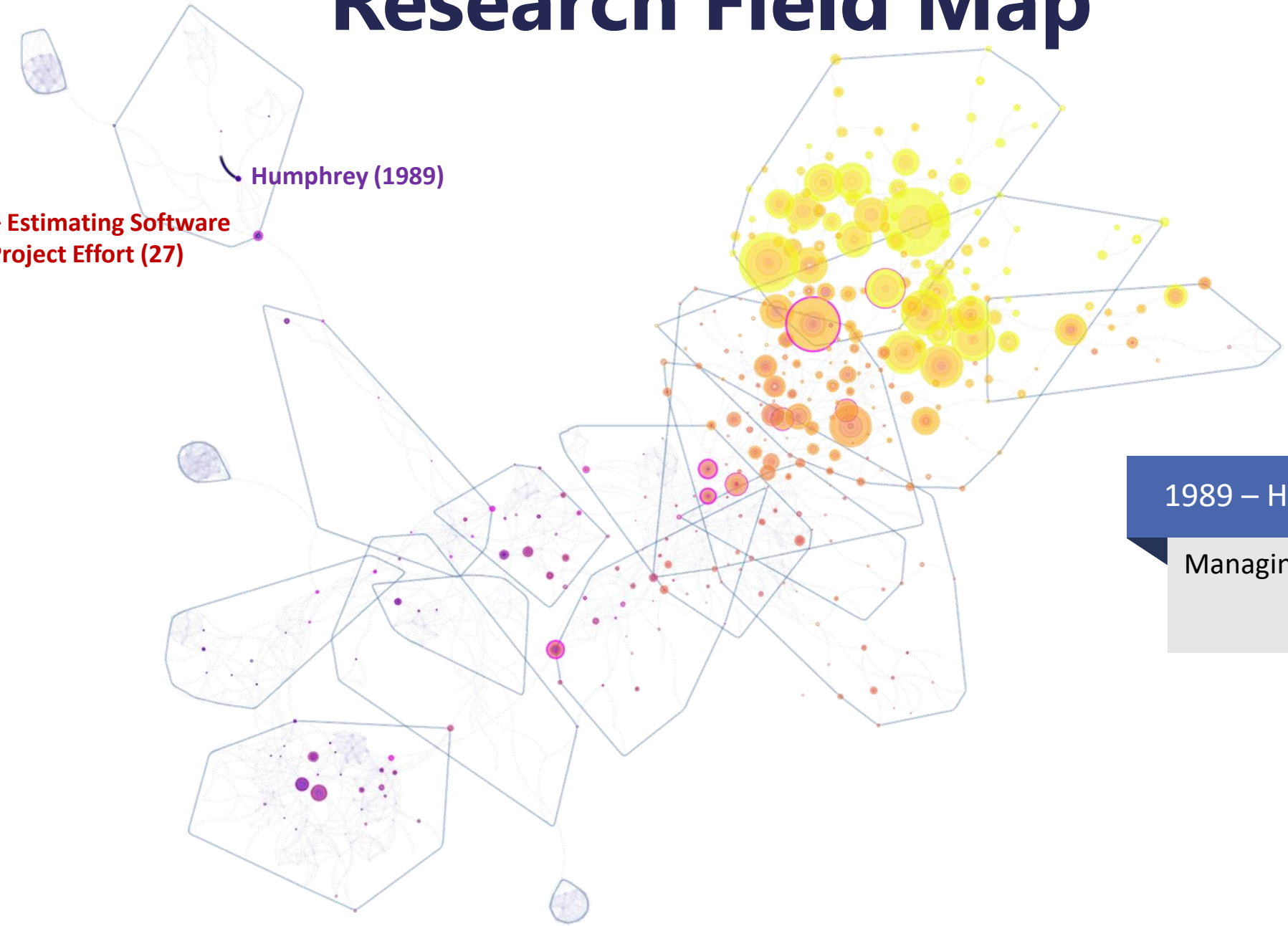
# Research Field Map








## 1989 – Humphrey (#10-b)

Managing the Software Process

# Research Field Map

1992

#16 – Information System Development (16)

#10 – Estimating Software Project Effort (27)

Abdel-Hamid (1991)

#6 – Critical Path, PERT Network (39)

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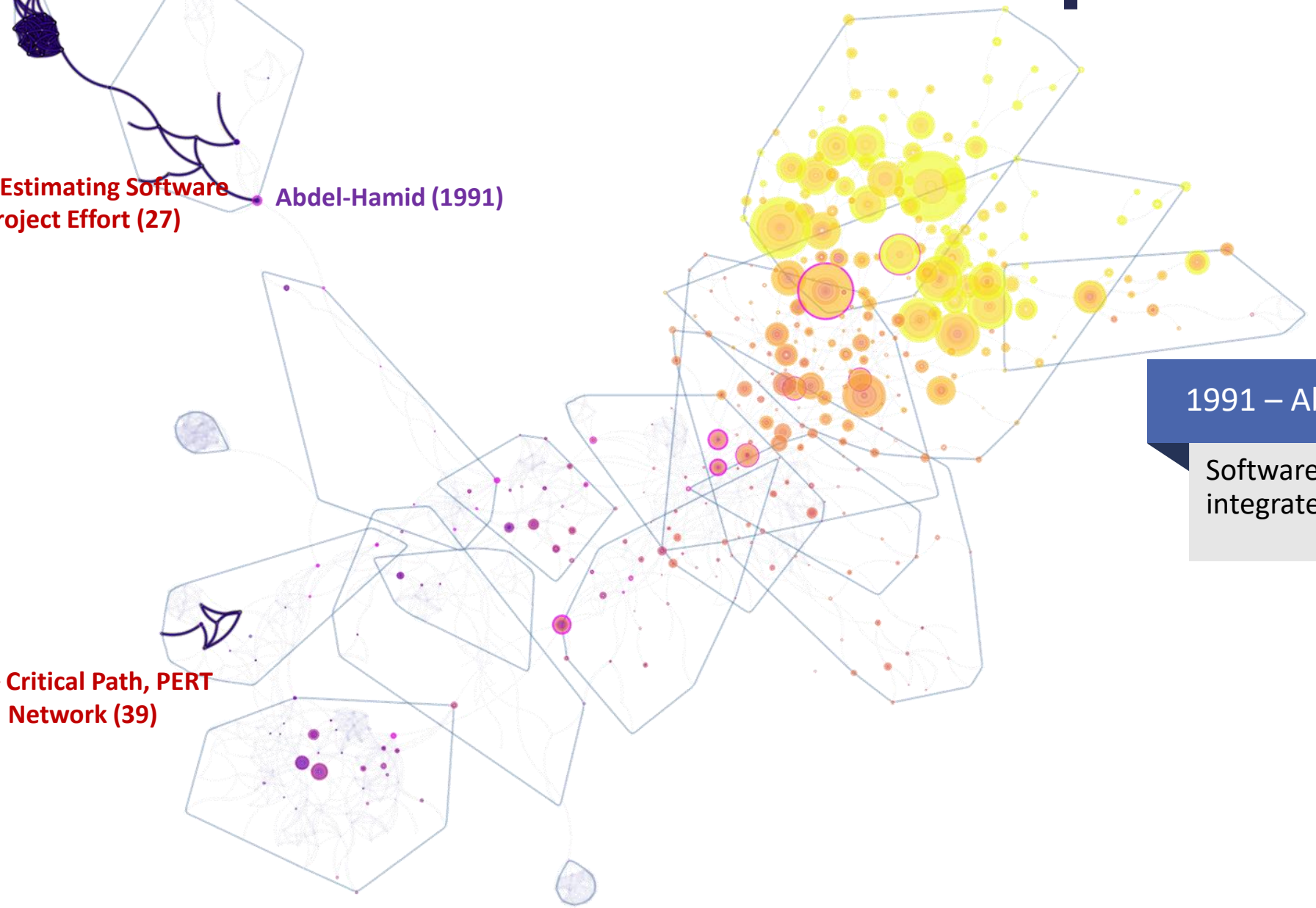

## 1991 – Abdel-Hamid (#10-b)

Software project dynamics: an integrated approach

# Research Field Map

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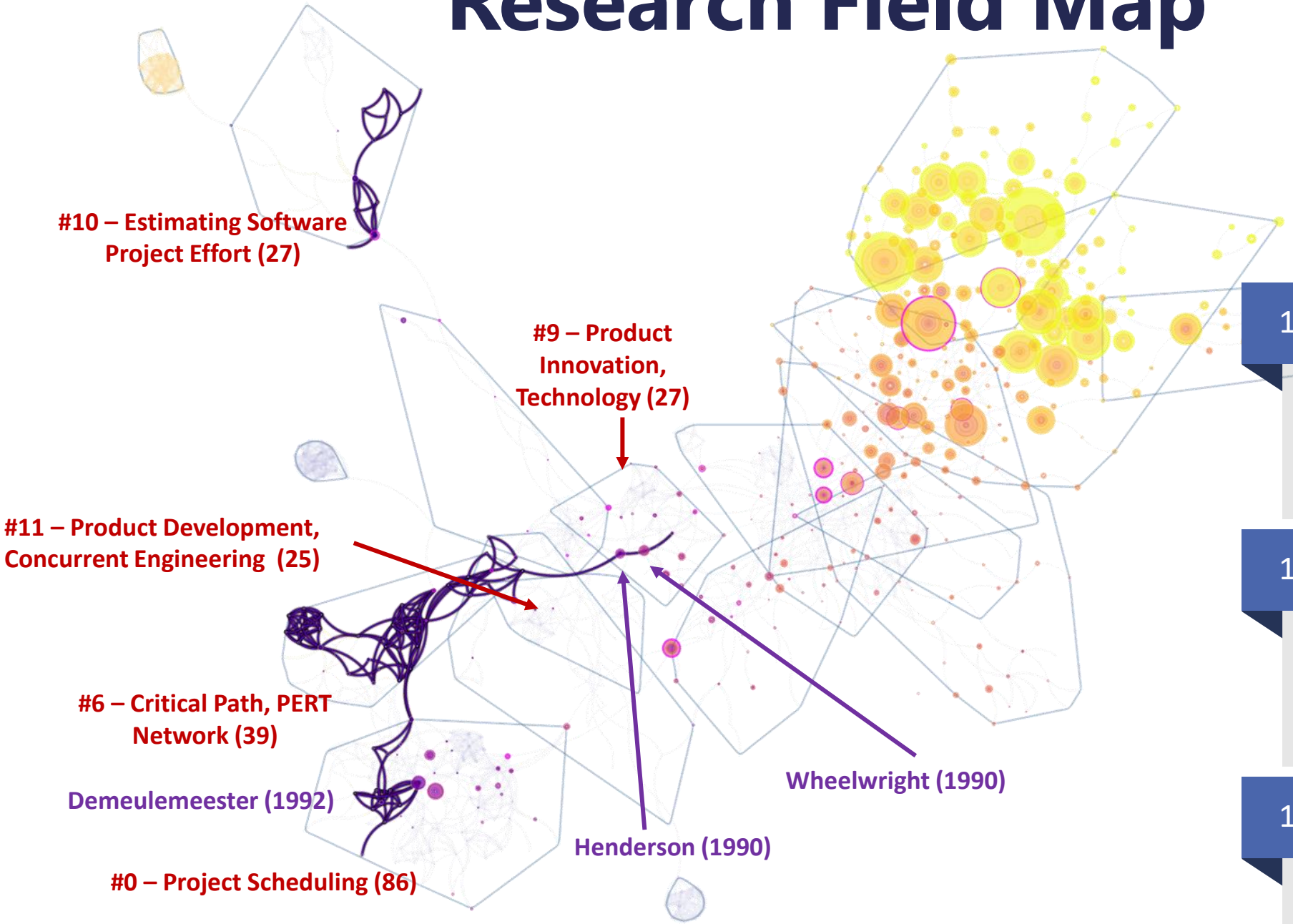


## 1992 – Demeulemeester (#0)

A Branch-and-Bound Procedure for the Multiple Resource-Constrained Project Scheduling Problem

## 1990 – Henderson (#8)

Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms

## 1992 – Wheelwright (#9)

Revolutionizing Product Development: Quantum Leaps in Speed, Efficiency and Quality

# Research Field Map

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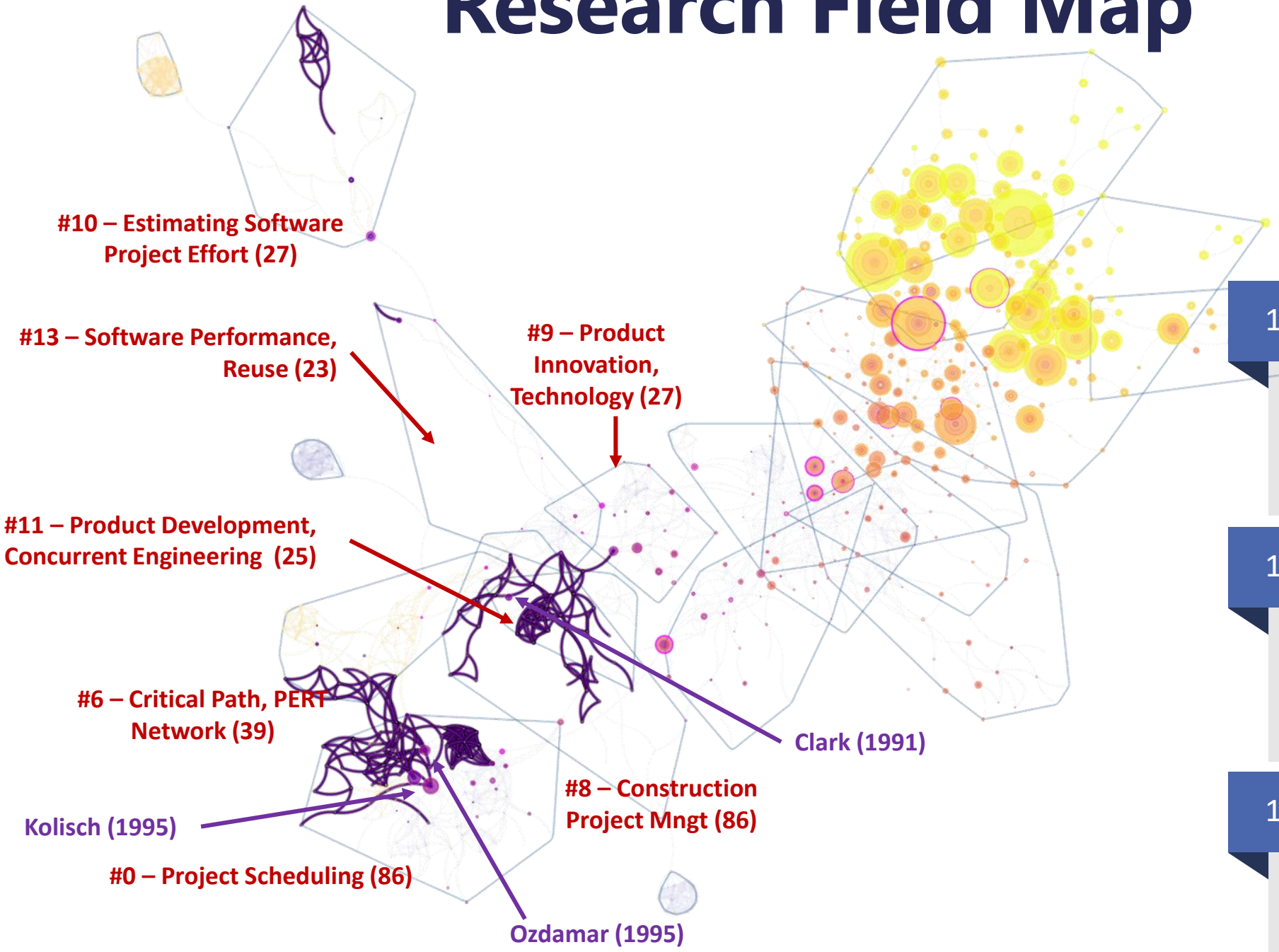


1996

## 1991 – Clark (#11)

Product Development Performance: Strategy, Organization, and Management in the World Auto Industry

## 1995 – Kolisch (#0)

Characterization and Generation of a General Class of Resource-Constrained Project Scheduling Problems

## 1995 – Ozdamar (#0)

A survey on the resource-constrained project scheduling problem

# Research Field Map

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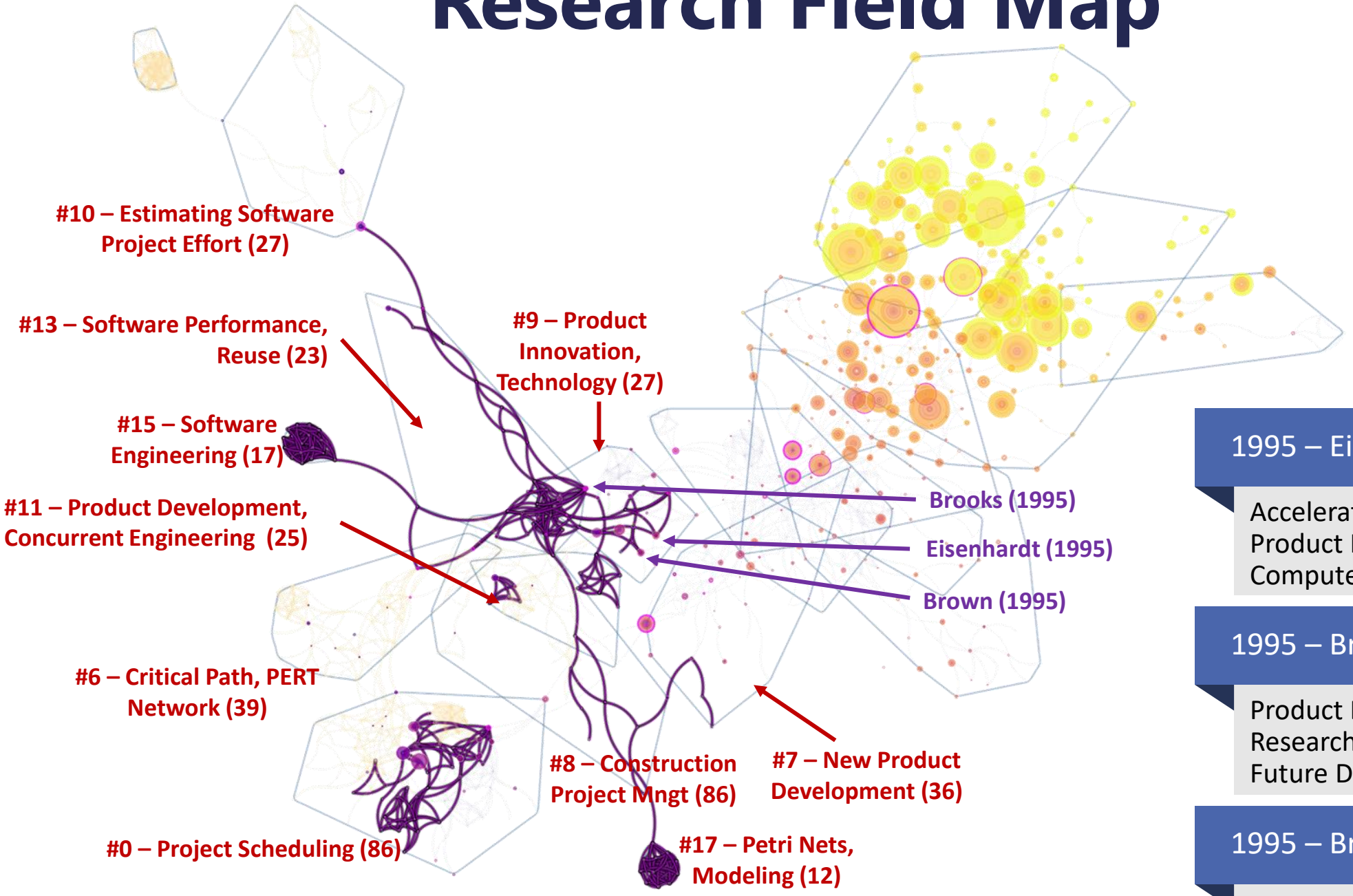



## 1995 – Eisenhardt (#9)

Accelerating Adaptive Processes: Product Innovation in the Global Computer Industry

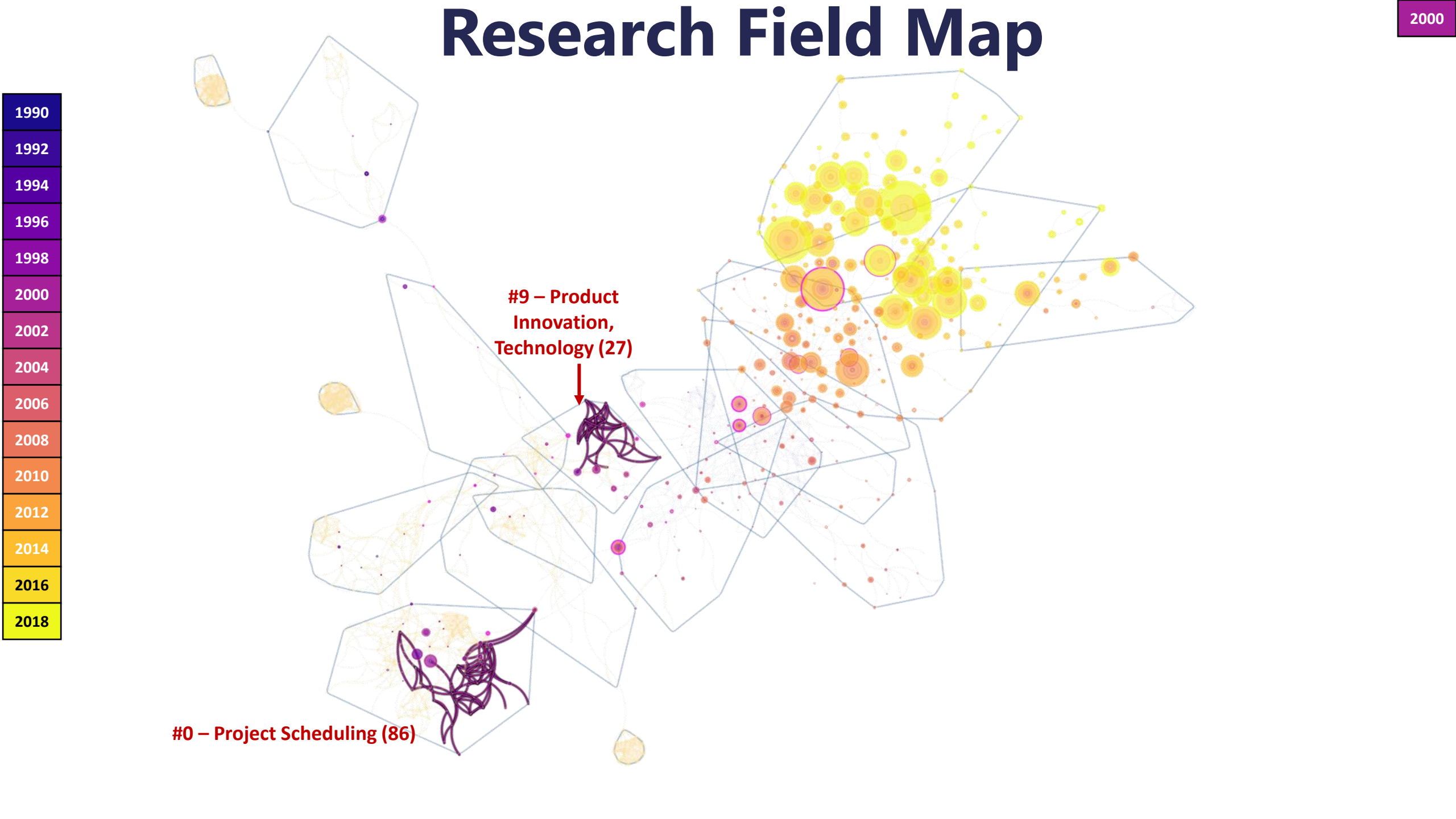
## 1995 – Brown (#9)

Product Development: Past Research, Present Findings, and Future Directions

## 1995 – Brooks (#13-b)

The Mythical Man-Month

# Research Field Map



# Research Field Map

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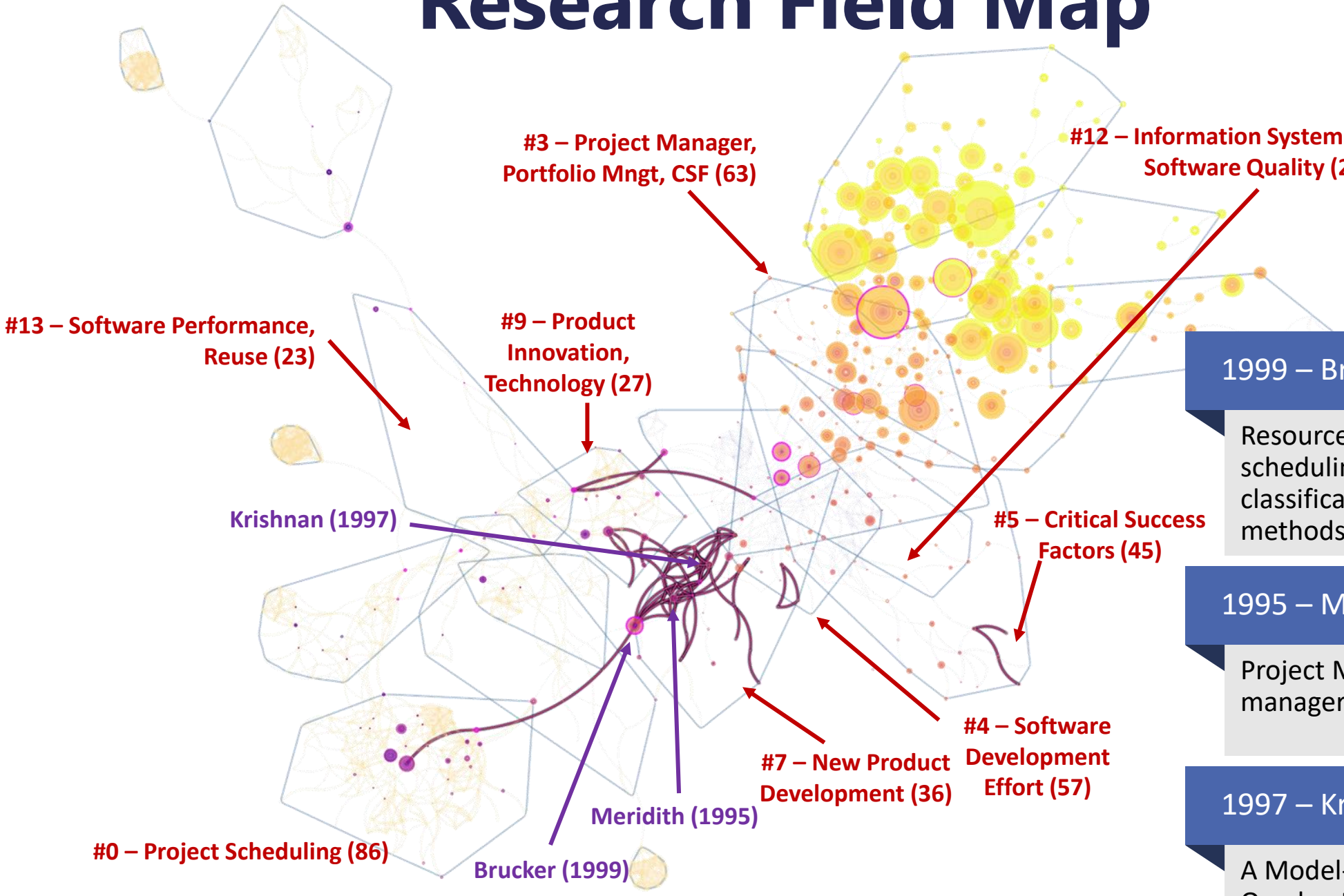


## 1999 – Brucker (#7)

Resource-constrained project scheduling: Notation, classification, models, and methods

## 1995 – Meredith (#7)

Project Management: a managerial approach

## 1997 – Krishnan (#7)

A Model-Based Framework to Overlap Product Development Activities

# Research Field Map

2004

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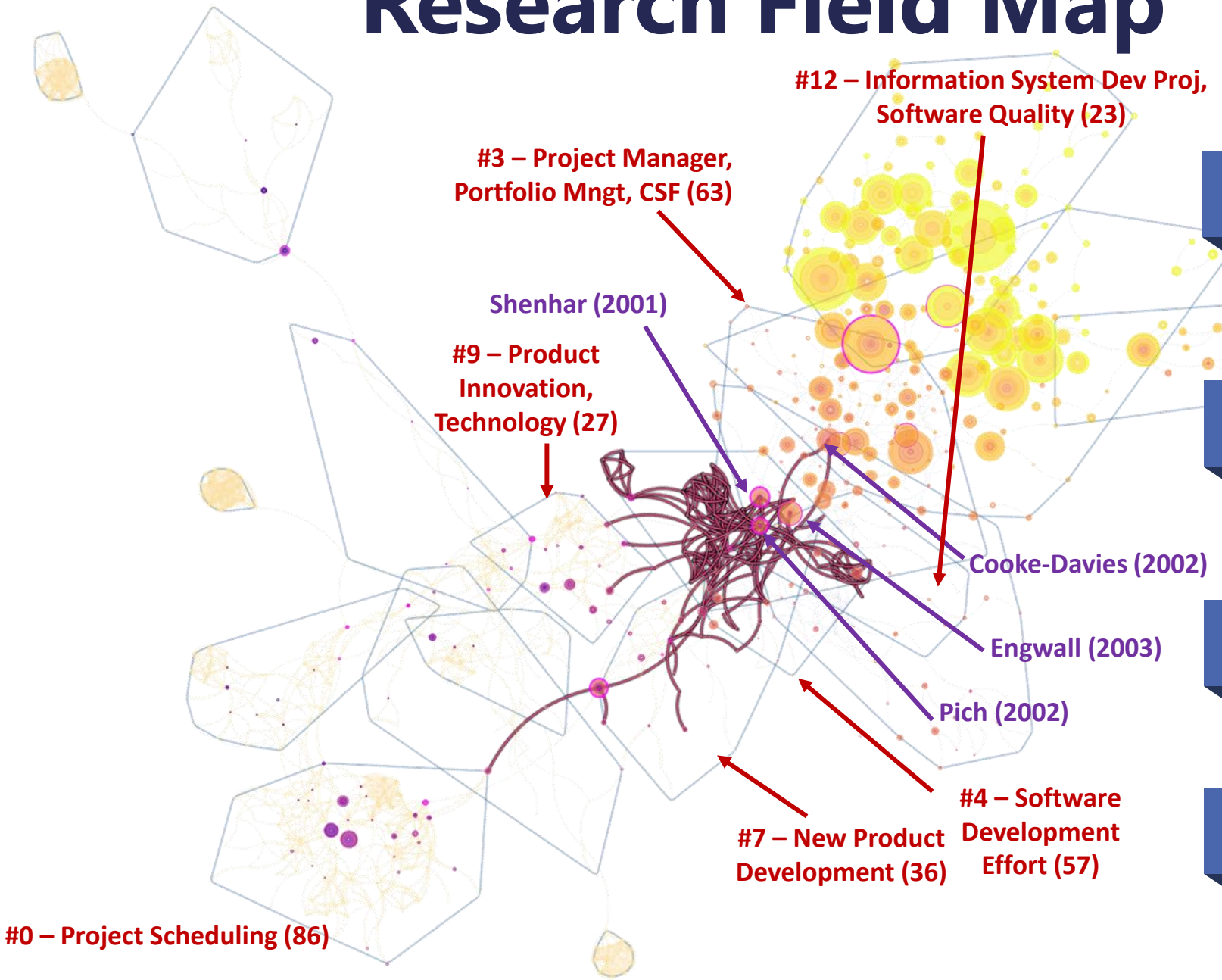


## 2001 – Shenhar (#4)

One Size Does Not Fit All Projects: Exploring Classical Contingency Domains

## 2002 – Pich (#4)

On Uncertainty, Ambiguity, and Complexity in Project Management

## 2002 – Cooke-Davies (#3)

The “real” success factors on projects

## 2003 – Engwall (#3)

No project is an island: Linking projects to history and context

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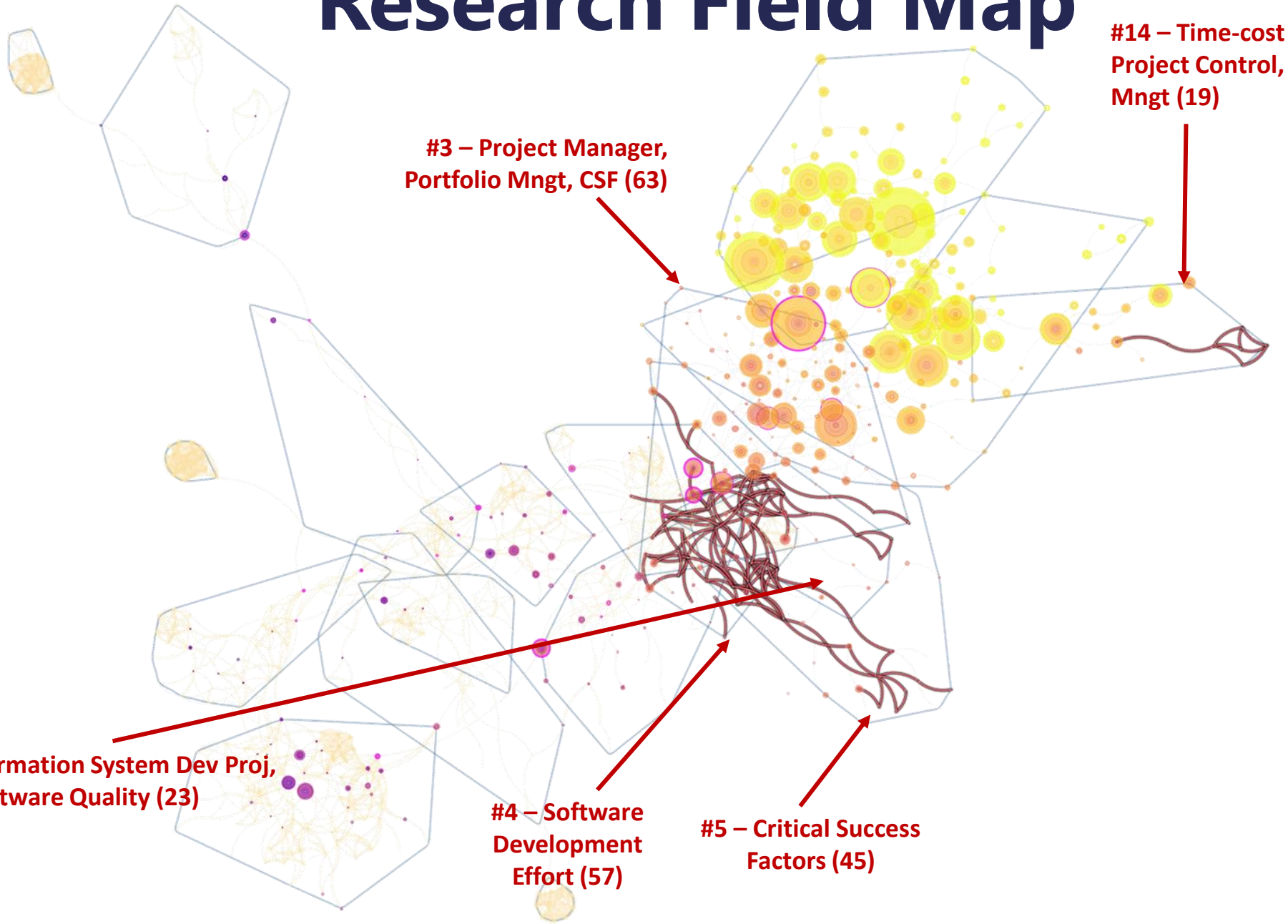

# Research Field Map

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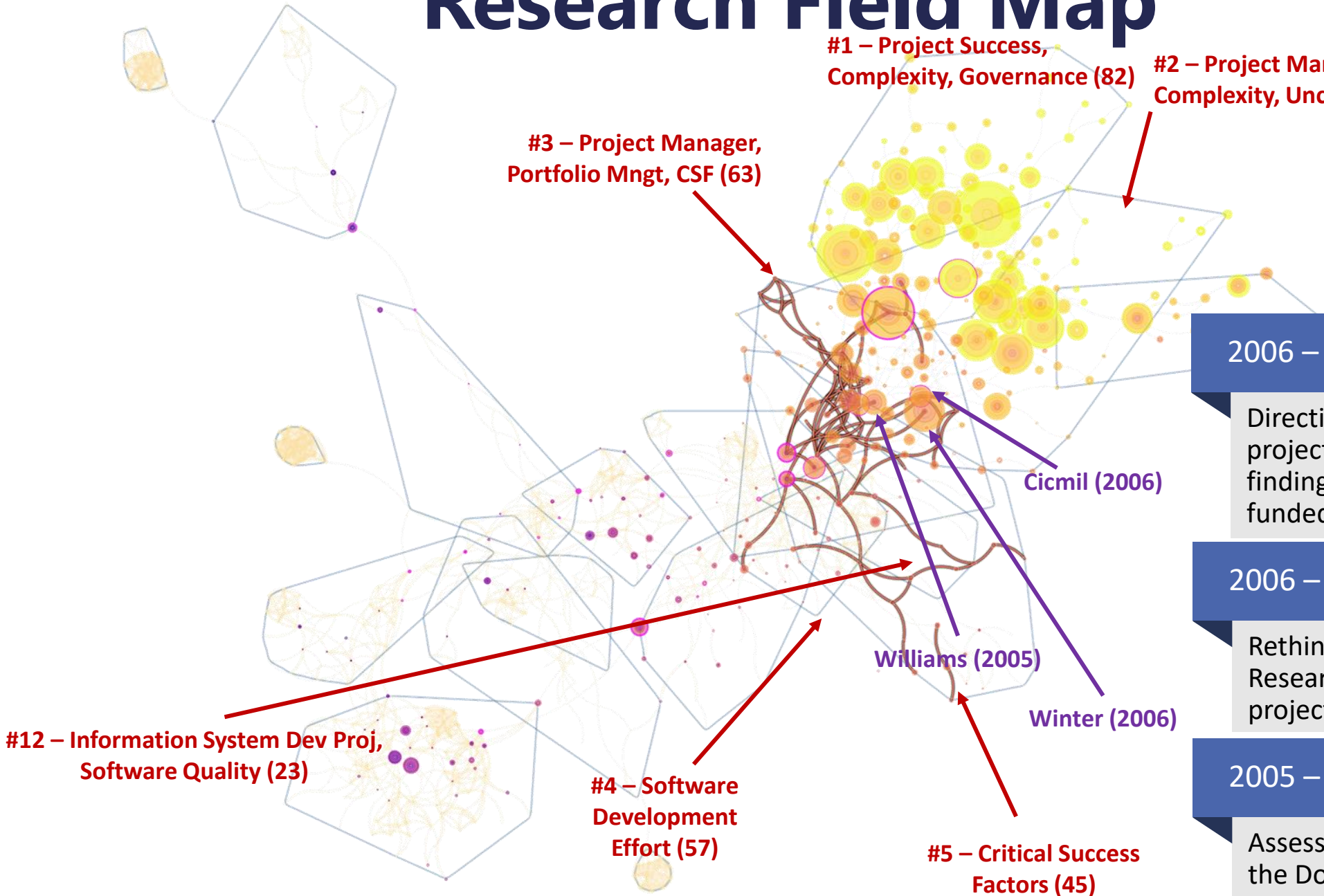


## 2006 – Winter (#2)

Directions for future research in project management: The main findings of a UK government-funded research network

## 2006 – Cicmil (#2)

Rethinking Project Management: Researching the actuality of projects

## 2005 – Williams (#2)

Assessing and Moving on From the Dominant Project Management Discourse in the Light of Project Overruns

# Research Field Map

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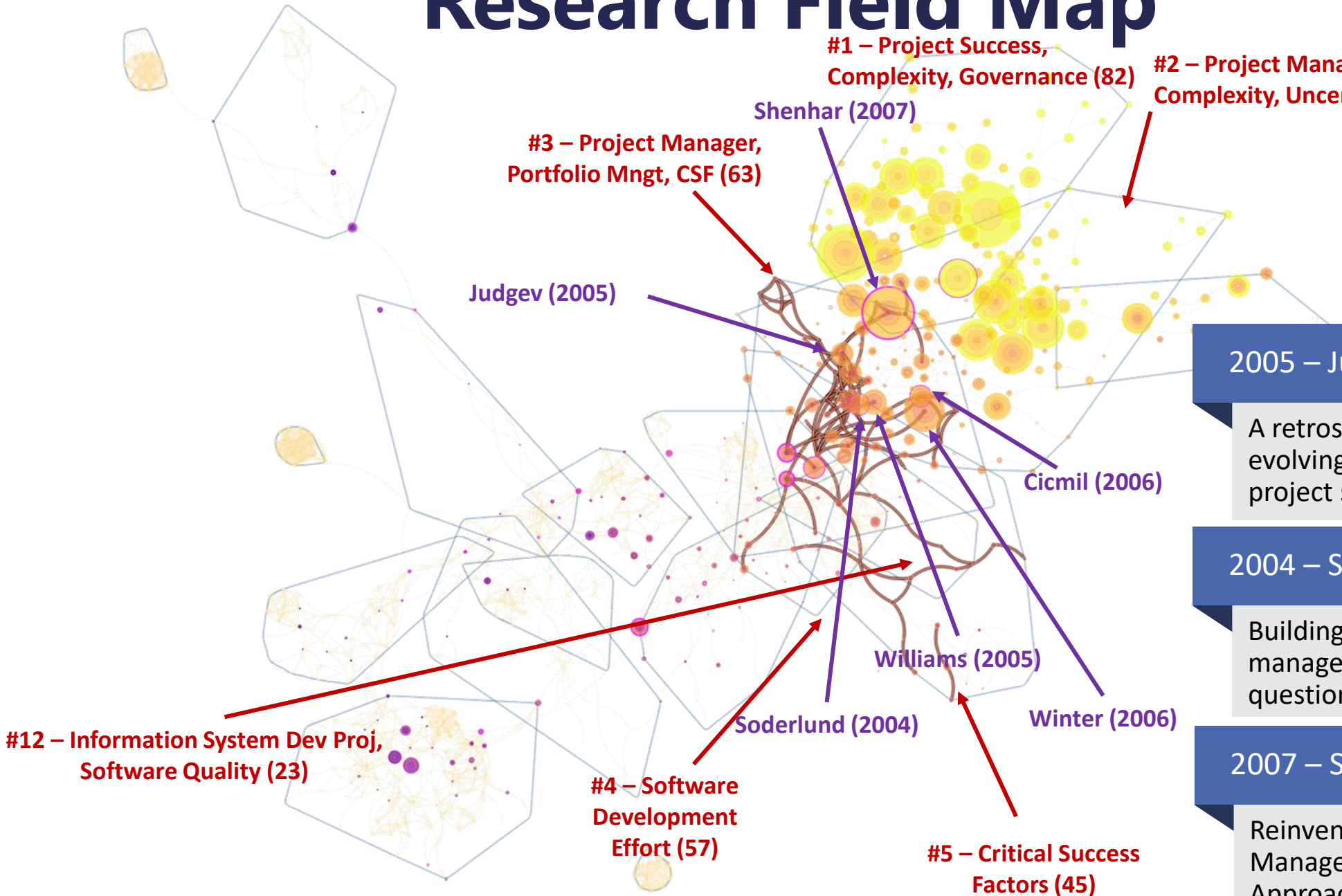


## 2005 – Judgev (#3)

A retrospective look at our evolving understanding of project success

## 2004 – Sonderlund (#3)

Building theories of project management: past research, questions for the future

## 2007 – Shenhar (#1-b)

Reinventing Project Management: The Diamond Approach To Successful Growth And Innovation

# Research Field Map

2010

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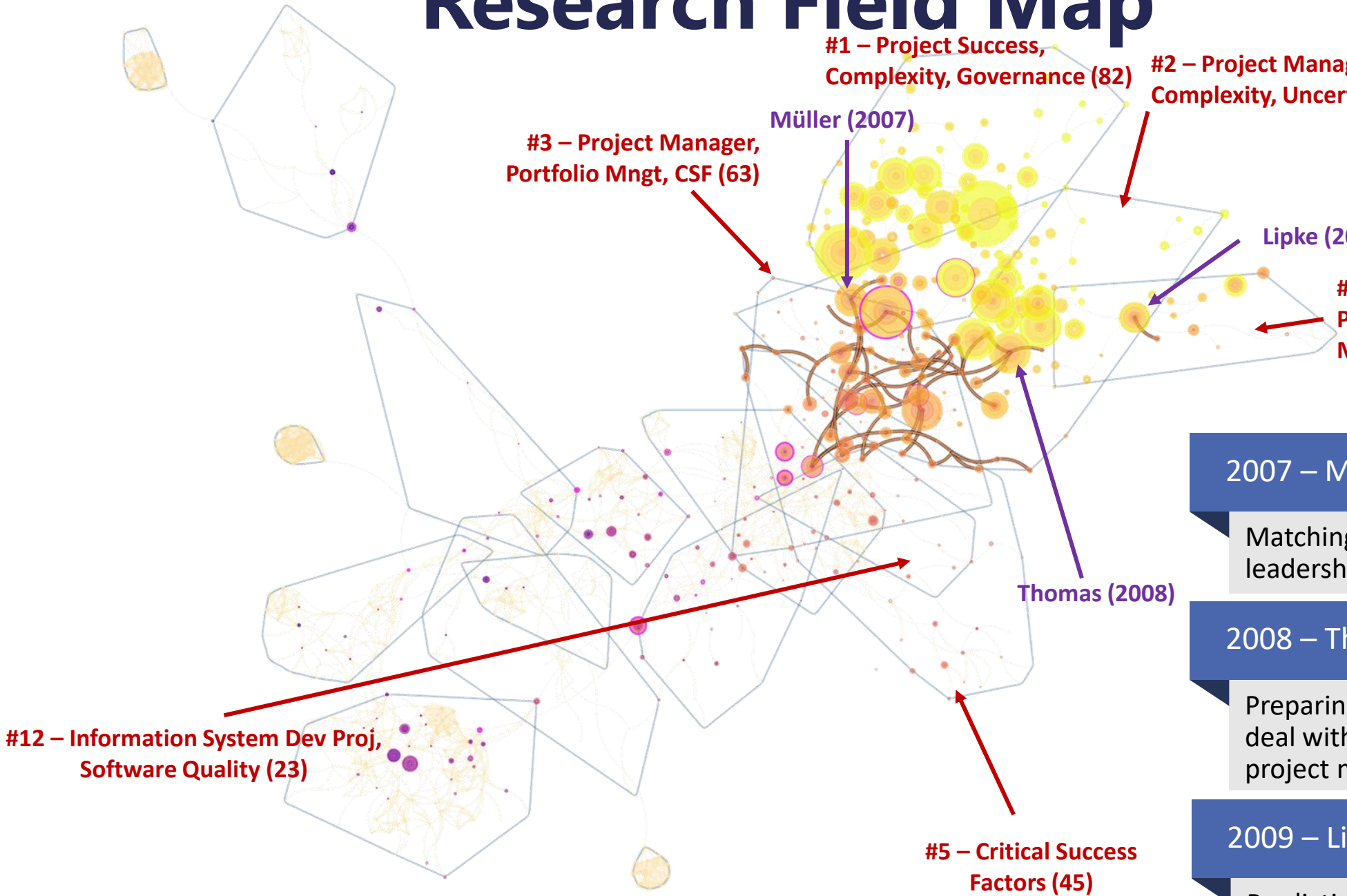


## 2007 – Müller (#3)

Matching the project manager's leadership style to project type

## 2008 – Thomas (#2)

Preparing project managers to deal with complexity – Advanced project management education

## 2009 – Lipke (#14)

Prediction of project outcome

# Research Field Map

2012

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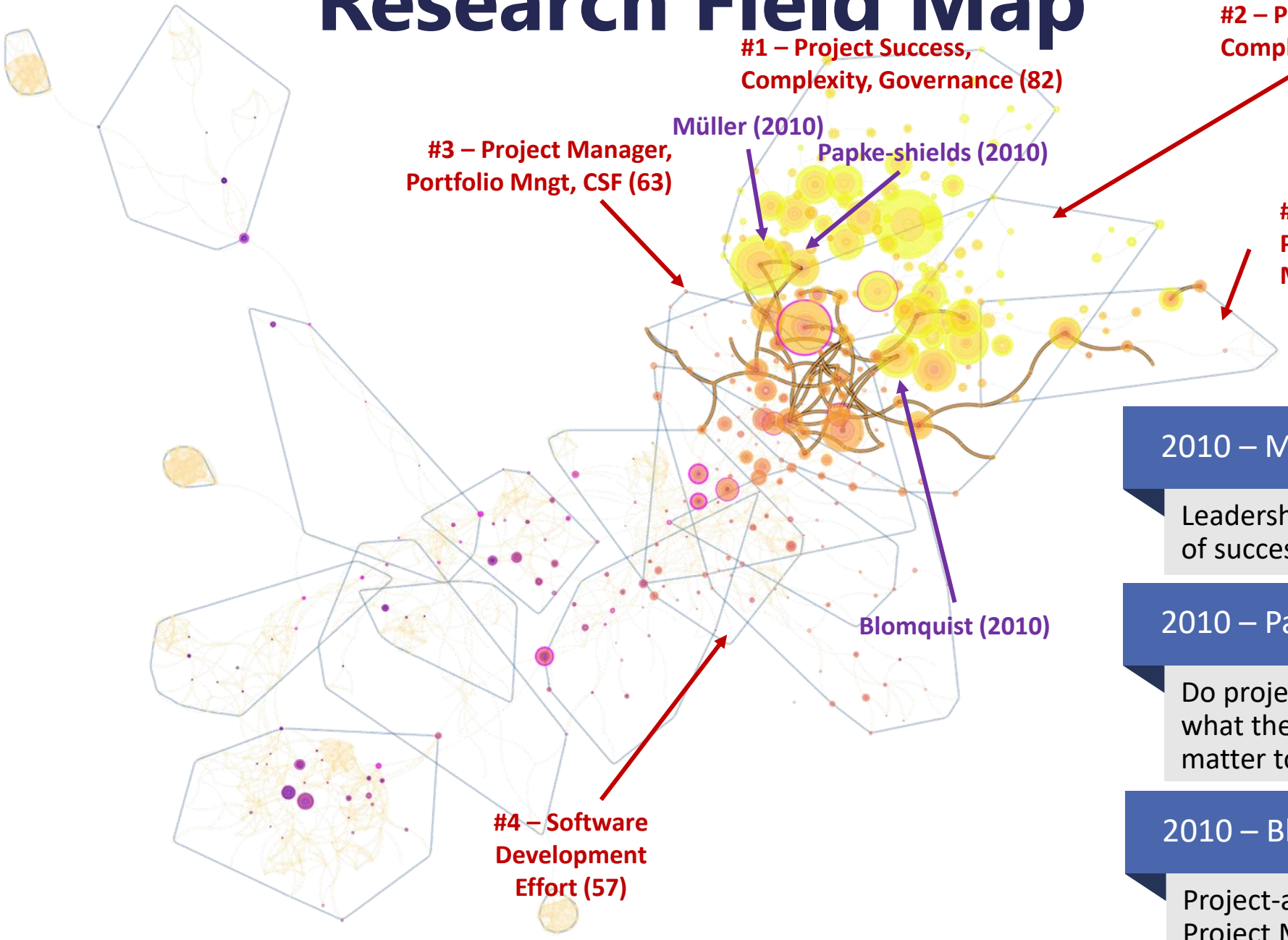



## 2010 – Müller (#1)

Leadership competency profiles of successful project managers

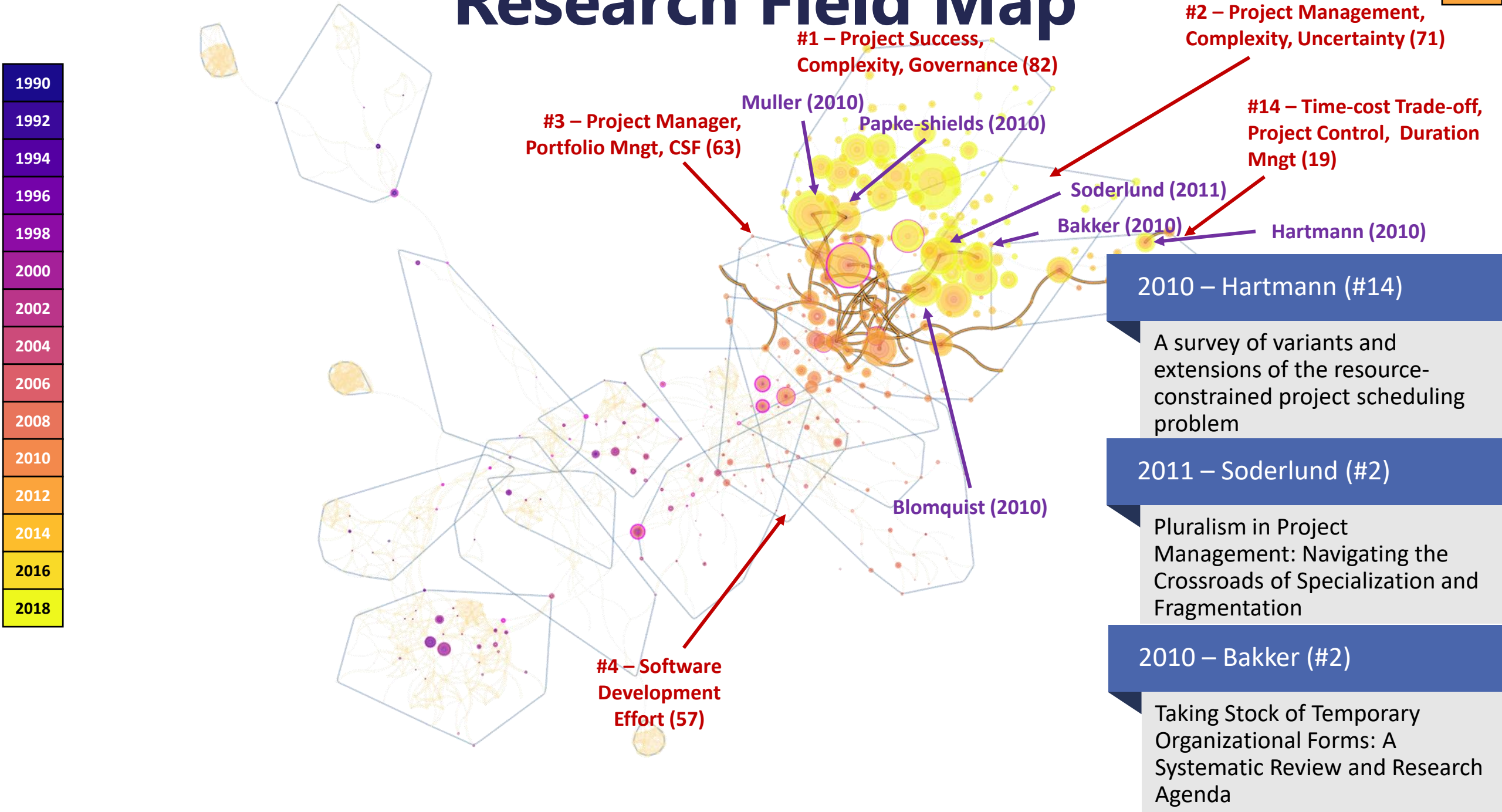
## 2010 – Papke-shields (#1)

Do project managers practice what they preach, and does it matter to project success?

## 2010 – Blomquist (#2)

Project-as-Practice: In Search of Project Management Research that Matters

# Research Field Map




## 2010 – Hartmann (#14)

A survey of variants and extensions of the resource-constrained project scheduling problem

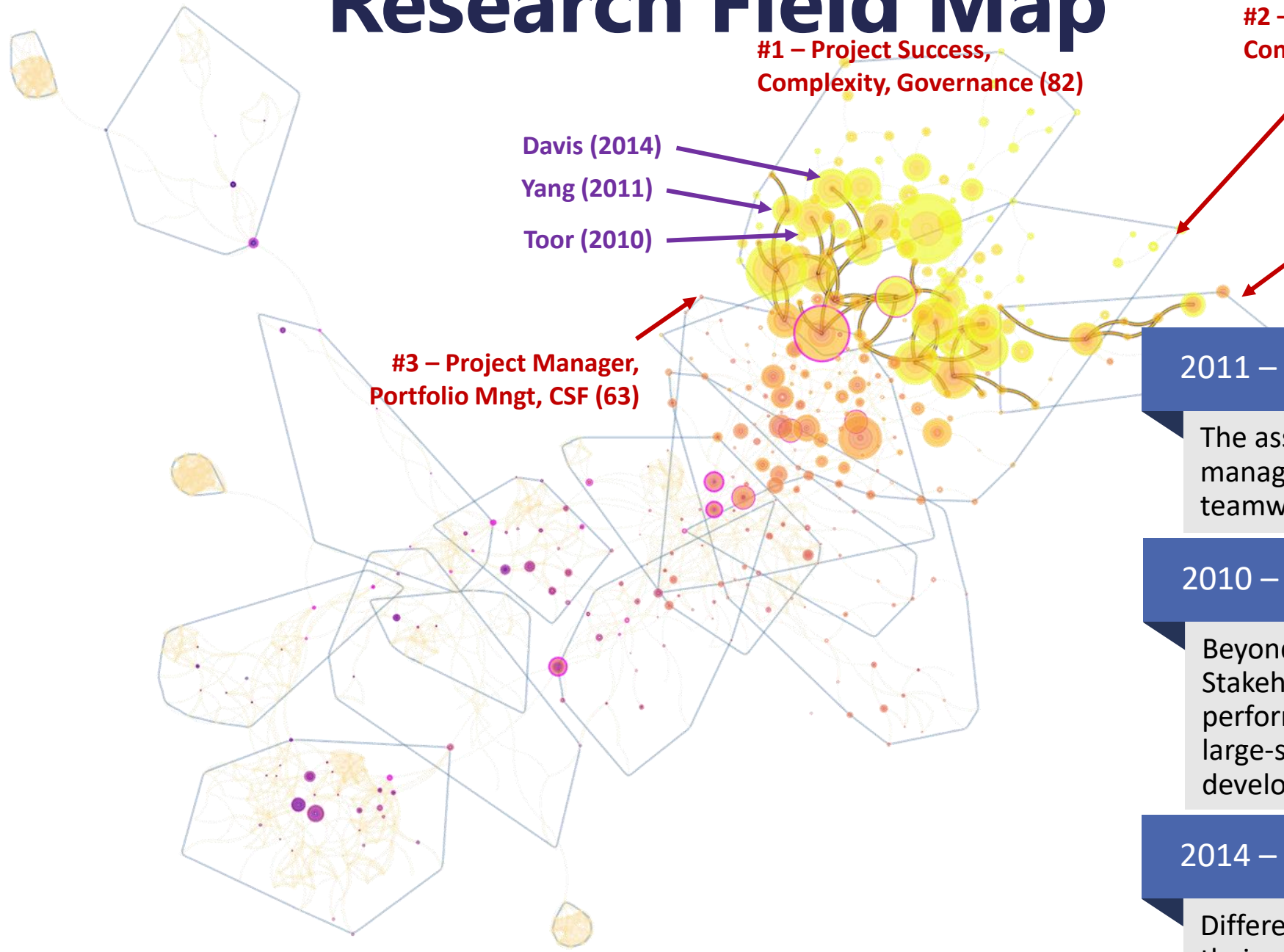
## 2011 – Soderlund (#2)

Pluralism in Project Management: Navigating the Crossroads of Specialization and Fragmentation

## 2010 – Bakker (#2)

Taking Stock of Temporary Organizational Forms: A Systematic Review and Research Agenda

# Research Field Map




2014

## 2011 – Yang (#1)

The association among project manager's leadership style, teamwork and project success

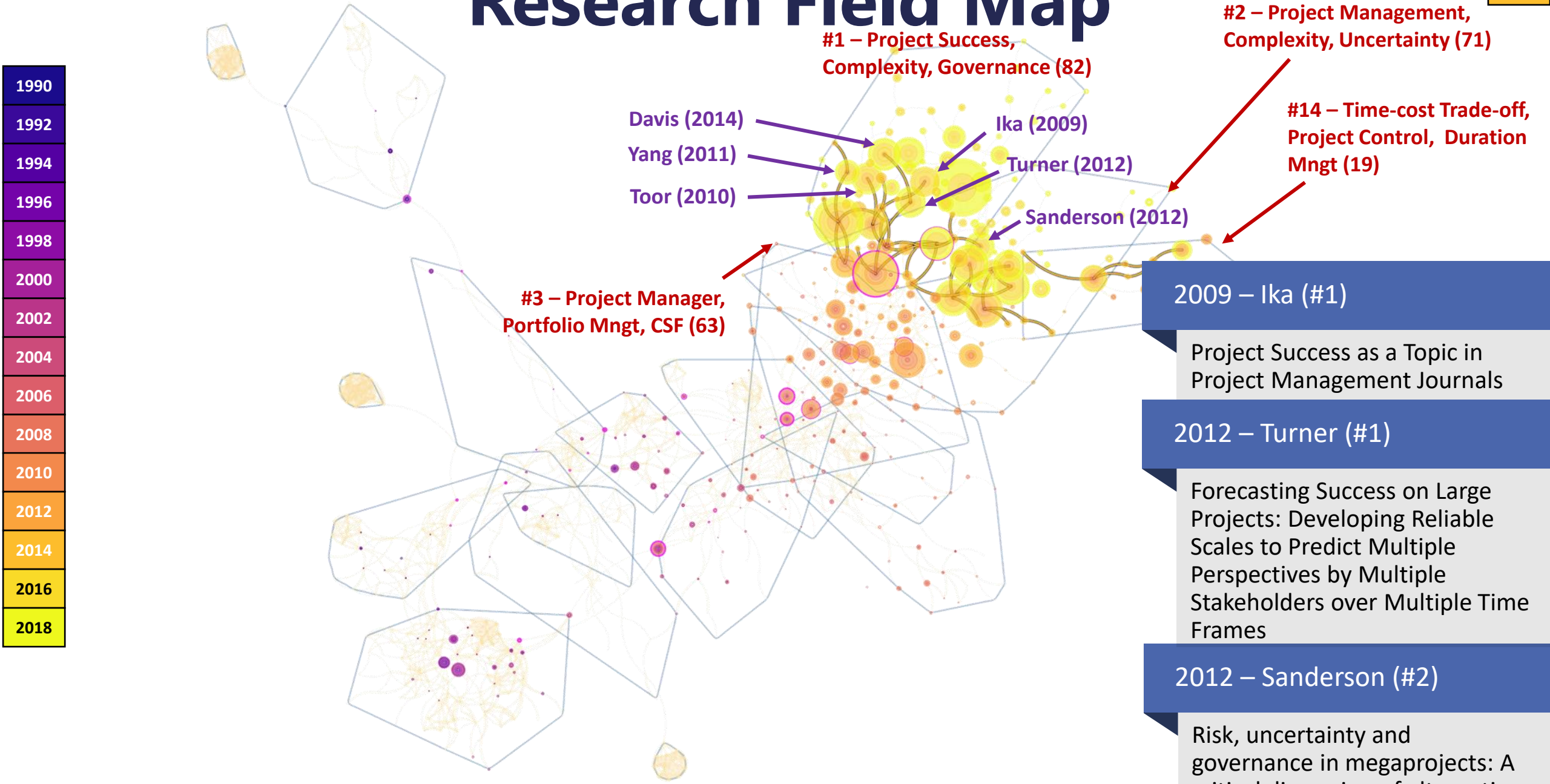
## 2010 – Toor (#1)

Beyond the 'iron triangle': Stakeholder perception of key performance indicators (KPIs) for large-scale public sector development projects

## 2014 – Davis (#1)

Different stakeholder groups and their perceptions of project success

# Research Field Map




## 2009 – Ika (#1)

Project Success as a Topic in Project Management Journals

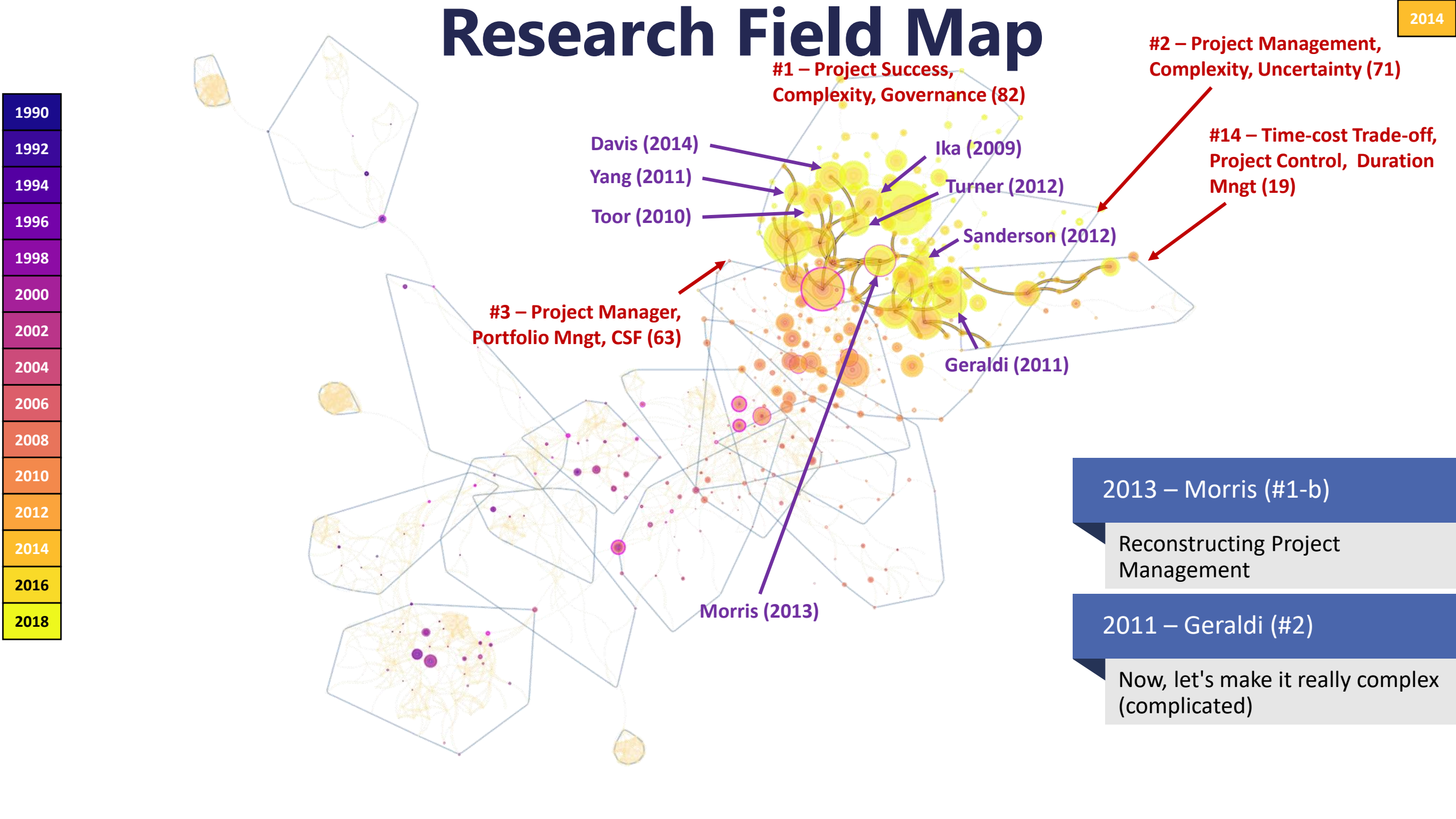
## 2012 – Turner (#1)

Forecasting Success on Large Projects: Developing Reliable Scales to Predict Multiple Perspectives by Multiple Stakeholders over Multiple Time Frames

## 2012 – Sanderson (#2)

Risk, uncertainty and governance in megaprojects: A critical discussion of alternative explanations

# Research Field Map



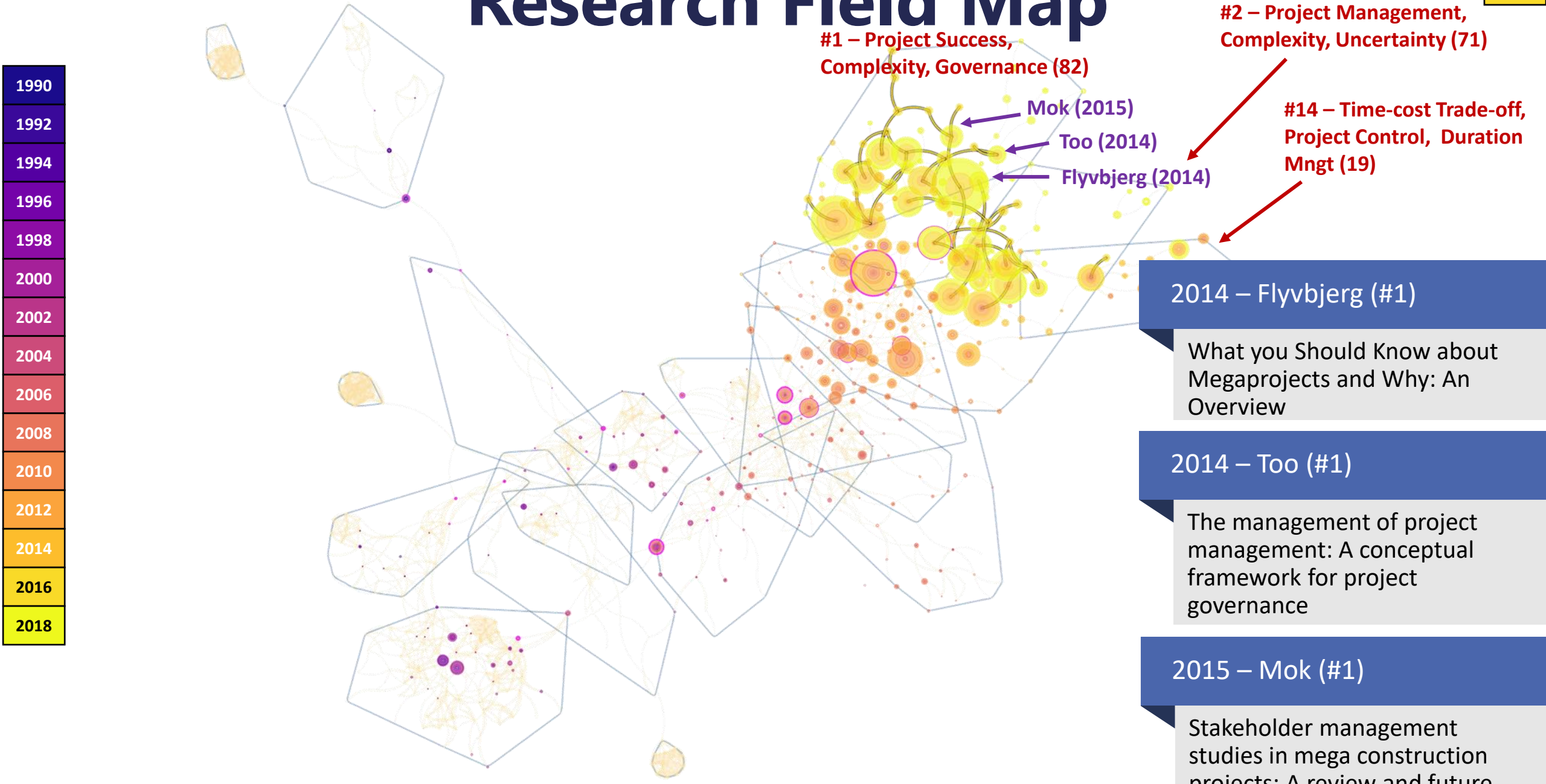

## 2013 – Morris (#1-b)

Reconstructing Project Management

## 2011 – Geraldi (#2)

Now, let's make it really complex (complicated)

# Research Field Map




## 2014 – Flyvbjerg (#1)

What you Should Know about Megaprojects and Why: An Overview

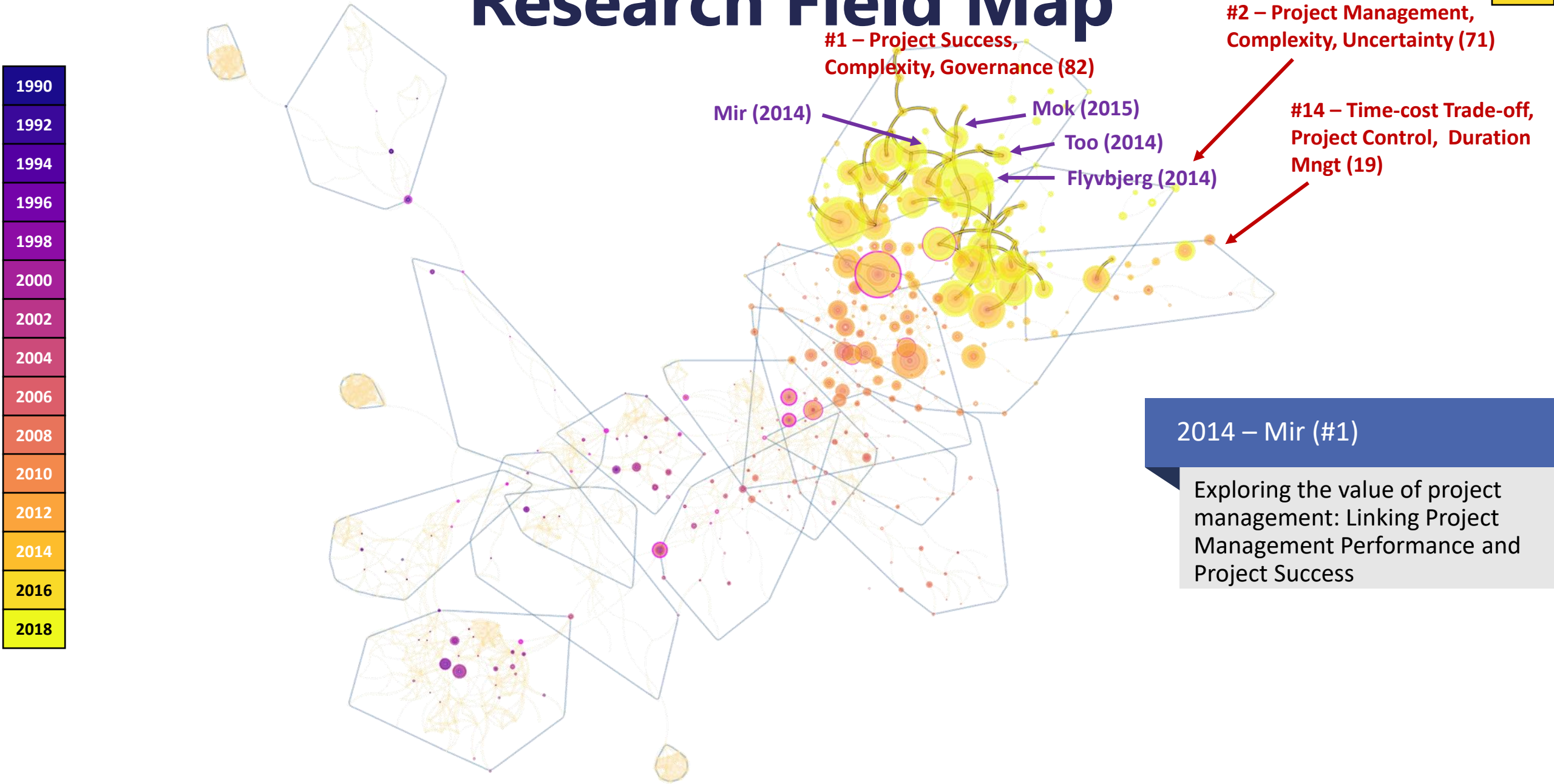
## 2014 – Too (#1)

The management of project management: A conceptual framework for project governance

## 2015 – Mok (#1)

Stakeholder management studies in mega construction projects: A review and future directions

# Research Field Map

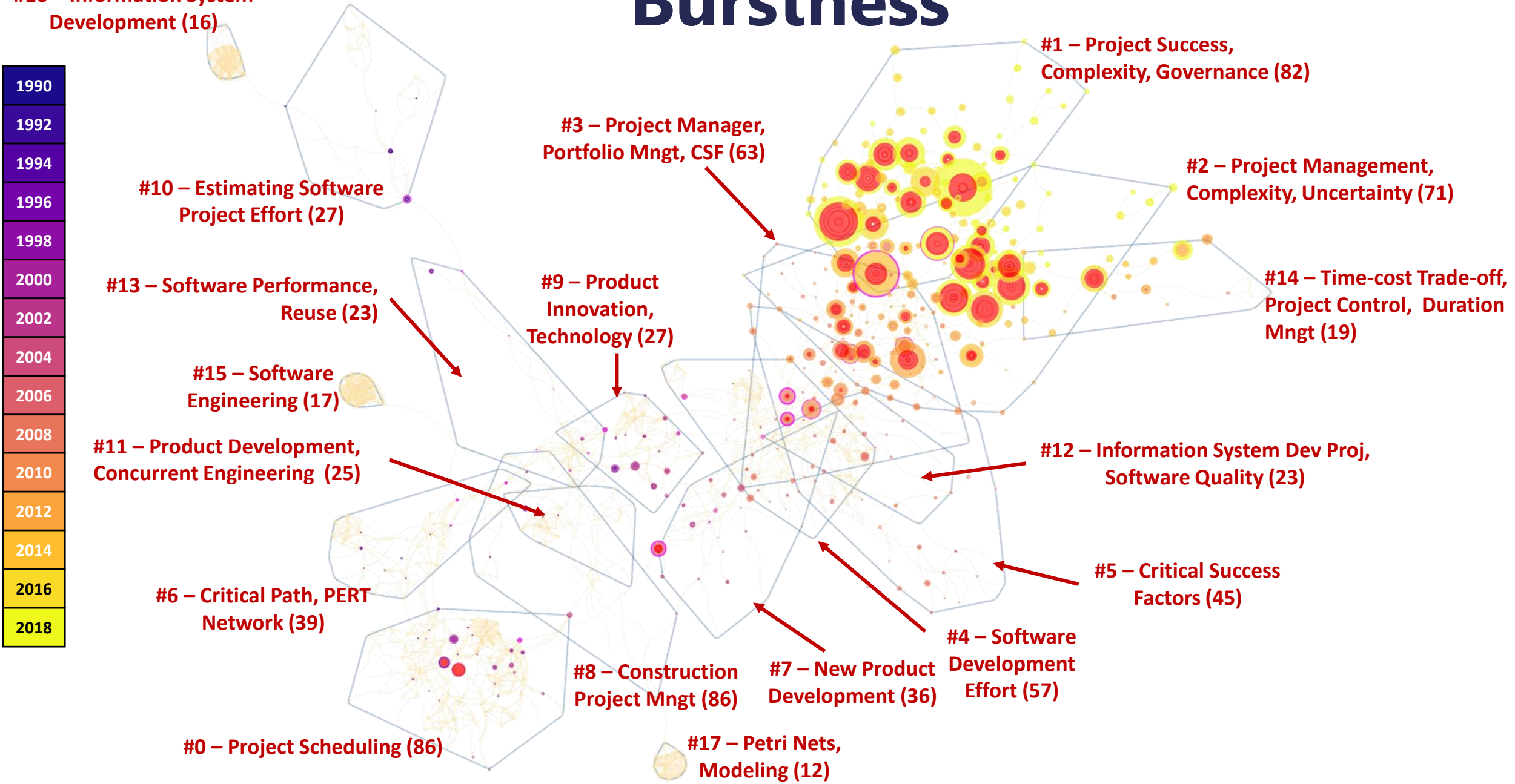



## 2014 – Mir (#1)

Exploring the value of project management: Linking Project Management Performance and Project Success

# Research Field Map

# Burstness


#16 – Information System Development (16)
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#1 – Project Success, Complexity, Governance (82)
#3 – Project Manager, Portfolio Mngt, CSF (63)
#2 – Project Management, Complexity, Uncertainty (71)
#10 – Estimating Software Project Effort (27)
#14 – Time-cost Trade-off, Project Control, Duration Mngt (19)
#13 – Software Performance, Reuse (23)
#9 – Product Innovation, Technology (27)
#15 – Software Engineering (17)
#11 – Product Development, Concurrent Engineering (25)
#12 – Information System Dev Proj, Software Quality (23)
#5 – Critical Success Factors (45)
#6 – Critical Path, PERT Network (39)
#4 – Software Development Effort (57)
#8 – Construction Project Mngt (86)
#7 – New Product Development (36)
#0 – Project Scheduling (86)
#17 – Petri Nets, Modeling (12)

# Burstness

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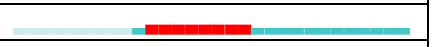
| DEMEULEMEESTER E, 1992 | 1992 | 5.5966 | **1995** | 1999 |  |
| KOLISCH R, 1995 | 1995 | 6.5259 | **1997** | 2002 |  |
| BRUCKER P, 1999 | 1999 | 6.2172 | **2000** | 2007 |  |
| SHENHAR AJ, 2001 | 2001 | 6.1381 | **2004** | 2009 |  |
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| BAKKER RM, 2010 | 2010 | 6.8755 | **2012** | 2019 |  |
| PAPKE-SHIELDS KE, 2010 | 2010 | 8.3212 | **2012** | 2017 |  |

| References | Year | Strength | Begin | End | 1990 - 2019 |
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| BLOMQUIST T, 2010 | 2010 | 8.151 | **2012** | 2019 |  |
| SODERLUND J, 2011 | 2011 | 7.9329 | **2013** | 2019 |  |
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| BOSCH-REKVELDT M, 2011 | 2011 | 6.8248 | **2014** | 2017 |  |
| SANDERSON J, 2012 | 2012 | 8.101 | **2014** | 2019 |  |
| GERALDI J, 2011 | 2011 | 9.8056 | **2014** | 2019 |  |
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| SVEJVIG P, 2015 | 2015 | 7.2924 | **2016** | 2019 |  |
| MERROW E, 2011 | 2011 | 6.8855 | **2016** | 2019 |  |
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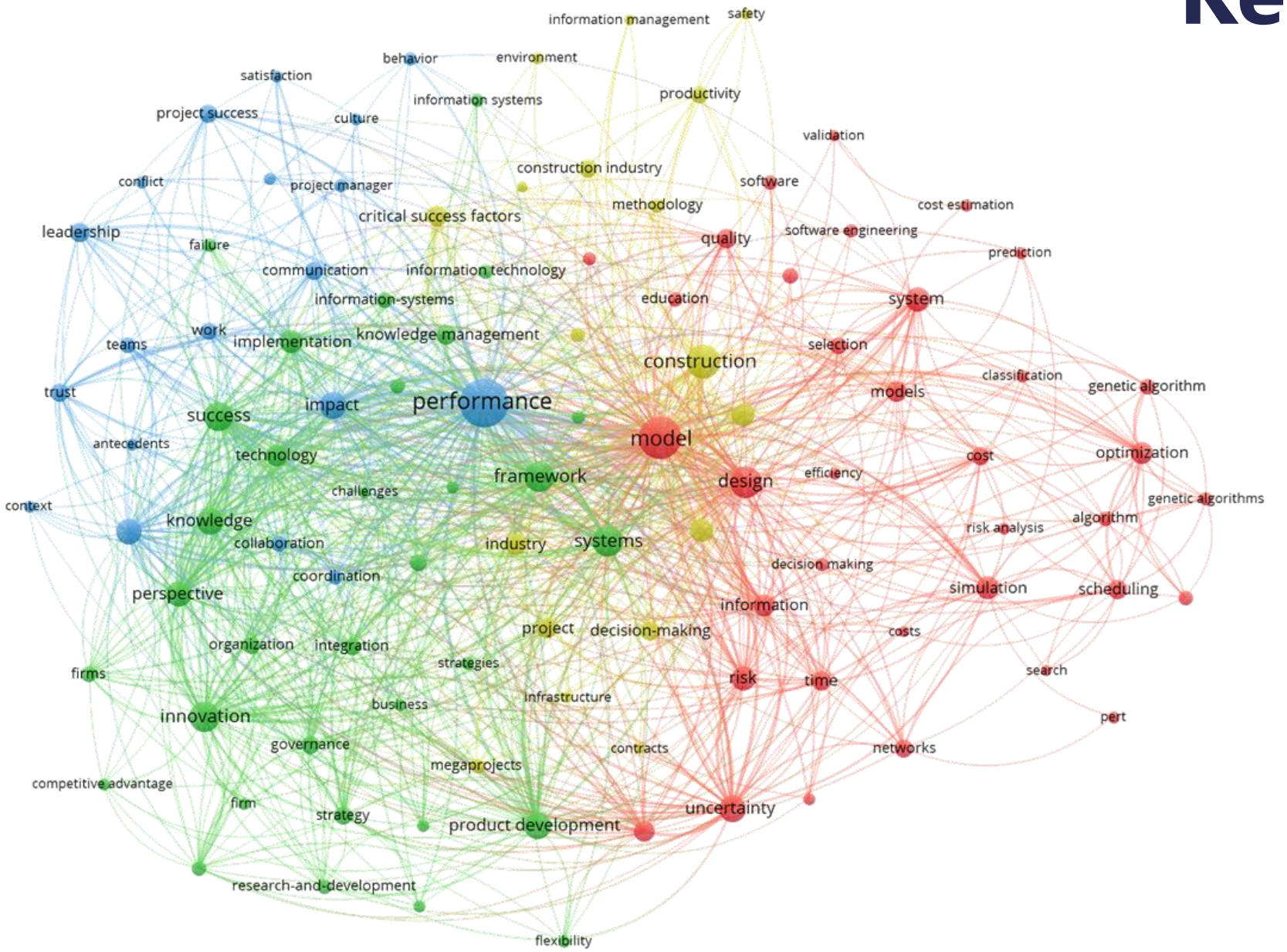
| MULLER R, 2012 | 2012 | 5.5688 | **2016** | 2019 |  |
| TOO EG, 2014 | 2014 | 6.2146 | **2016** | 2019 |  |

# Agenda


Method
Publications
Languages
Journals
Countries
Research Centres
Focuses
Evolution
Findings
Trends

# Keywords

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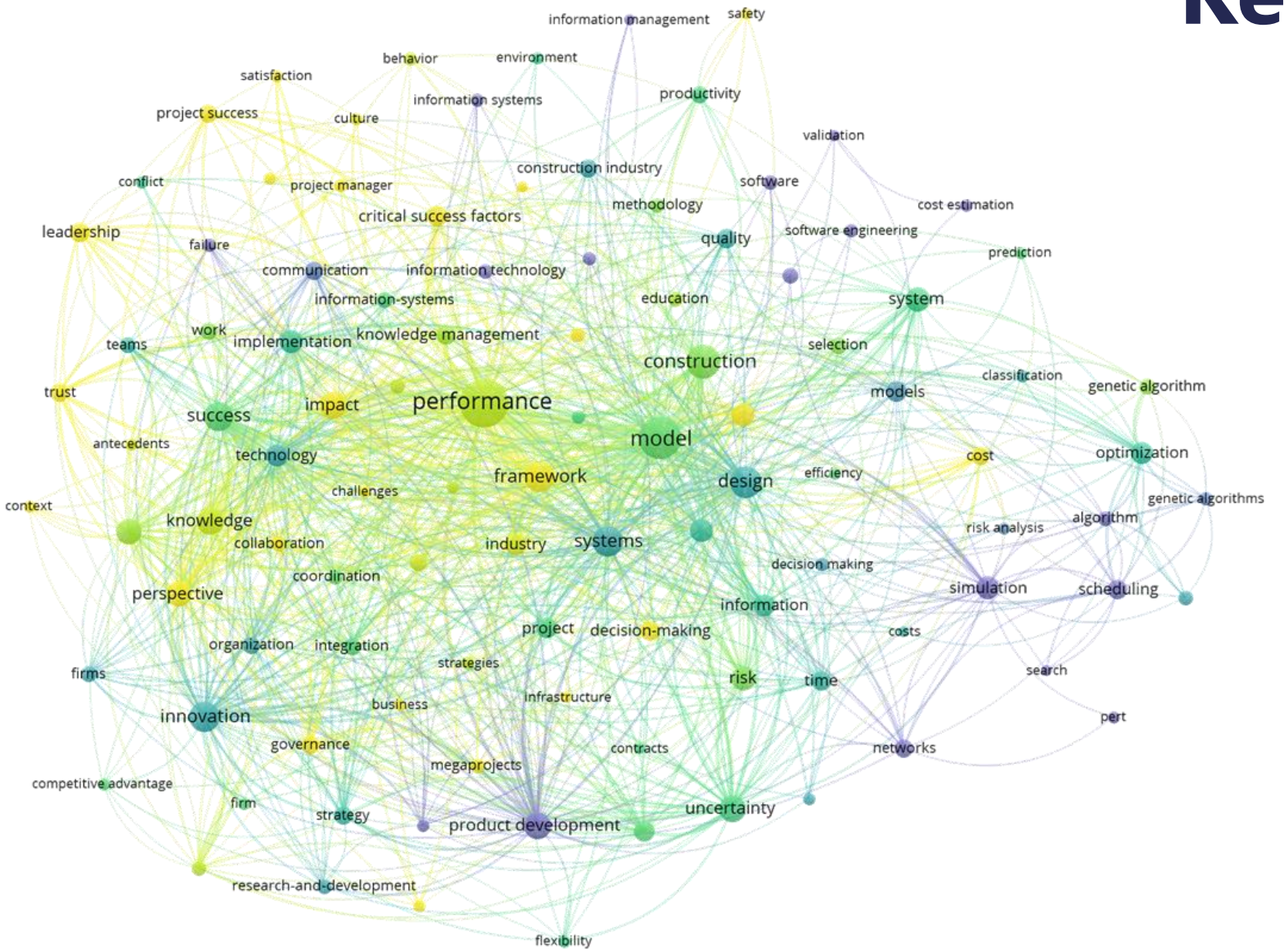
# Keywords

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# Keyword burstness

| Keywords | Year | Strength | Begin | End | 1990 - 2019 |
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| research and development | 1990 | 6.1289 | **2012** | 2013 |  |
| trust | 1990 | 5.1552 | **2013** | 2015 |  |
| knowledge | 1990 | 5.2449 | **2013** | 2014 |  |
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| productivity | 1990 | 8.642 | **2014** | 2015 |  |
| construction project | 1990 | 21.2834 | **2016** | 2019 |  |
| team | 1990 | 4.5212 | **2016** | 2017 |  |
| governance | 1990 | 17.945 | **2016** | 2019 |  |
| sustainability | 1990 | 18.6151 | **2016** | 2019 |  |
| megaproject | 1990 | 26.5997 | **2017** | 2019 |  |
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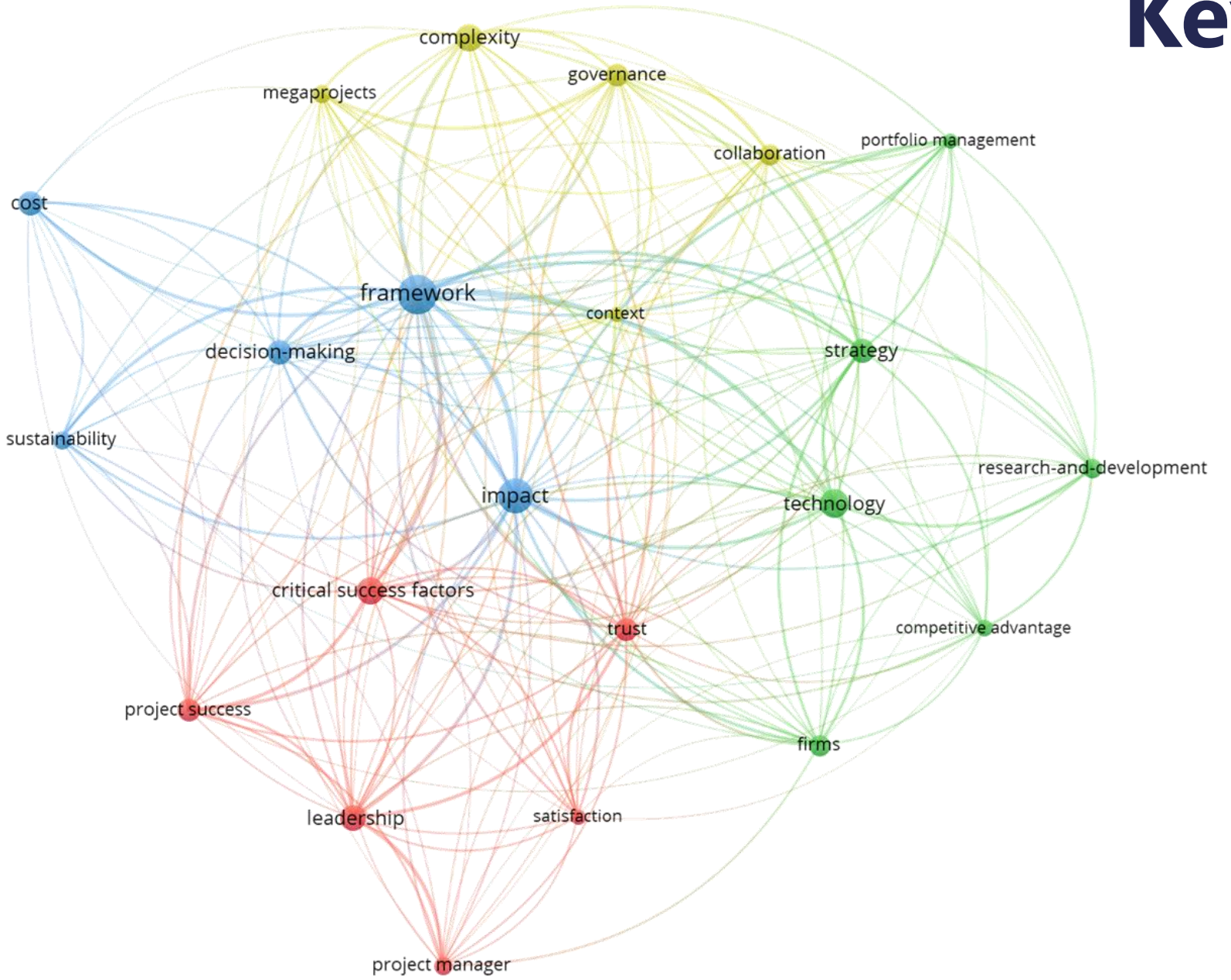
# Keywords

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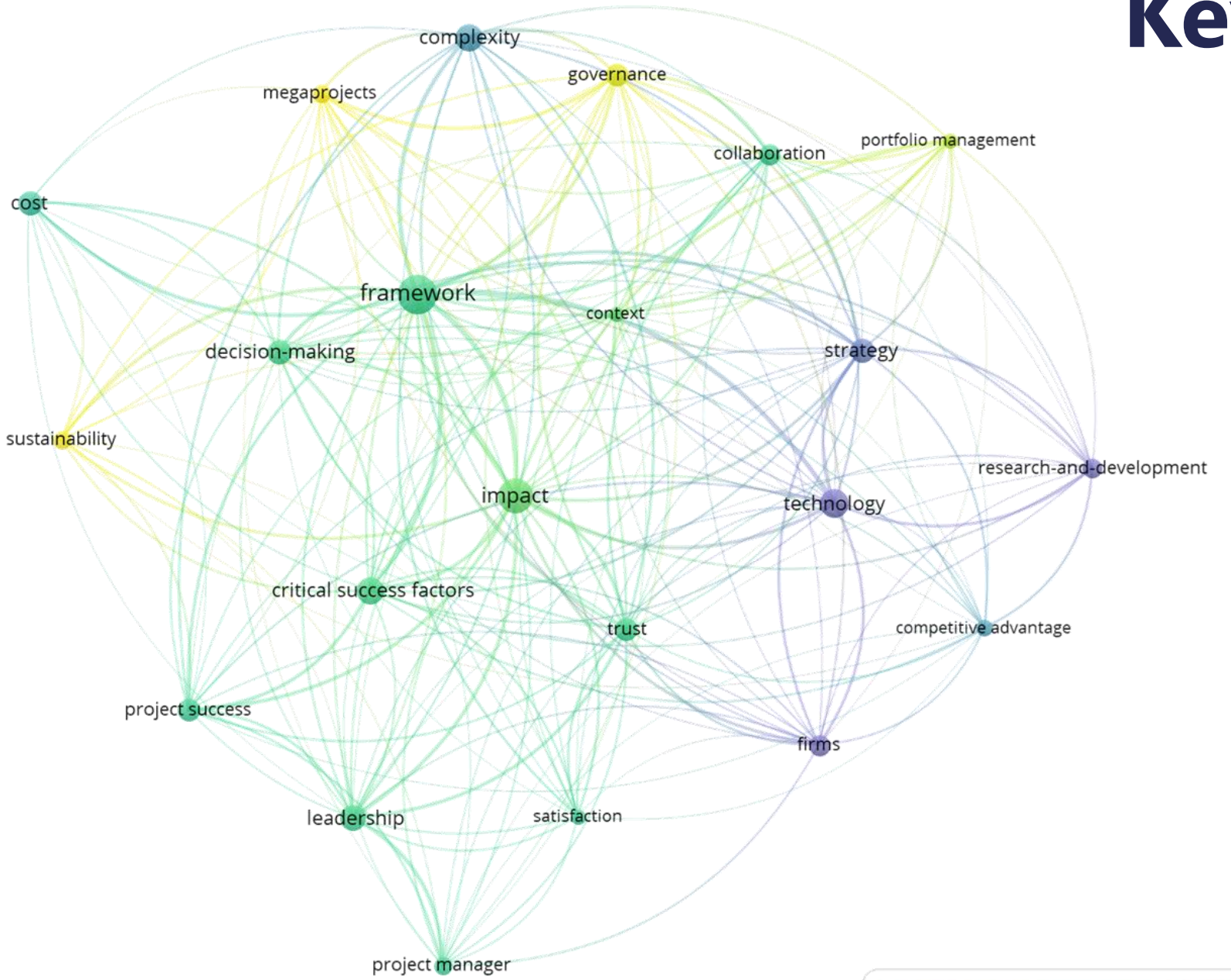


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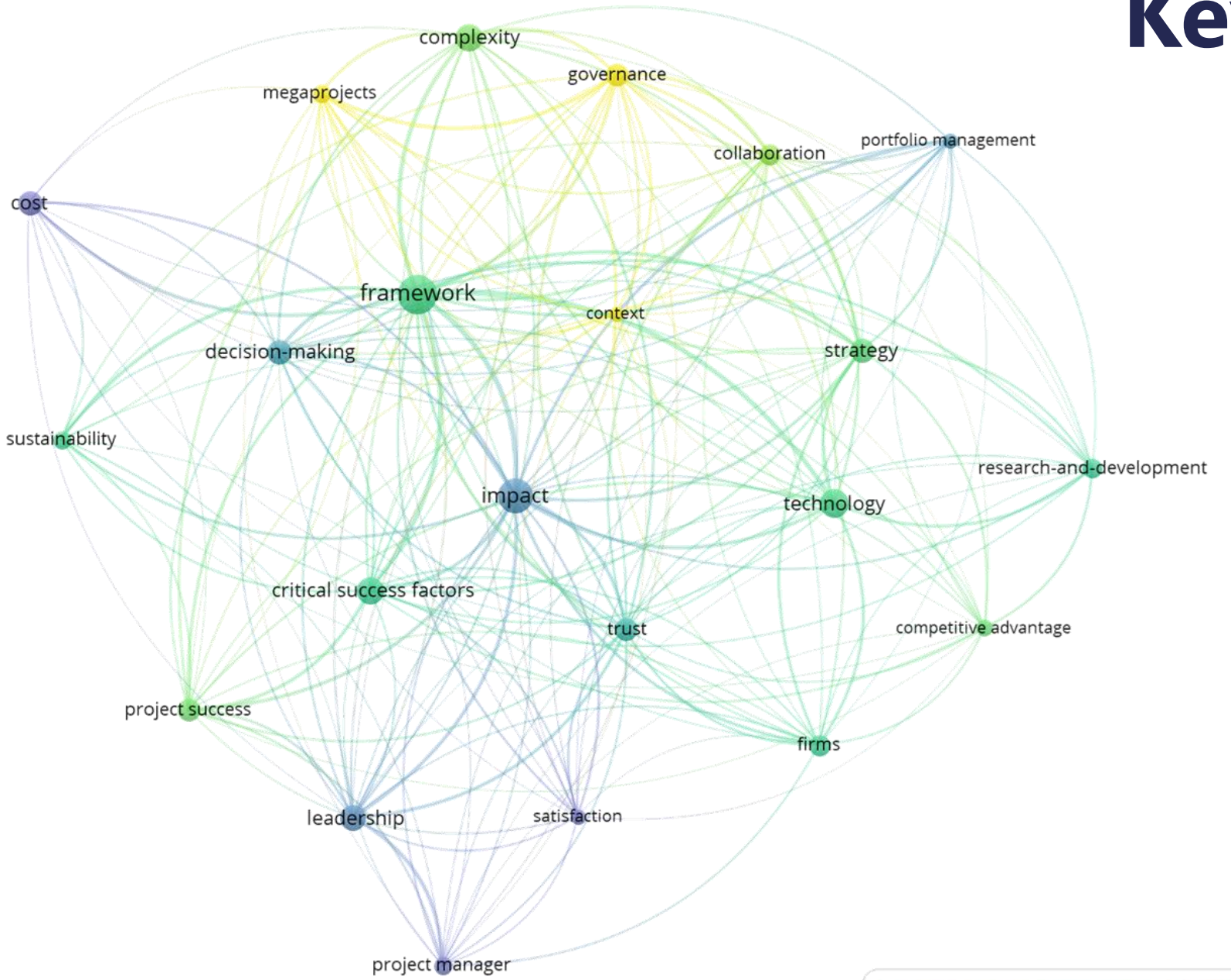


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# Bibliometric analysis: project management research field

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PhD Researcher

Escritório de Projetos do Exército

UnB