



## Concept Symposium 2016

# Governing the Front-End of Major Projects

### **Projectification, Innovative Capacity and Flexibility: Macro- and micro level perspectives.**



**Andreas Wald**  
Professor  
University of Agder  
Norway

The literature on project management generally assumes an increasing use of projects in all kind of organizations and industries. Although the prevalence of projects in many organizations seems to be evident, no quantification of the degree of projectification on the micro-level of companies but also on the macro-level of the entire economy exist. The quantitative dimension of projectification is complemented by a more qualitative dimension: The use of projects is supposed to make organizations less rigid, more flexible and more innovative.

In my talk I will provide empirical evidence for both, the qualitative and the quantitative dimension of projectification. In the first part, I present the results of a study that, for the very first time, tried to measure projectification on the level of individual organizations, the level of industries, and the level of the entire economy. This study was originally carried out in Germany and more recently replicated in Norway which allows for a comparison of the two countries. The results show that although being different in size and industry structure, in both countries more than 30% of work is carried out in projects and that there will be a further increase of the share of project work in the near future.

In the second part of my presentation I will focus on the qualitative dimension of projectification. I will develop and empirically test a model that includes the degree of projectification as explanatory variable and looks at its effects on the flexibility and innovative capacity of organizations. The findings suggest that the use of projects can in help organizations to flexibly adapt to changes in the environment and to develop innovations.

Keywords: project, projectification, flexibility, innovative capacity



# **Projectification, Innovative Capacity and Flexibility:**

## **Macro- and micro level perspectives**

*Andreas Wald*

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*“... firms in all types of industries are undertaking projects as a growing part of their operations...”* (Sydow et al., 2004: 1475)

*“While industries such as theatre and construction have a longstanding history of organizing on a temporary basis (...), more recently project-based organizing has become prevalent outside of these fields (...).”* (Bechky, 2006: 3)

*“... as projects have become a common form of work organization in all sectors of the economy during the last decades.”* (Packendorff/Lindgren, 2014: 7)

Example **Siemens** (as of 2010):

About 400,000 employees of which 73,000 are constantly working in projects

50% of turnover generated by projects

15,000 project managers leading about 40,000 projects per year

Source: Schloss, 2010

## Temporary Organization (TO)

### Definitions

*“ ... a set of diversely skilled people working together on a complex task over a limited period of time.”* (Goodman/Goodman, 1976).

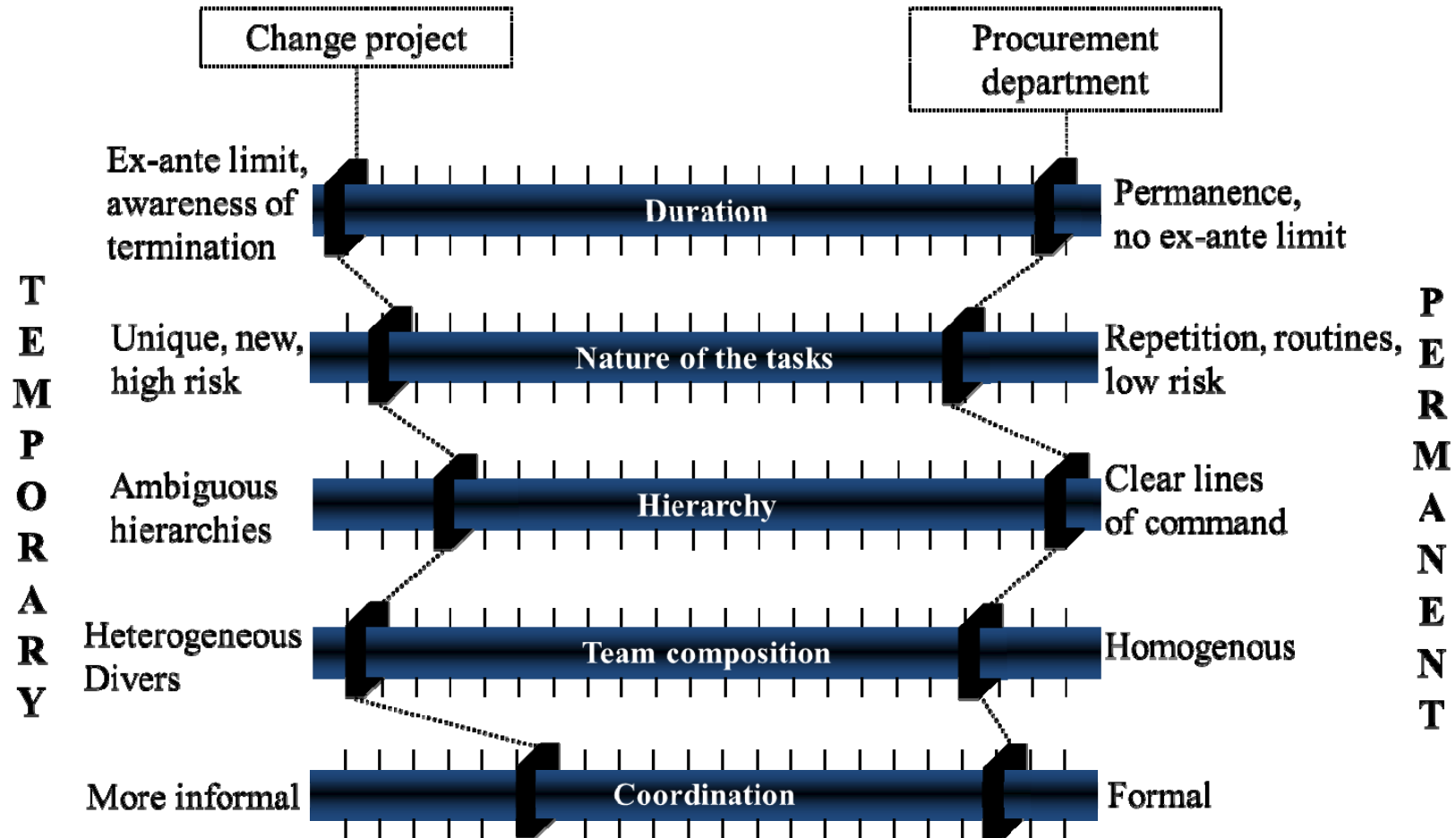
*“... a temporary organization, an aggregate of individuals temporarily enacting a common cause”* (Packendorff, 1995: 326).

### Prevalent manifestations of the TO

Projects, programs, temporary teams, *crews*, ...



# Projects as Temporary Organizations



## **Projectification**

### **Quantitative Dimension**

Increase in the share of project work in and organization/industry/economy

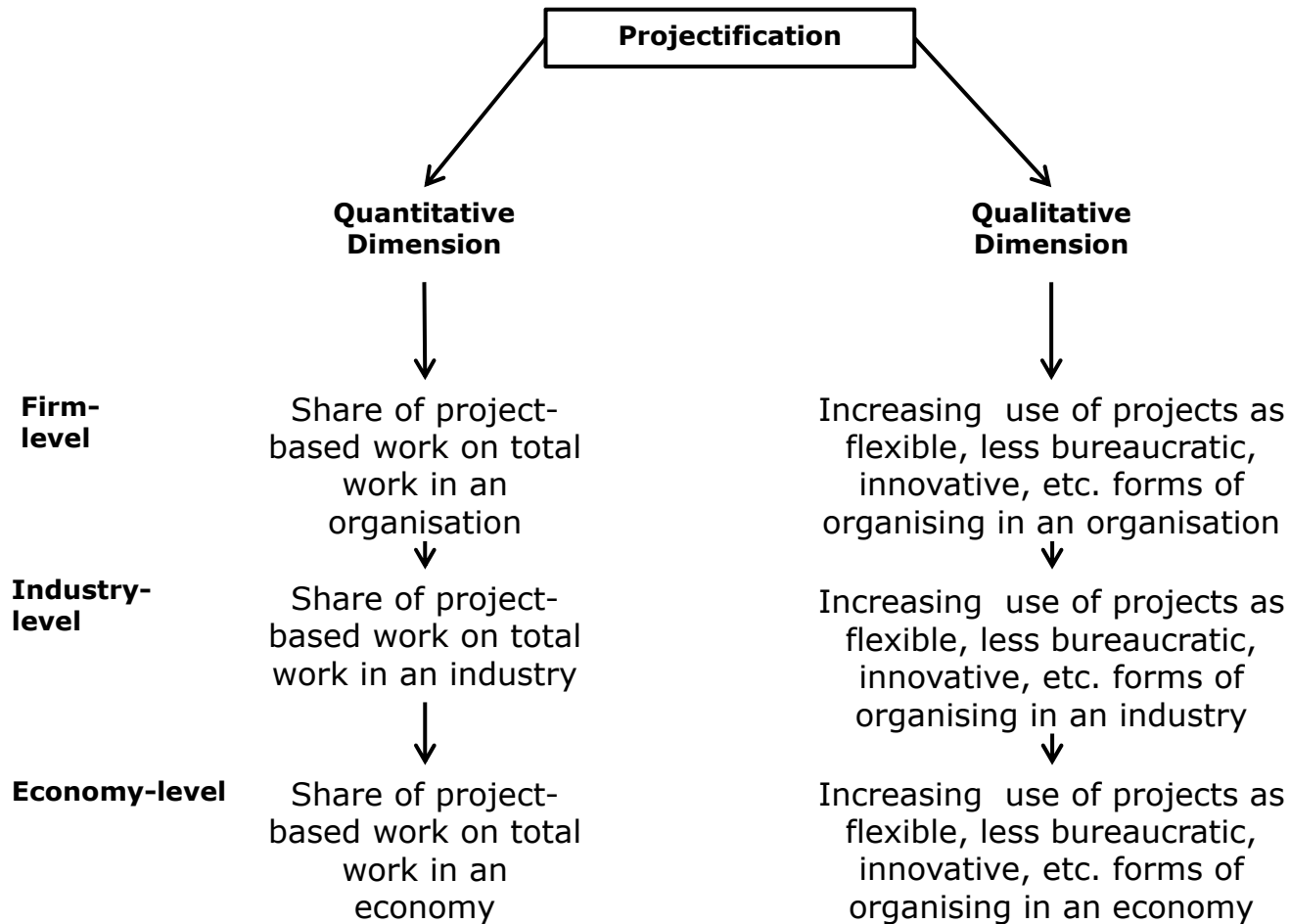
### **Qualitative Dimension**

Temporary organization as flexible, innovative, and complexity resistant form of organizing





# Projects as Temporary Organizations



Source: Wald et al., 2015: 20



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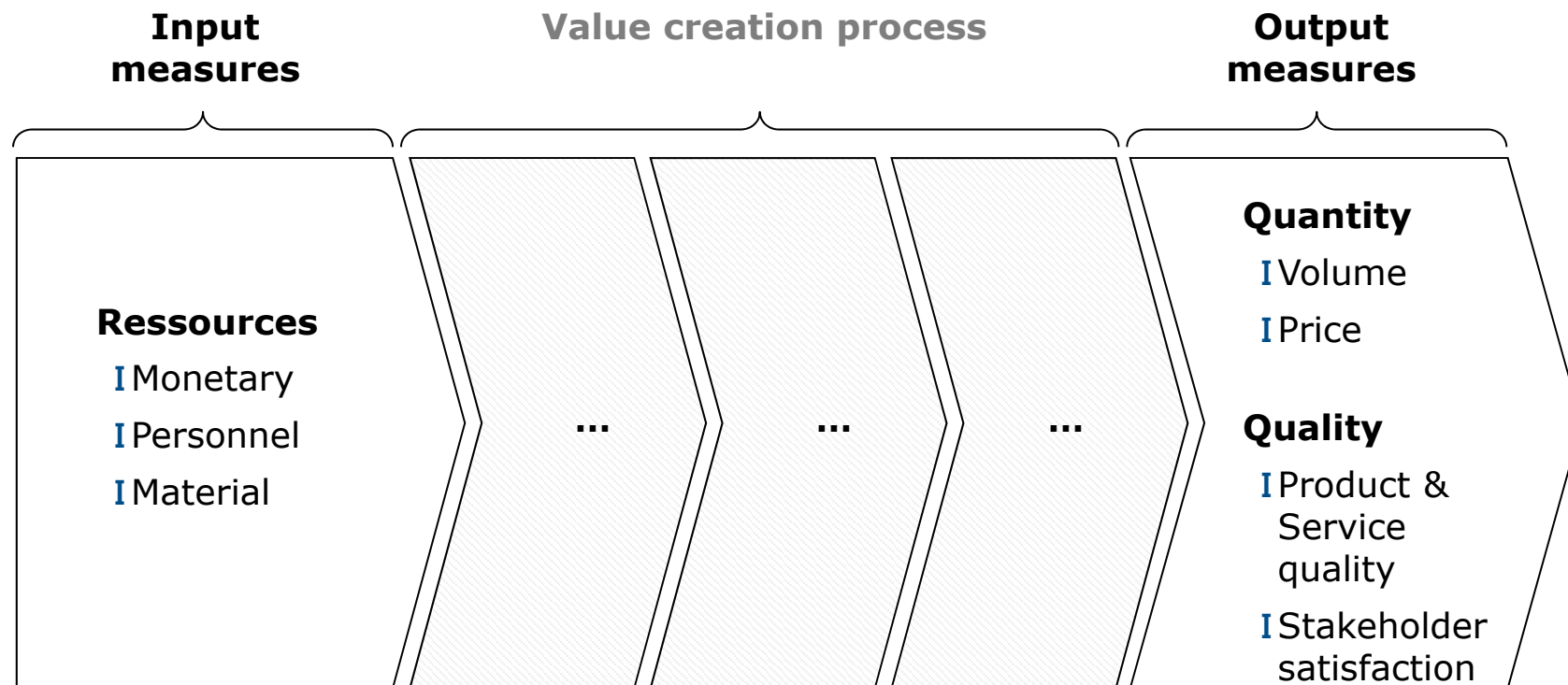
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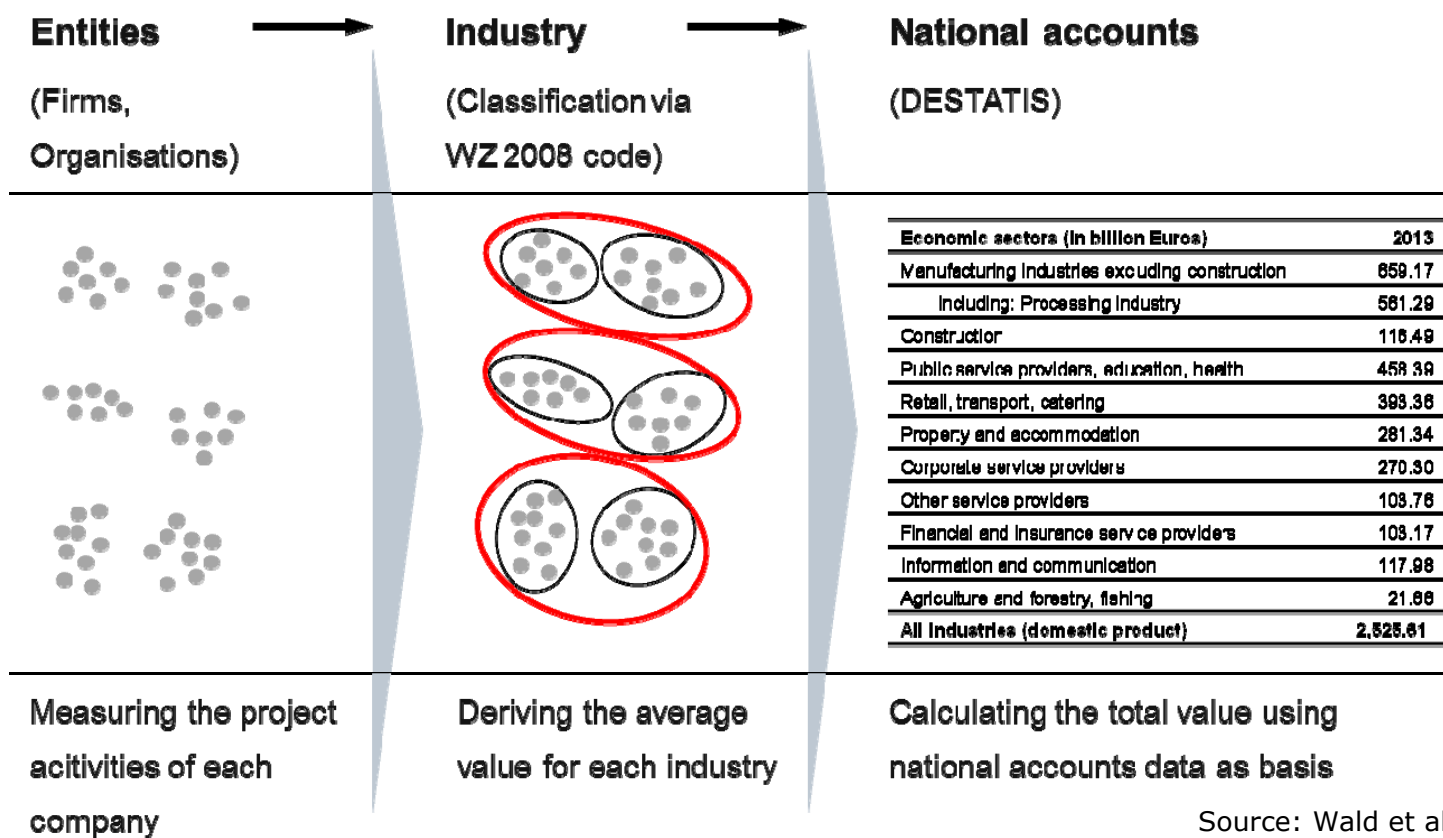
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## Input- vs. output-based measures



Source: Wald et al., 2015:23

## Extrapolating from the company-level to the industry- and economy-level



Source: Wald et al., 2015: 26

**Project definition:** A project is an undertaking largely characterized by the uniqueness of the conditions in their entirety, i. e.

- A specific target has been defined for the project.
- The project is limited in terms of time (start and end).
- The project requires specific resources (e. g. financial, staff, ...).
- An independent process organization exists, which is defined as different from the standard organization in the company.
- The projects work on non-routine tasks.
- The project has a minimum duration of four weeks.
- The project has at least three participants.



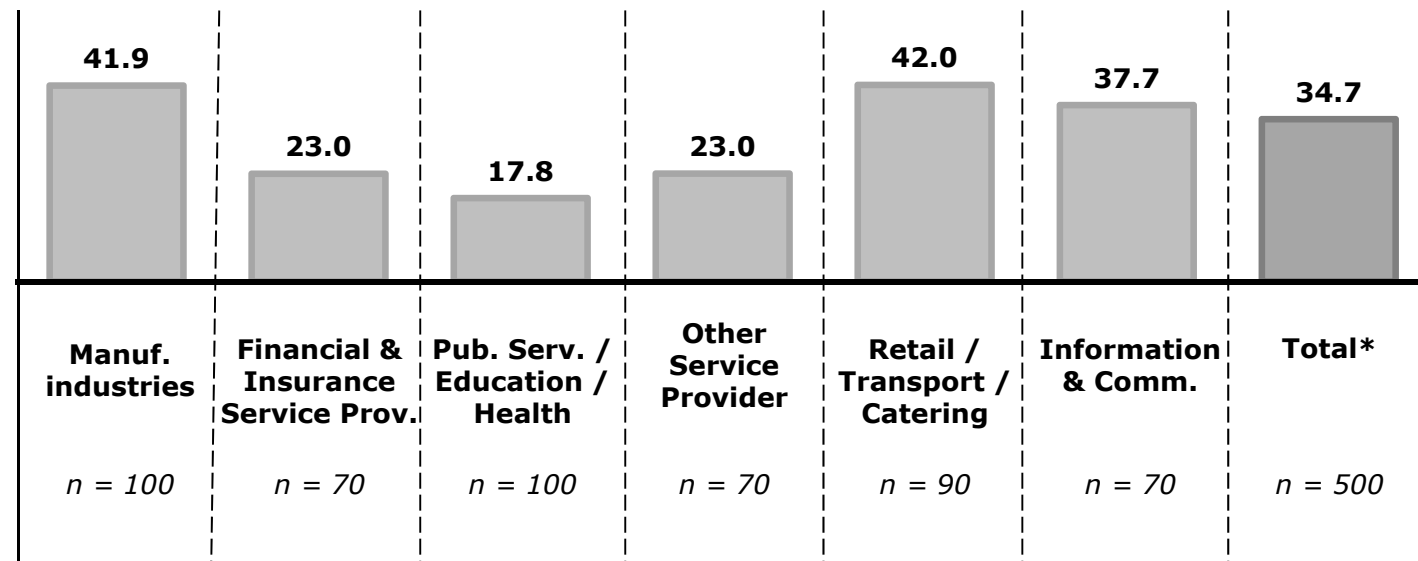
# Measuring projectification

[in %]	Internal Projects					External Projects
	Organisational / HR Projects	IT Projects	R&D / New Product Development Projects	Marketing / Sales Projects	Infrastructure Projects	Commissioned Projects
Manufacturing industries <i>n</i> = 100	12	14	22	14	12	25
<b>Fin. &amp; Insurance Serv. Provider</b> <i>n</i> = 70	<b>18</b>	<b>25</b>	<b>9</b>	<b>24</b>	<b>13</b>	<b>12</b>
Pub. Serv. / Educ. / Health <i>n</i> = 100	20	24	10	15	19	12
<b>Other Service Provider</b> <i>n</i> = 70	<b>20</b>	<b>18</b>	<b>11</b>	<b>33</b>	<b>10</b>	<b>9</b>
Retail / Transport / Catering <i>n</i> = 90	18	16	12	22	15	17
<b>Information &amp; Communication</b> <i>n</i> = 70	<b>12</b>	<b>23</b>	<b>13</b>	<b>21</b>	<b>11</b>	<b>20</b>
Total <i>n</i> = 500	17	20	13	20	14	16

Source: Wald et al., 2015: 31

## Projectification of the German Economy in 2013

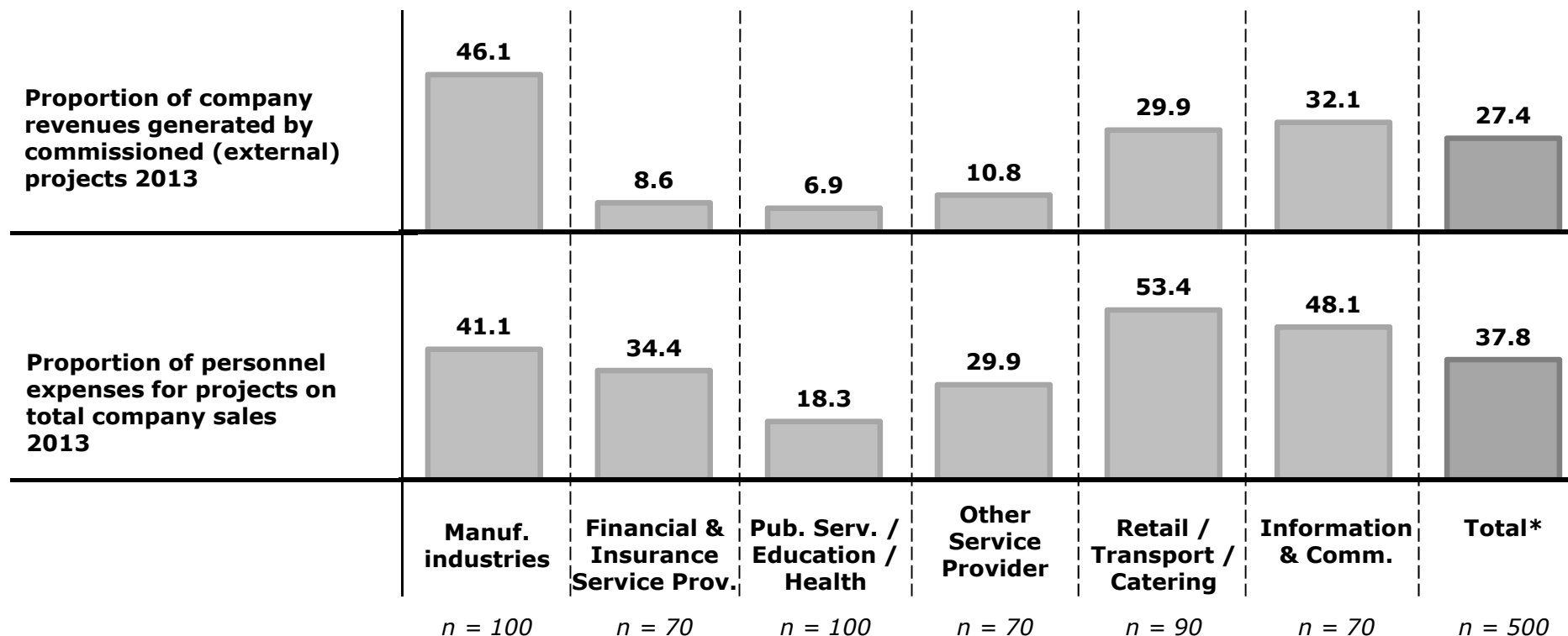
Proportion of project work in the total working time 2013



\* Total weighted by the proportion of industries in the gross value added.

Source: Wald et al., 2015: 29

## Projectification of the German Economy in 2013



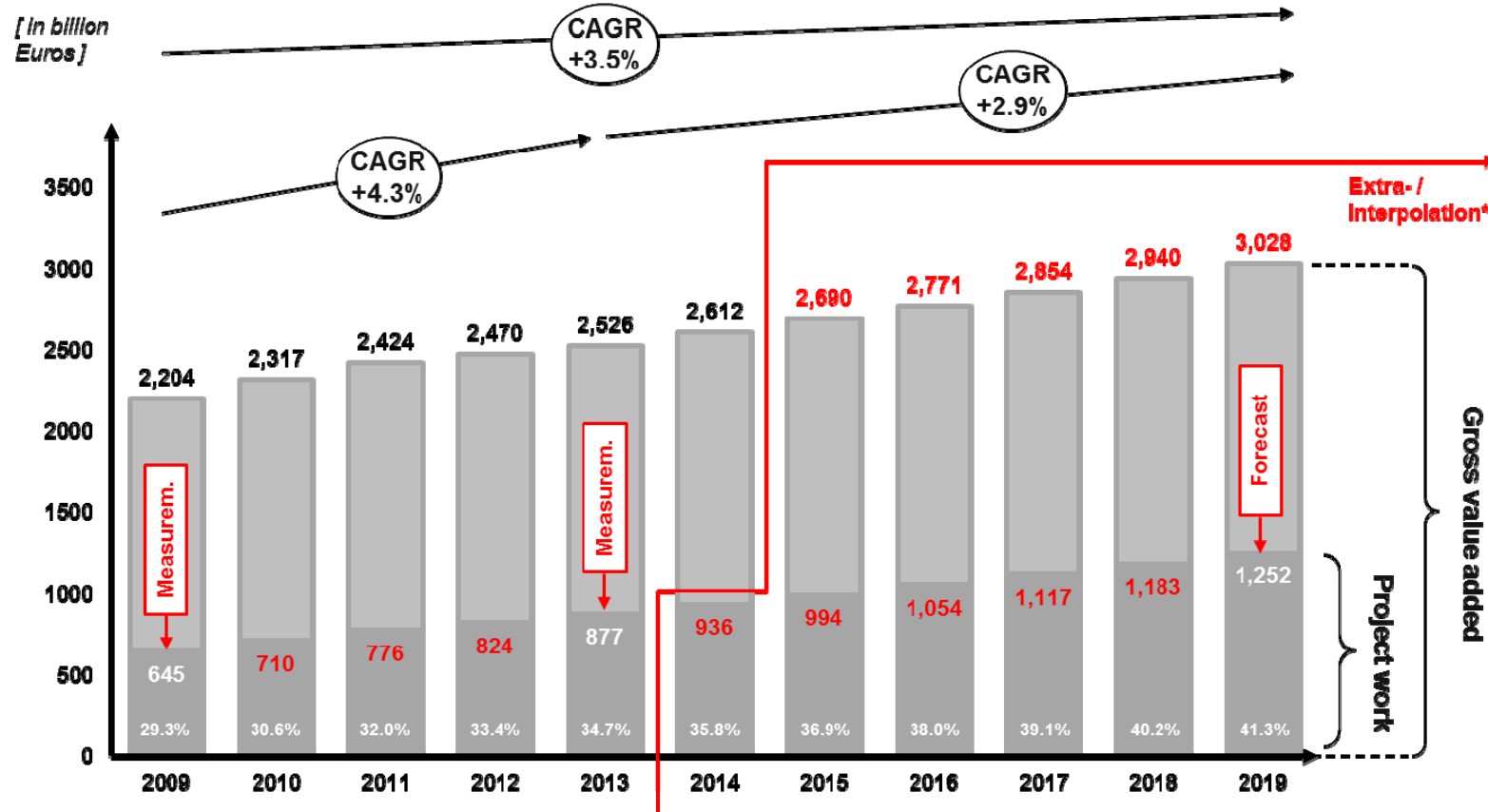
In % of total sales

\* The totals were weighted by the proportion of industries in the gross value added.





# Measuring projectification



n = 500; CAGR = compound annual growth rate

Source: Wald et al., 2016: 31

## Projectification in Norway

NACE Code	Sector	Germany		Norway	
		Share of project work 2013	Share on GVA 2013*	Share of project work 2014	Share on GVA 2014**
A	Agriculture, forestry and fishing	4.0 %	0.9 %	28.6 %	1.7 %
B-E	Manufacturing industry (excluding construction)	41.9 %	26.1 %	47.2 %	32.6 %
	of which manufacturing	-	-	37.6 %	8.8 %
	oil and gas activity	-	-	50.7 %	23.9 %
F	Construction	80.0 %	4.6 %	-	-
G-I	Retail / transport / hospitality / tourism	42.0 %	15.6 %	13.4 %	13.9 %
J	Information and communication	37.7 %	4.7 %	48.0 %	3.8 %
K	Financial services & insurance	23.0 %	4.1 %	21.4 %	5.1 %
L	Real estate	2.0 %	11.1 %	-	-
M-N	Corporate service providers	60.0 %	10.7 %	-	-
O-Q	Public sector, education, health	17.8 %	18.1 %	14.2 %	22.0 %
S	Other service providers	23.0 %	4.1 %	-	-
S + F + L + M-N	Other service providers + construction + real estate + corporate service providers	-	-	40.5 %	20.9 %
	<b>Total ***</b>	<b>34.7 %</b>	<b>100.00 %</b>	<b>32,6%</b>	<b>100.00 %</b>

\*\*\* Total weighted by the proportion of industries in the gross value added.

Source: Wald et al., 2016 17



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Dynamic capabilities (**DCs**) of an organization refer to its “*ability to integrate and renew existing competences as circumstances may change*” (Teece et al., 1997: 516).

Existing research: Effects of DCs on several dimensions of performance (Teece et al., 1997; Eisenhardt/Martin, 2000; Zott, 2003; Zahra et al., 2006).

Organizational antecedents of DCs so far only insufficiently (empirically) investigated (Barreto, 2010; Helfat et al., 2007; Reilly/Sharkey Scott, 2010; Eriksson, 2014; von den Driesch et al., 2015).

## Two dimensions of dynamic capabilities

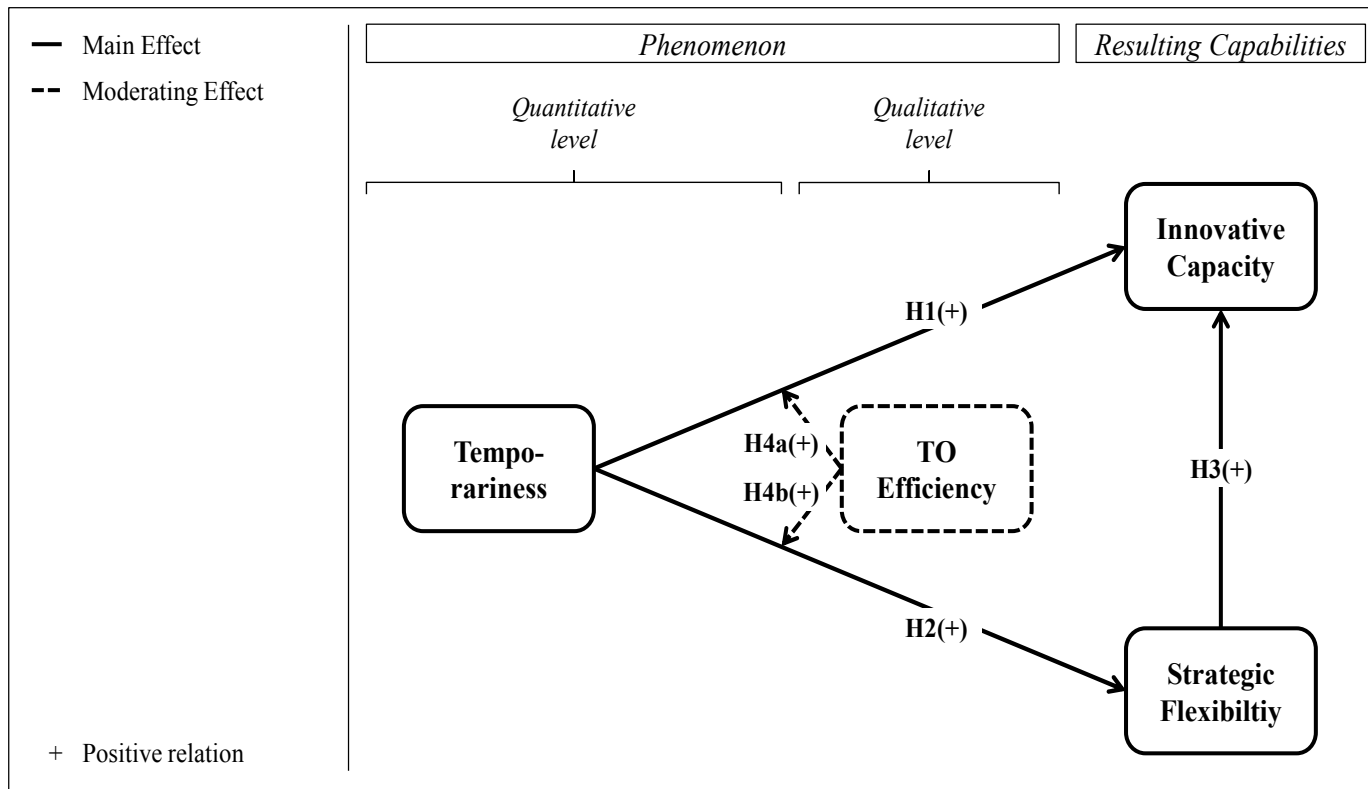
1. **Innovative capacity:** An organization's capability to develop, produce and market new products and services successfully (Hurley/Hult, 1998; Koc/Ceylan 2007; Sammerl et al., 2008).
2. **Strategic flexibility:** An organization's ability to react and make use of internal or external changes (Sanchez, 1995 & 1997; Combe/Greenley, 2004)

## Guiding hypothesis

**Temporary organizations (TOs)** are especially suitable for rapidly identifying market-related opportunities and threats, making timely decisions and, when needed, reconfiguring existing competences/assets (Lundin/Söderholm, 1998; Aubry/Lenfle, 2012; Packendorff/Lindgren, 2014; Wald et al., 2015).

H: Temporary organizing increases dynamic capabilities

## Research model



Source: Spanuth/Heidenreich/Wald, 2016



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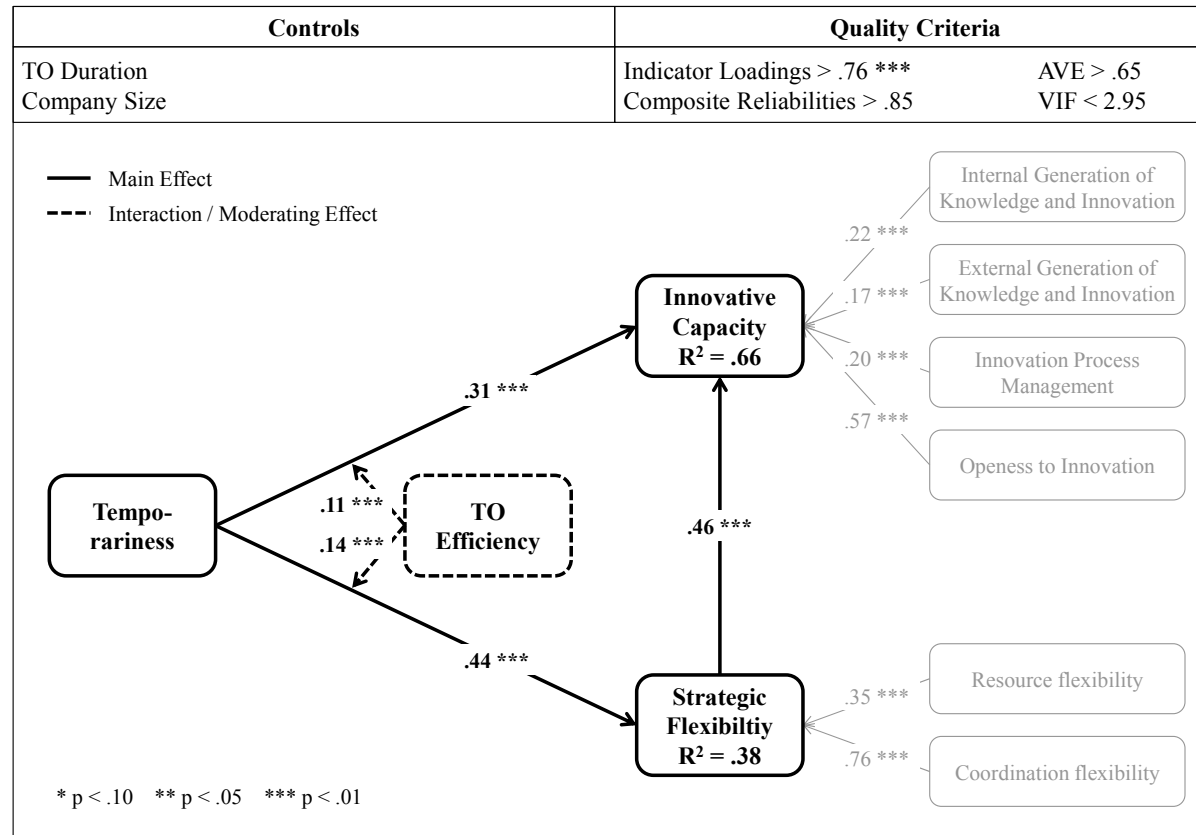
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## Results



Source: Spanuth/Heidenreich/Wald, 2016

## **Main findings:**

Empirical support for the hypothesized positive effects of temporariness on an organization's innovative capacity and strategic flexibility.

The innovation process in firms benefits from the installation of project-based organizational forms.

An organization's strategic flexibility positively affects its innovative capacity.



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## **Macro-level effects of projectification**

Input-Output-Modeling - inter-sector relations

Effects on productivity

Effects on employment

Income effects



## **Projectification, Innovative Capacity and Flexibility:**

### **Macro- and micro level perspectives**

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