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# Institutional Arrangements and Competitive Posture - Effects of Company Structures in the Commercial Printing Industry

Doctoral Dissertation in Media Technology and Graphic Arts

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# Background

- The printing industry
  - » A fragmented industry with many privately owned small and medium sized companies  
(e.g. Gilboa, 2002; Intergraf, 2007; Kipphan, 2001)
  - » Technological development is rapid
  - » Printing capacity has been overbuilt  
(e.g. Birkenshaw, 2004; Smyth, 2006)
  - » Competition is strong and mostly based on price  
(e.g. Birkenshaw, 2004; Smyth, 2006)
  - » Print is regarded as a commodity product



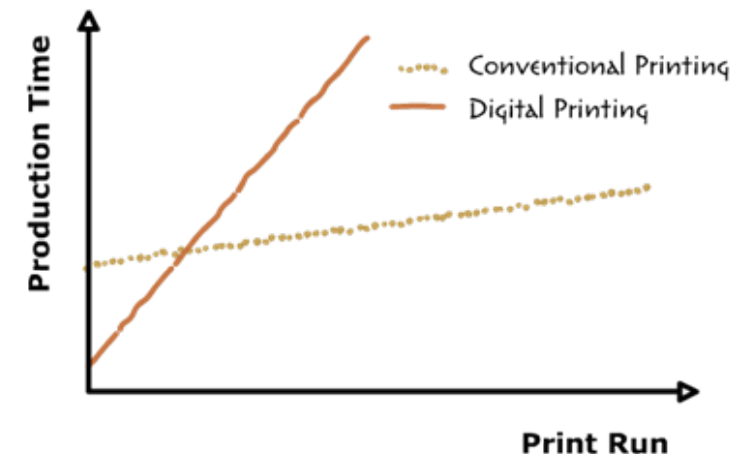
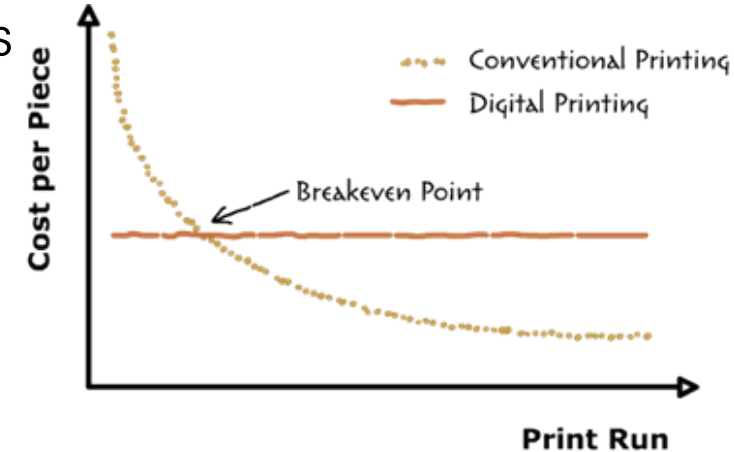
# Background

- What is digital printing?
  - » Digital printing technologies are *“printing technologies that do not require a solid printing plate (master) with a fixed image and that can basically produce successive pages with different printed images”*  
(Kipphan, 2001, p. 677)
  - » Main techniques are laser (electrophotography) and inkjet



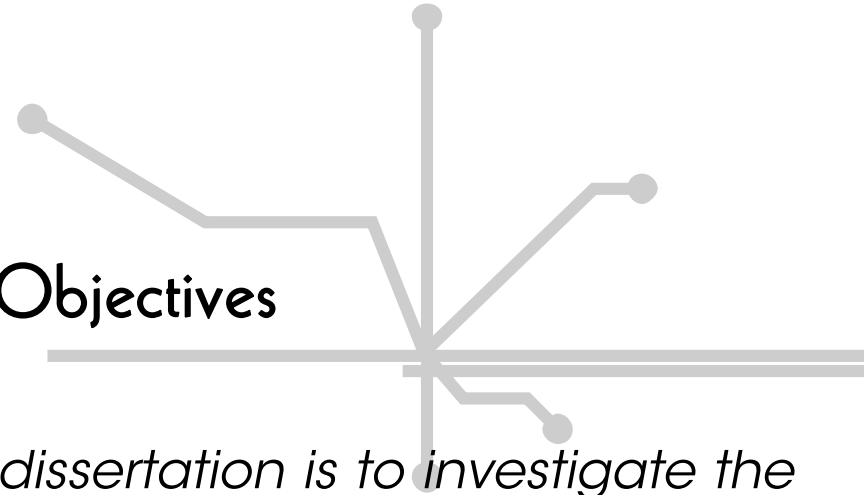
# Background

- Pros with digital printing?
  - » Possibilities to print documents with variable content in a print run
  - » Cost efficiency in short production runs
  - » Distributed printing
- Cons with digital printing?
  - » Higher variable cost than with conventional printing technologies
  - » Lower printing speed than with conventional printing technologies





## Research Objectives

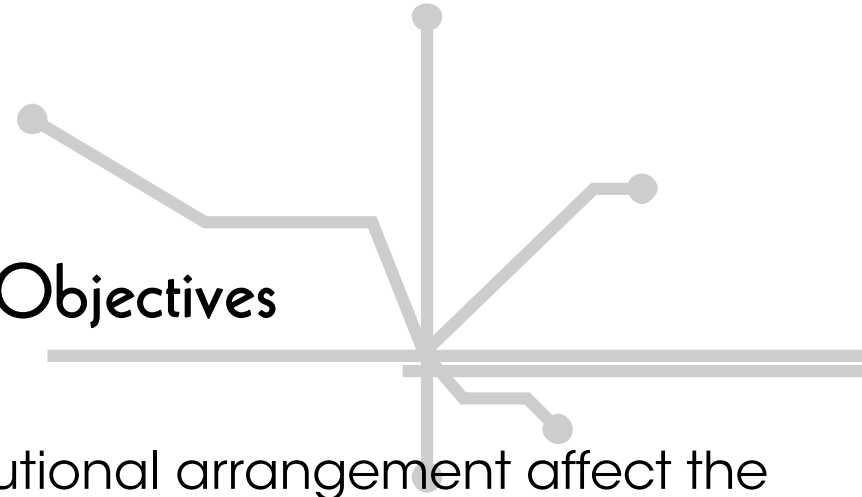


*The research objective of this dissertation is to investigate the impact of institutional arrangements, with respect to vertical integration and cooperation, on competitive advantages within the commercial printing industry.*

*Furthermore, this study aims to investigate how different institutional arrangements affect the success of introducing a new production technology, digital printing, in a fragmented, mature and highly competitive industry.*



## Research Objectives



- How can the choice of institutional arrangement affect the success of introducing a new production technology?
- How do different institutional arrangements affect the competitive advantage of a company when working with new production technology?
- How do different institutional arrangements affect resource flexibility?

# Included Papers

## Paper I

Mejtoft, T. (2006). *Strategies for Successful Digital Printing*. Journal of Media Business Studies, Vol. 3, No. 1, pp. 53-74.

## Paper II

Mejtoft, T. (2006). *Perceived Satisfaction by Customers in the Digital Printing Value System*. TAGA 2006 Proceedings, pp. 486-511.

## Paper III

Mejtoft, T. (2007). *Creation of Customer Value Using Digital Printing in a Dynamic Business Environment*. TAGA Journal, Vol. 3, No. 3, pp. 128-143.



# Included Papers

## Paper IV

Mejtoft, T., & Nordin, Å. (2007). *Strategic Alliances in the Digital Printing Industry*. TAGA 2007 Proceedings, pp. 38-62.

## Paper V

Mejtoft, T., & Viström, M. (2007). *Positioning in the Printing Industry – Differentiation in Terms of Price, Lead Time, Print Quality and Flexibility*. In N. Enlund, & M. Lovreček (Eds.), *Advances in Printing and Media Technology, Vol. 34* (pp. 327-336). Acta Graphica Publishers.

## Paper VI

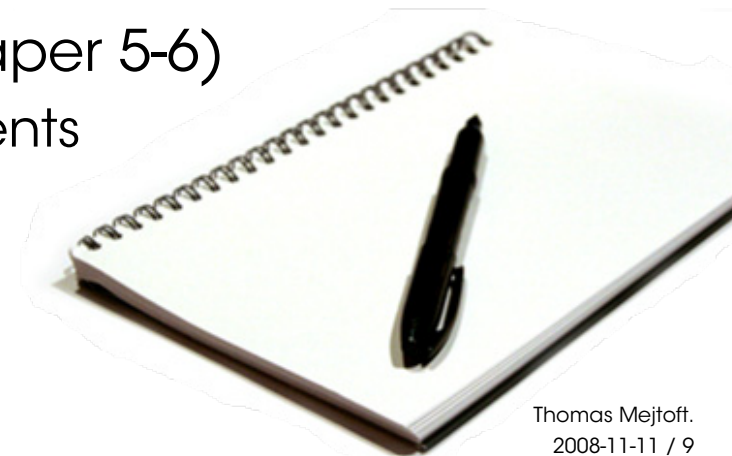
Mejtoft, T., & Viström, M. (2008). *Vertical Integration and Profitability: Experiences from the Commercial Printing Industry*. Submitted for publication.





# Methodology

- Four qualitative case studies
  - » Paper 1: Printing houses (~10-50 employees)
  - » Paper 2: Customers to printing houses (advertising agencies & direct customers)
  - » Paper 3: Relationship between a customer and a printing house
  - » Paper 4: Two cases regarding cooperation in the printing industry
- A quantitative survey study (Paper 5-6)
  - » Random selection of respondents
  - » 136 responding companies (response rate: 54%)



# Theoretical Framework

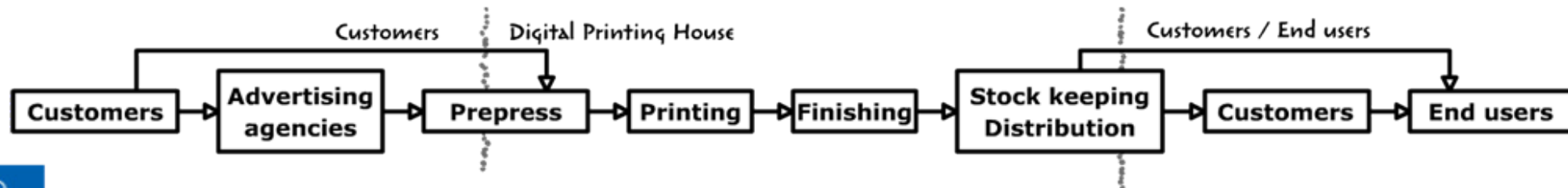
- Industry value system  
(e.g. Porter, 1985)
- Competitive strategy  
(e.g. Porter, 1980)
- Dynamic competition  
(e.g. D'Aveni, 1994 ; Schumpeter, 1942; Wernerfelt, 1984)
- Transaction costs  
(e.g. Coase, 1937; Williamsson, 1971; 1975)
- Vertical integration  
(e.g. Adelman, 1949; Harrigan, 1983; Perry, 1989)
- Cooperation  
(e.g. Faulkner, 1995; Jarillo, 1988; Gulati et al., 2000)



# Results

# Vertical Integration and Competitive Advantages

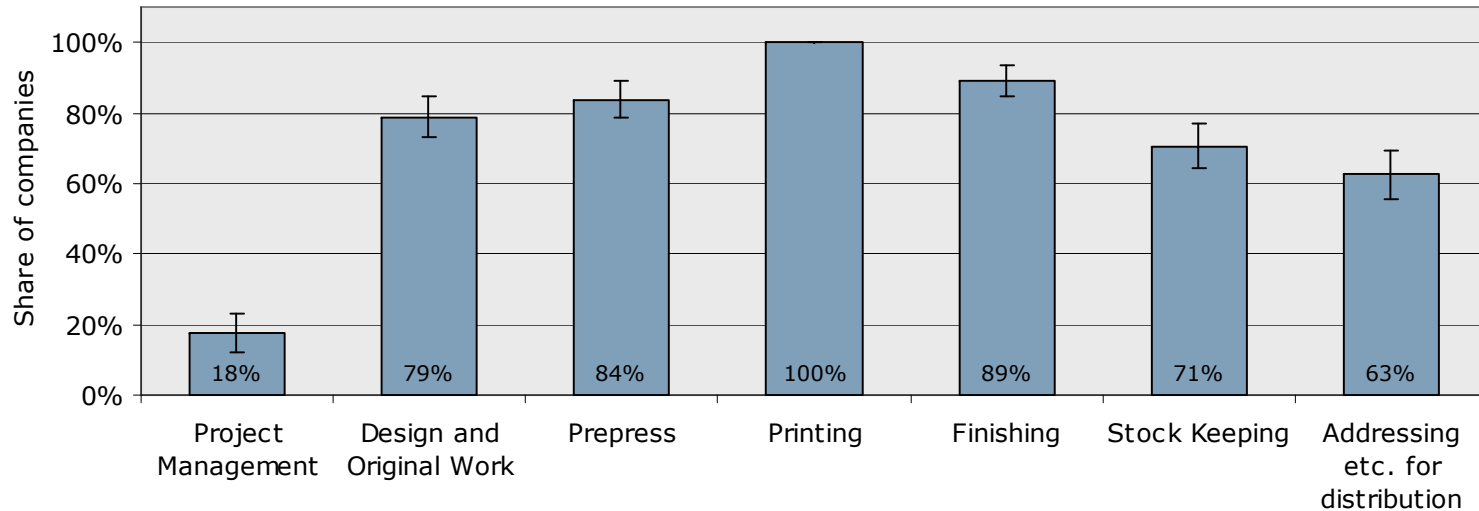
- Vertical integration became a way of overcoming the initial problems when introducing digital printing
  - » Backward integration to ensure input suitable for digital printing and increase the share of direct customers
  - » Forward integration to ensure the business with fast deliveries
- It is important to offer full service solutions to customers



# Vertical Integration and Competitive Advantages

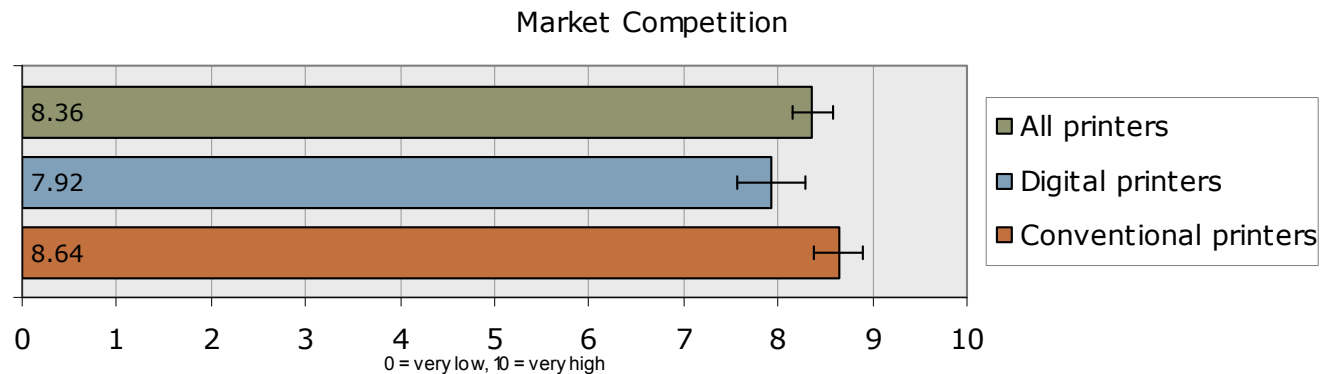
- Level of Integration

- » The number of integrated activities in the value chain is high
- » No significant difference between digital printing houses and conventional printing houses

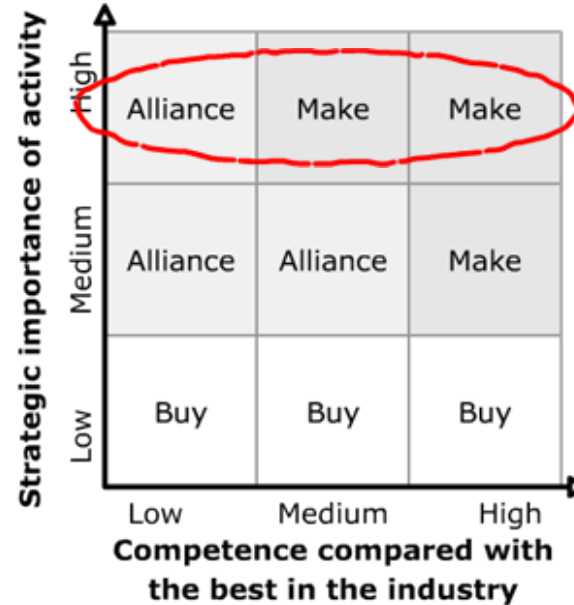


# Vertical Integration and Competitive Advantages

- High competition should favor market transactions and cooperation and make vertical integration less common (e.g. Balakrishnan & Wernerfelt, 1986; Eisenhardt & Schoonhoven, 1996; Harrigan, 1985)



# Vertical Integration and Competitive Advantages



# Vertical Integration and Profitability

- The overall profit margin was, on average, 3.2% during 2003-2006
- No correlation between the level of vertical integration and profitability key figures
- No correlation between the use of digital printing in production and profitability key figures



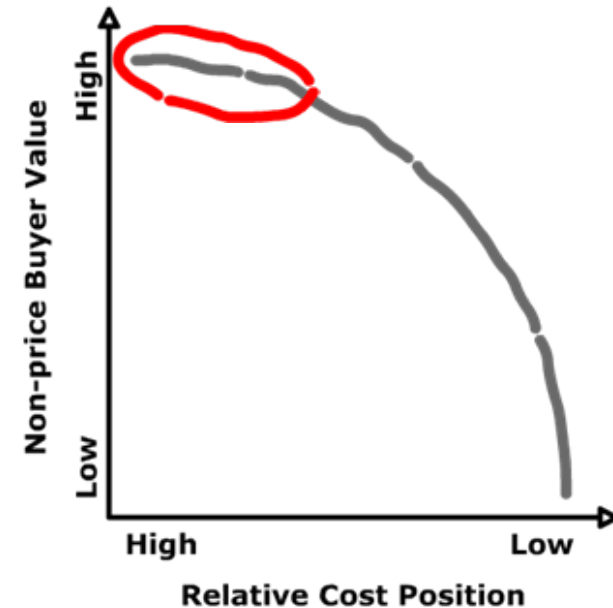


# Cooperation and Resource Flexibility

- To avoid expensive investments and potential lock-in to production equipment, cooperation is used in the printing industry
  - » Cooperation to complement the line of production and services with complementary resources
  - » Cooperation to add resources that extend capacity when needed
- Cooperation and alliances increase the flexibility in production

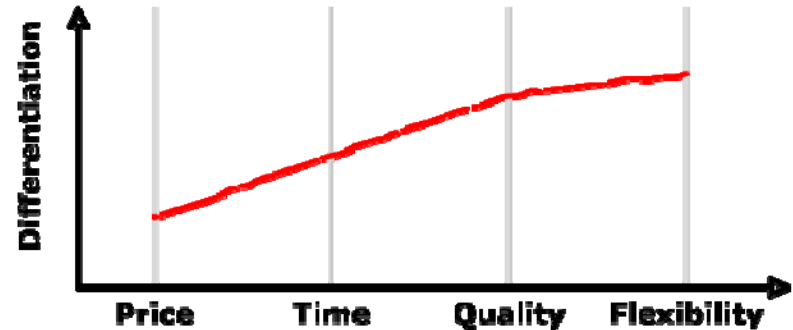
# Some Implications for the Printing Industry

- Value added services
  - » Customers perceive that they get a high value by contracting printing houses offering full service solutions
  - » Working with digital printing makes it necessary to focus on value added service to avoid price competition
  - » Combination of print and other channels, such as electronic publishing, is important
- Working close to customers
  - » Working close to customers makes it possible to take advantage of the customers experience and create services that customers appreciate



# Some Implications for the Printing Industry

- High Flexibility
  - » Printing houses have positioning themselves for a high flexibility with a trade-off of having higher prices
- Dynamic competition
  - » Some companies try to move from a focus on cost and quality to a focus on know-how and providing flexible solutions
  - » Focusing outside the traditional printing industry by offering competing services to print (e.g. electronic channels) may be important to gain and maintain customer contact



# Some Implications for the Printing Industry

- Electronic publication and digital printing are complements
  - » Digital printing is an easy way of getting tangible copies of electronically produced, stored and distributed material



# Acknowledgements

- Research carried out at *STFI-Packforsk* in Örnsköldsvik
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Thank You for Your Attention!

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