

Enabling Digital Transformation: An Analysis Framework

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Agenda

- Context – Relevance of Digital Transformation
- Hypotheses
- Methodology
- Results
- Conclusions

Evolve Or Die: Why Digital Transformation Is More Important Than Ever

MIKE BAINBRIDGE JUN 5 f t p s+ in



CEOs' priorities 'shifting to embrace digital transformation'

Growth, IT and workforce issues continue to top chief execs' concerns – Gartner.

James Hayes | 2nd May 18

Digital Inclusion | Impact & Efficiency



CEOs choice – transform now, or be left behind



Why digital transformation spending will reach \$1.1 trillion – and what happens from here

By David H Deans
15 June 2018, 10:10 a.m. comment

Categories

Adoption, CIO, Infrastructure, Research



Digital transformation: Why it's important to your organization

Digital technologies – are changing the face of business. And this change is accelerating and faster than the pace of transformation in organizations.



Issac thomas, Contributor

Writer, Speaker, Blogger, Poet, Content writer, Believer of Christ, Lover of life

Digital transformation- It's real and it's happening

11/30/2017 04:13 am ET



Why well-known digital transformation plans fail

By Prasanna Kulkarni April 25, 2018 Features

Yet well-known organisations like BBC, Lego, Nike and many others have found digital transformation as a challenging transformation.



BUSINESS MODELS

Why So Many High-Profile Digital Transformations Fail

by Thomas H. Davenport and George Westerman

MARCH 09, 2018

SAVE SHARE H \$8.95



THE FUTURE OF WORK

The Failure of GE's Digital Transformation



General Electric's New Turnaround Plan

It focuses on 3 key units: Aviation, power, and health...



Most Digital Transformations Fail -- Here Is Why, According to Experts

Many lack the core knowledge needed for business transformation.

By Brian de Haaff Co-founder and CEO, Aha! [@bdehaaff](#)



Digital Transformation - Failure

Why have some
companies not
achieved the
expected outcomes?



Context – Lack of academic literature on DT

Literature on DT from the organisational change perspective

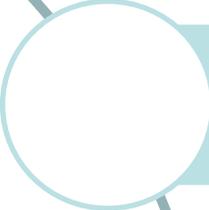


Limited number of studies – e.g.
Holotiuk and Beimborn (2017)
Parviainen et al. (2017); Loonan
et al. (2018)

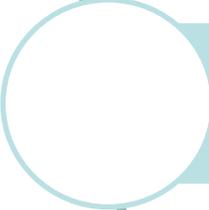
Consultancy Reports



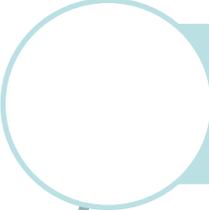
Call for more research on DT



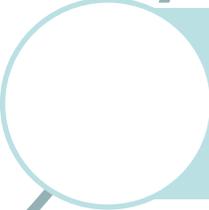
It is critical to understand **how organisations manage** their digital transformation (Liu et al., 2011)



It is necessary to understand the **organisational aspects** involved in digital transformation (Hess et al., 2017)



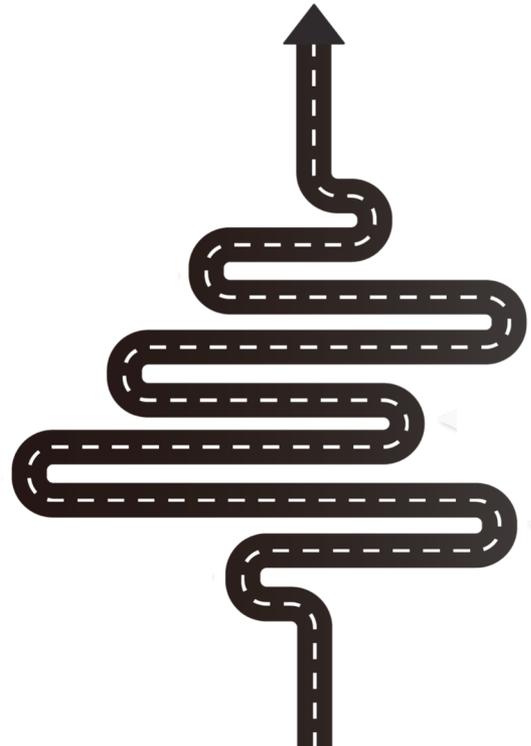
Empirical understanding of **how organisations implement digital transformation** initiatives remains scarce (Loonan et al., 2018)



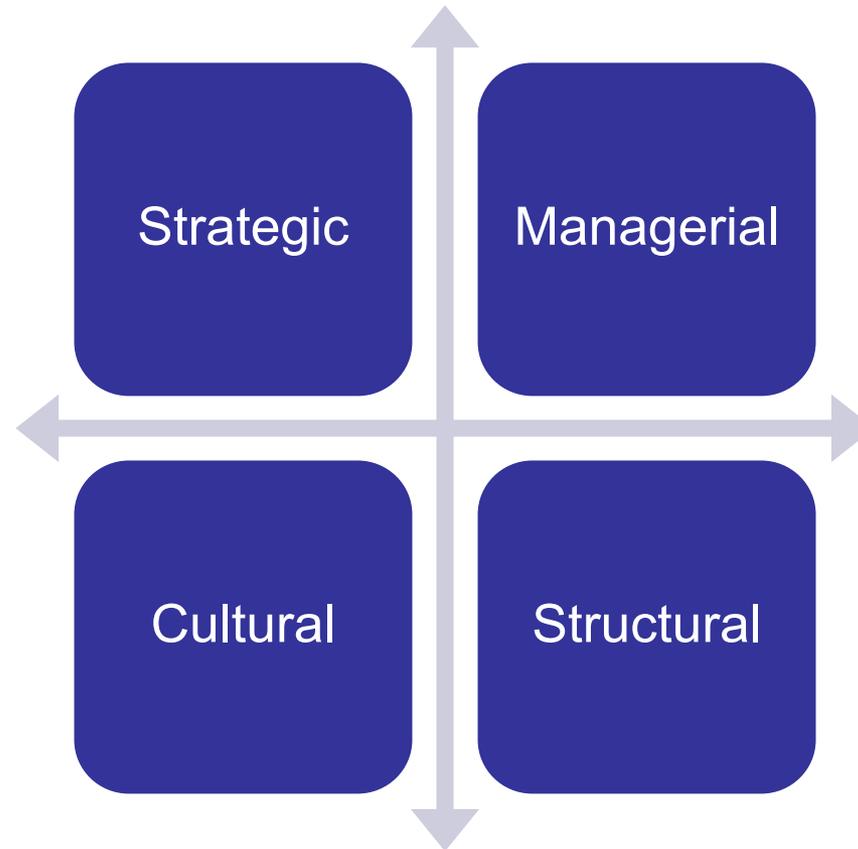
Insights into **practices and strategic actions** for implementing digital transformations remain scarcely explored (Sia et al., 2016; Holotiuk and Beimborn, 2017; Loonan et al., 2018)

Research Goal

“Explore firms’ characteristics and aspects of their digital transformation initiatives that are related to a positive performance”



Theoretical background – Differentiators of Digital Maturity



Assumptions



- Digital maturity is about **organisational adaptation** to compete in an increasingly digital environment
- It goes far beyond simply implementing new digital technologies (Kane et al., 2017)



- Digitally maturing organisations perform better than less mature organisations (Westerman et al., 2012; Baculard et al., 2017)

Hypotheses – Strategy Dimension



Strategy is a **great predictor** of digital transformation success (Hess et al., 2017; Kane et al., 2017; Sebastian et al., 2017)



Organisations in which digitalisation has transformed processes, talent engagement and business models have a **clear and a coherent digital strategy** (Kane et al., 2015)



H1a. Digitally maturing companies have a more integrated digital strategy than the less mature companies

Digitally maturing companies have a **greater digital intensity** (Westerman et al., 2012)



The use of technologies (**intensity**) reflects the firm's approach and capability to explore and exploit new digital technologies (Hess et al., 2017)



H1b. Digitally maturing companies take more domain initiative than the less mature companies

Hypothesis – Managerial Dimension

 Companies that embark on a digital transformation must change their **management mindset** (Dery et al., 2017)

 What separates digital leaders from others is a clear **digital strategy** combined **with a culture and leadership** poised to drive the transformation (Kane et al., 2015)

 According to the organisational performance literature, **top management team's background** influence firm performance (Carpenter, 2002)

 **H2. Digitally maturing companies have a higher proportion of top management team members with a background in digital, technology and innovation**



A **distributed leadership structure** is required to increase the organisation's ability to engage in digital business successfully (Kane et al., 2015)

As part of the structural change, maturing digital organisations **build the skills needed** to realise the strategy and do not tolerate skills gaps (Kane et al., 2015)



H3a. Digitally maturing companies have a more decentralised management structure than less mature companies

H3b. Digitally maturing companies invest more in skillset building than less mature companies



Hypothesis – Cultural Dimension



Taking risks is a cultural norm in digitally maturing companies (Kane et al., 2017)



A risk-taking culture supports learning, which is effective in achieving innovation (Prajogo and McDermott, 2011)



H4. Digitally maturing companies have a stronger risk-taking culture than less digitally mature ones

Hypotheses

Sample

Pairs Selection

Measures

Analysis (paired t-tests)

Sample and pairs selection

5224
companies

Selection of large companies from Compustat Database

1652
companies

Analysis of 10K-filings and selection of firms that mentioned digital initiatives in the filings

1096
companies

Search for performance information in the last ten years

521
companies

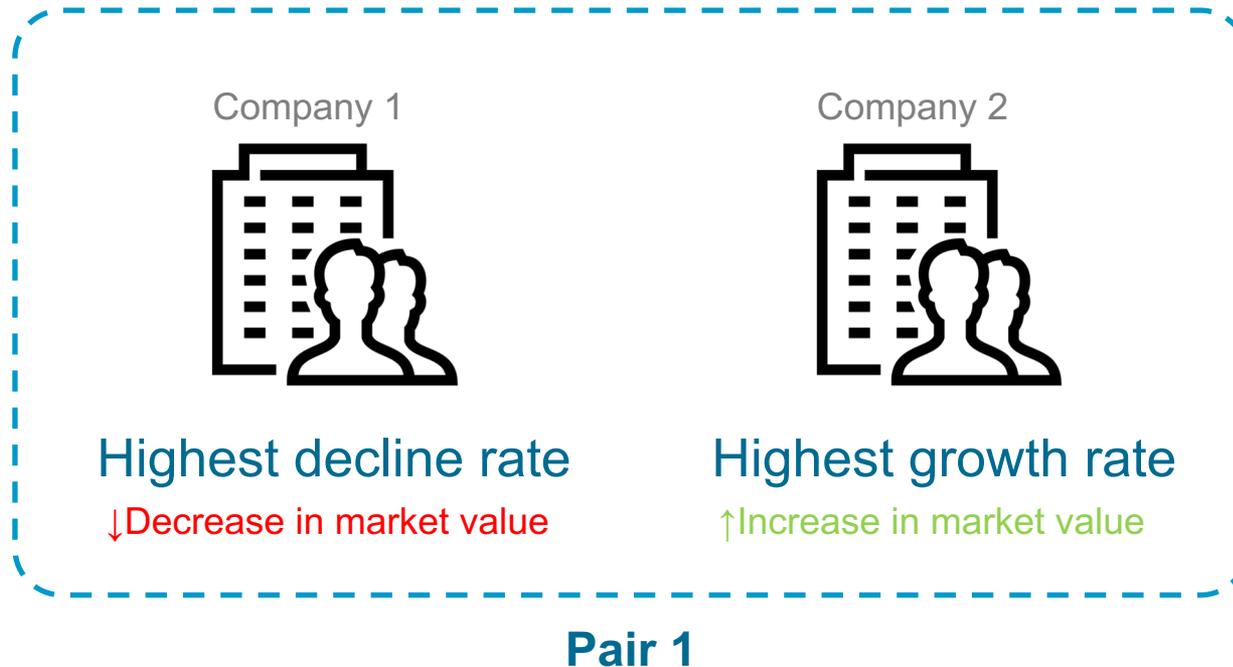
Selection of 521 firms for which there were at least ten mentions of digital in the filings

129 pairs

Highest and lowest performance per three-digit NAICS code

Matched pair design

Pairs of companies implementing digital transformation initiatives - digitally maturing companies and less mature companies in the same three-digit NAICS code

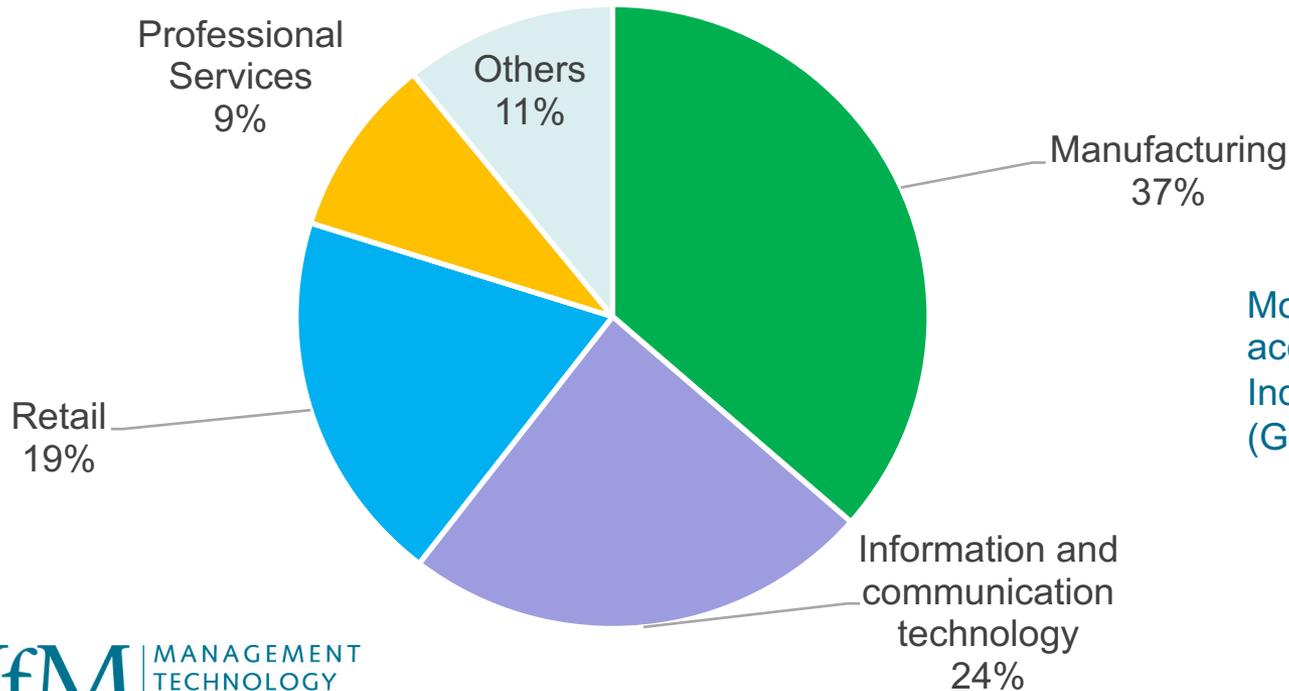


Pairs selection

129
pairs

15
sectors

34
industries



Most digitally advanced sectors according to the McKinsey Industry Digitization Index (Gandhi et al., 2016)

Measures - Integrated digital strategy – H1a

How is it measured?



1. Content analysis on Part 1 of the 10-K filings which describes the business and strategy of each company
2. We assessed whether digital initiatives were explicitly described as part of the company strategy over the years and how many mentions such initiatives received in the filings

Database



Edgar Database



Measures - Domain initiative – H1b

How is it measured?



1. Percentage of investments in digital in relation to all the investments made by the company
2. Percentage of M&A in digital in relation to all the M&A made by the company (D' Aveni, 1989)

Database



crunchbase

Measures - Background of the top management team – H2

How is it measured?



1. Content analysis of executives' biographies to identify the members with backgrounds in digital, technology and innovation

Database



Measures - Management structure – H3a

How is it measured?



1. We measured the centralisation of the management structure
2. Number of the top management team members reporting directly to the chief executive officer (CEO)

Database



How is it measured?



1. Average growth in IT and technology positions in a company during the analysed period

Database



LinkedIn

How is it measured?



Database



1. Number of organisations founded by ex-employees of the respective firm during analysed period
2. We used this indicator as a proxy based on the assumption that the culture of an organisation can strongly affect individuals' posture, including their risk-taking and entrepreneurial postures (Covin and Slevin, 1991)

crunchbase

Results – H1

H1a. Digitally maturing companies have a more integrated digital strategy than the less mature companies

H1b. Digitally maturing companies take more domain initiative than the less mature companies

Support

Support

Measures	Mean	N	Std. Deviation	Sig. (1 Tailed)
Integrated digital strategy (L)	4.58	124	7.770	0.0420
Integrated digital strategy (D)	6.50	124	9.562	
% Acquisitions related to digital (L)	32.5%	117	0.384	0.4264
% Acquisitions related to digital (D)	31.6%	117	0.376	
% Investments related to digital (L)	23.4%	117	0.416	0.0041
% Investments related to digital (D)	36.8%	117	0.421	

H2. Digitally maturing companies have a higher proportion of top management team members with a background in digital, technology and innovation

Measures	Mean	N	Std. Deviation	Sig. (1 Tailed)
% Executives with technology/innovation background (L)	30.2%	102	0.269	0.3951
% Executives with technology/innovation background (D)	31.1%	102	0.280	

Results – H3

H3a. Digitally maturing companies have a more decentralised management structure than less mature companies

H3b. Digitally maturing companies invest more in skillset building than less mature companies

Support

Support

Measures	Mean	N	Std. Deviation	Sig. (1 Tailed)
Top management team reporting to the CEO (L)	6.79	117	3.236	0.0830
Top management team reporting to the CEO (D)	7.38	117	3.162	
Division officers reporting to the CEO (L)	0.50	117	0.979	0.0108
Division officers reporting to the CEO (D)	0.85	117	1.264	
IT employee growth (L)	0.05%	120	0.086	0.0252
IT employee growth (D)	1.95%	120	0.077	

Results – H4

H4. Digitally maturing companies have a stronger risk-taking culture than less digitally mature ones

Support

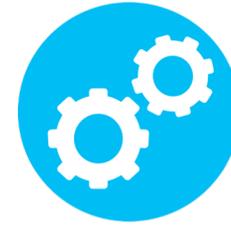


Measures	Mean	N	Std. Deviation	Sig. (1 Tailed)
Companies founded (L)	4.41	103	9.351	0.0026
Companies founded (D)	9.34	103	15.625	

Main contributions



Contributions to the nascent theory on the intra-organisational factors influencing the transformation process



Insights for practitioners regarding the relevant dimensions of a successful digital transformation initiative



This study contributes to improve our understanding of some of the **relevant dimensions influencing organisational transformation**, which were previously suggested only by anecdotal evidence

More research is still needed especially to identify causality between the factors and performance outcomes



THANK YOU!
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