

Richly, Marc A.

**Article**

## Big Data Analytics Capabilities: A Systematic Literature Review on Necessary Skills to Succeed in Big Data Analytics

Junior Management Science (JUMS)

**Provided in Cooperation with:**

Junior Management Science e. V.

*Suggested Citation:* Richly, Marc A. (2022) : Big Data Analytics Capabilities: A Systematic Literature Review on Necessary Skills to Succeed in Big Data Analytics, Junior Management Science (JUMS), ISSN 2942-1861, Junior Management Science e. V., Planegg, Vol. 7, Iss. 5, pp. 1224-1241, <https://doi.org/10.5282/jums/v7i5pp1224-1241>

This Version is available at:

<https://hdl.handle.net/10419/295020>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



<https://creativecommons.org/licenses/by/4.0/>



## Online-Appendix

„Big Data Analytics Capabilities: A Systematic  
Literature Review on Necessary Skills to Succeed in  
Big Data Analytics“

Marc A. Richly

Ludwig-Maximilians-Universität München

Junior Management Science 7(5) (2022) 1224-1241

## Appendix

Authors	Year	Theoretical Framework			Nature of Capabilities discussed	Capabilities Framework
		Resource-based view	Dynamic Capabilities	Other		
Seddon, Peter B. Constantinidis, Dora Tamm, Toomas Dod, Harjot	2017	NA			Analytics capabilities	Business Analytics: DELTA (Data Quality   Enterprise-wide Integrated Business-Intelligence Platform   Leadership, not just from the top   Well-chosen targets   Analytical People)
Akter, Shahriar Wamba, Samuel Fosso Gunasekaran, Angappa Dubey, Rameshwar Childe, Stephen J	2016	x		Sociomaterialism theory	IT and BDA capabilities	Typology suggested: BDA management capability   BDA technology capability   BDA talent capability
Barton, Dominic Court, David	2012	NA			Indirect BDA capabilities	Management (ensuring data and models work together)   Data (as standard, control, data model)   Talent
Davenport, Thomas H Harris, Jeanne G Morison, Robert	2010	NA			Analytics capabilities	Business Analytics: DELTA (Data Quality   Enterprise-wide Integrated Business-Intelligence Platform   Leadership, not just from the top   Well-chosen targets   Analytical People)
Gupta, Manjul George, Joey F.	2016	x			BDA capabilities	Tangible (basic resource and data), human skills (technical and managerial skills), and intangible (organizational learning and data-driven culture).
LaValle, Steve Lesser, Eric Shockley, Rebecca Hopkins, Michael S. Kruschwitz, S.	2011	NA			Level of capabilities	Three level of how far an organization has developed BDA: Aspirational   Experienced   Transformed
McAfee, Andrew Brynjolfsson, Erik Davenport, Thomas H Patil, DJ Barton, Dominic	2012	NA			BDA capabilities	Corporate Strategy   IT infrastructure   Skills and knowledge of data scientists

Authors	Year	Theoretical Framework			Nature of Capabilities discussed	Capabilities Framework
		Resource-based view	Dynamic Capabilities	Other		
Mikalef, Patrick Pappas, Ilias O. Krogstie, John Giannakos, Michail	2018	x	x		BDA capabilities	Tangible (basic resource and data), human skills (technical and managerial skills), and intangible (organizational learning and data-driven culture).
Ransbotham, Sam Kiron, David Prentice, Pamela Kirk	2015	NA			BDA capabilities	Management   Infrastructure   Talent
Wamba, Samuel Fosso Gunasekaran, Angappa Akter, Shahriar Ren, Steven Ji-Fan Dubey, Rameshwar	2017	x	x	Sociomaterialism theory	BDA capabilities	BDA infrastructure capability, management capability, and personnel capability
Wang, Yichuan Kung, LeeAnn Byrd, Terry Anthony	2018	x		Configuration theory	BDA capabilities	analytical capability for patterns of care, unstructured data analytical capability, decision support capability, predictive capability, and traceability
Yasmina, Mariam Tatoglua, Ekrem Kilicb, Huseyin Selcuk Zaimc, Selim Delen, Dursun	2020	x	x		IT and BDA capabilities	Infrastructure Capabilities, Human Resource Capabilities, Management Capabilities
Fadler, Martin Legner, Christine	2020			Work system theory (WST) lens (Alter 2013)	4 prevalent capabilities in the BI&A context	reporting, data exploration, analytics experimentation, and analytics production
Mikalef, Patrick Boura, Maria Lekakos, George Krogstie, John	2019		x		BDA capabilities (as rebottle from Gupta/Mikalef paper)	Tangible (basic resource and data), human skills (technical and managerial skills), and intangible (organizational learning and data-driven culture).

Tab. A-1: Concept matrix, based on Webster and Watson (2002)