



Leadership: Research progress of last five years

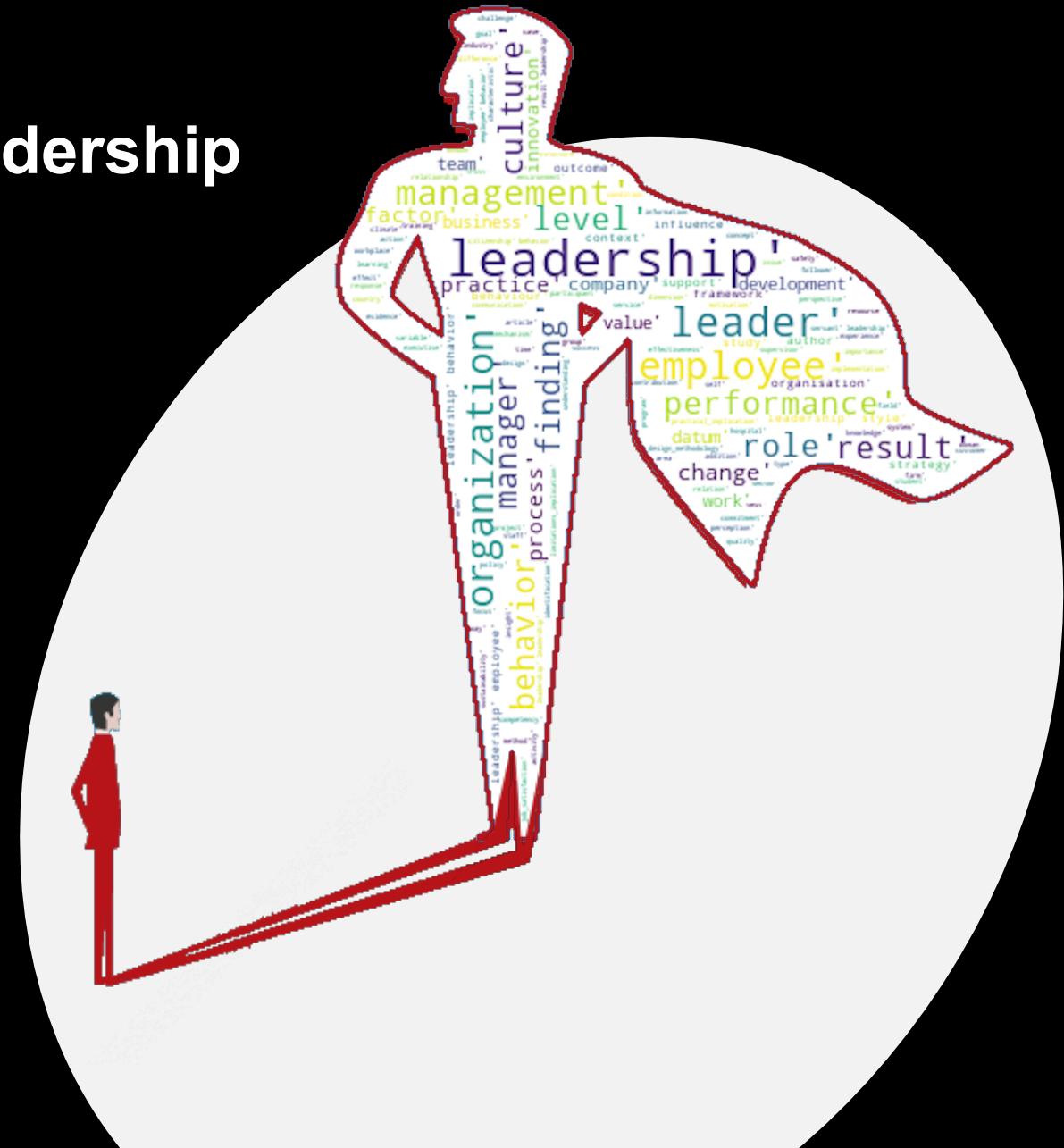


When scholars talk about leadership It is about...

6

Leadership is a process and the ability to influence a group toward the achievement of a vision, set and attend to a common goal within its group context.

— Stephen P. Robbins



Notes:

^{1*} The WordCloud data comes from the abstract of past 5 years leadership related studies, downloaded from Scopus.com



Summary: This report illustrates what is the trend of leadership study and how the contributors behind leadership publications work in the past five years



Content Analysis

- A Topic Description
- B Cross-section Analysis
- C Longitudinal Analysis

- Leadership study contains **13 topics**, which can be classified into **3 segments**, including **leadership style**, **scenario study**, and specific topics
- **Employee interaction** is a distinctive reaserach hotspot in the past 5 years, while the publications on **culture area** and **hospital scenario** are relatively weak

- Entities can be divided **into team and individual two layers**. Change topic is mainly on team layer and other topics are on the basis of individual aspect upon most occasions

- Research concepts of leadership area mainly keep **stable** in past 5 years, while **innovative research topics continuously gengerated**, e.g. change became a hotspot during Covid-19
- **FY2020 reaches a new level** of leadership study based on total amount published
- All the **scenario studies are at the begining stage**, especailly the school and engineering scenario. For each scenario, amount of articles per year is below 5. But with the leadership study going deeper, scenario study may become more important
- For leadership style, **servant leadership is the most popular one** among three leadership styles topics, and reaches the publication peak in FY2020
- Employee interation continuously performs distinctive, for leadership as an concept in organizational behavior is mainly about leader-employee conceptual relationship



Author Analysis

- D Top Author Info
- E Co-work Analysis
- F Institution Analysis

- Authors with top eigenvector centrality in each research field **have continuously increasing citiation**

- **For Ethic Field**, researchers from K.U.Leuven tend to internal corporate and share higher eigenvector centrality in the network. Babalola M. is the key scholar in this area in past five years

- **US, China and UK authors are the main contributors to the leadership area study**. Although EU has ~73% top business school, the publication on leadership is at middle level

Content Analysis

An inspection of the research on leadership in these two environments suggests that some overlap may exist. For example, the construct 'Consideration' which was identified in studies of leadership in traditional organizations (Haplin, 1957; Stogdill, 1963), seems quite similar to the construct 'Providing Social Support' which was identified in studies of empowering leadership (Manz and Sims, 1987). The amount of overlap in the leader behaviors of traditional and empowered environments, however, is unknown and warrants an empirical investigation.



A Topic Description: Leadership study contains 13 topics, which can be classified into 3 segments, including leadership style, scenario study, and specific topics

*Topics generated with LDA model from article abstract

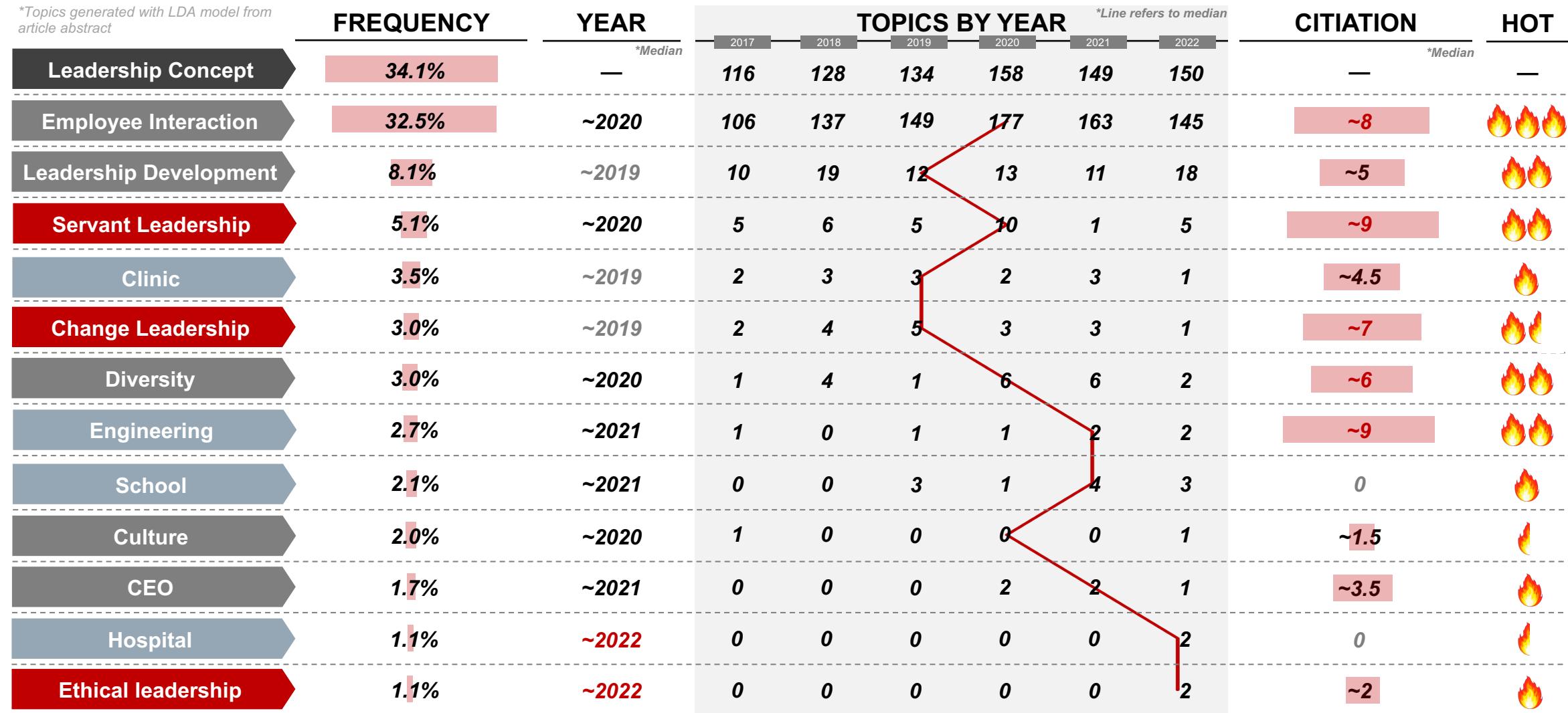
	FREQUENCY	DESCRIPTION
Leadership Concept	34.1%	<ul style="list-style-type: none"> The basic concept of leadership, describing as an organization management practice. According to Fischer (2017), leadership is a social and goal-oriented influence process, unfolding in a temporal and spatial milieu
Employee Interaction	32.5%	<ul style="list-style-type: none"> Focused on the interaction between leader and employee, covering both positive inspiration and negative abusive supervision. The result includes employee job commitment, knowledge sharing, turnover intention...
Leadership Development	8.1%	<ul style="list-style-type: none"> Mainly about the current situation and potential space for leadership development programme, and how to design as well as evaluating the coaching consequence from the view of participant
Servant Leadership	5.1%	<ul style="list-style-type: none"> Servant leadership is demonstrated by empowering and developing people; by expressing humility, authenticity, interpersonal acceptance, and stewardship; and by providing direction (Van, 2011)
Clinic	3.5%	<ul style="list-style-type: none"> Mainly about the leadership implementation and development in clinic, focusing on the care to patient. Clinical leadership is particularly important at the level of clinical microsystem or team (Swanson & McKimm, 2011)
Change Leadership	3.0%	<ul style="list-style-type: none"> Focused on change management, especially for team instead of individual. While change must be well managed, it also requires effective leadership to introduce change successfully (Gill, 2002)
Diversity	3.0%	<ul style="list-style-type: none"> Mainly about the work place diversity, including woman leadership, career development, sexual harassment, deviant behavior, and apply widely in healthcare industry
Engineering	2.7%	<ul style="list-style-type: none"> Engineering leadership is skilfully strike a balance between the humanistic and technical aspects of the profession (Rottmann, Sacks, & Reeve, 2015), which is able to improve the team project sustainability
School	2.1%	<ul style="list-style-type: none"> About the application of leadership in school scenario with many case studies and experiments, and the creative concepts are student voice, intelligence, engagement, etc.
Culture	2.0%	<ul style="list-style-type: none"> As the essential background of leadership, culture perception is usually used as moderator in leadership studies. The most frequent used culture concepts are conflict, integrity, justice/fairness, loyalty
CEO	1.7%	<ul style="list-style-type: none"> Studies on corporate chief executive officer, e.g. resilience, network, entrepreneur, subsidiary, characters, life satisfaction, deviance behavior, venture
Hospital	1.1%	<ul style="list-style-type: none"> Focused on the executive in hospital, including decision making process and patient safety. Instead of caring, hospital leadership emphasizes on accreditation, expertise, performance, charisma for more serious situation
Ethical leadership	1.1%	<ul style="list-style-type: none"> Ethical leader demonstrates normatively appropriate conduct through personal actions and interpersonal relationships with two-way communication, reinforcement, and decision-making (Brown, Treviño & Harrison, 2005)

Reference:

- [1] Fischer, T., Dietz, J., & Antonakis, J. (2017). Leadership process models: A review and synthesis. *Journal of Management*, 43(6), 1726-1753.
- [2] Van Dierendonck, D. (2011). Servant leadership: A review and synthesis. *Journal of management*, 37(4), 1228-1261.
- [3] Gill, R. (2002). Change management—or change leadership?. *Journal of change management*, 3(4), 307-318.
- [4] Swanwick, T., & McKimm, J. (2011). What is clinical leadership... and why is it important?. *The clinical teacher*, 8(1), 22-26.
- [5] Rottmann, C., Sacks, R., & Reeve, D. (2015). Engineering leadership: Grounding leadership theory in engineers' professional identities. *Leadership*, 11(3), 351-373.
- [6] Brown, M. E., Treviño, L. K., & Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organizational behavior and human decision processes*, 97(2), 117-134.



A Topic Description: Employee interaction is a distinctive research hotspot in the past 5 years, while the publications on culture area and hospital scenario are relatively weak



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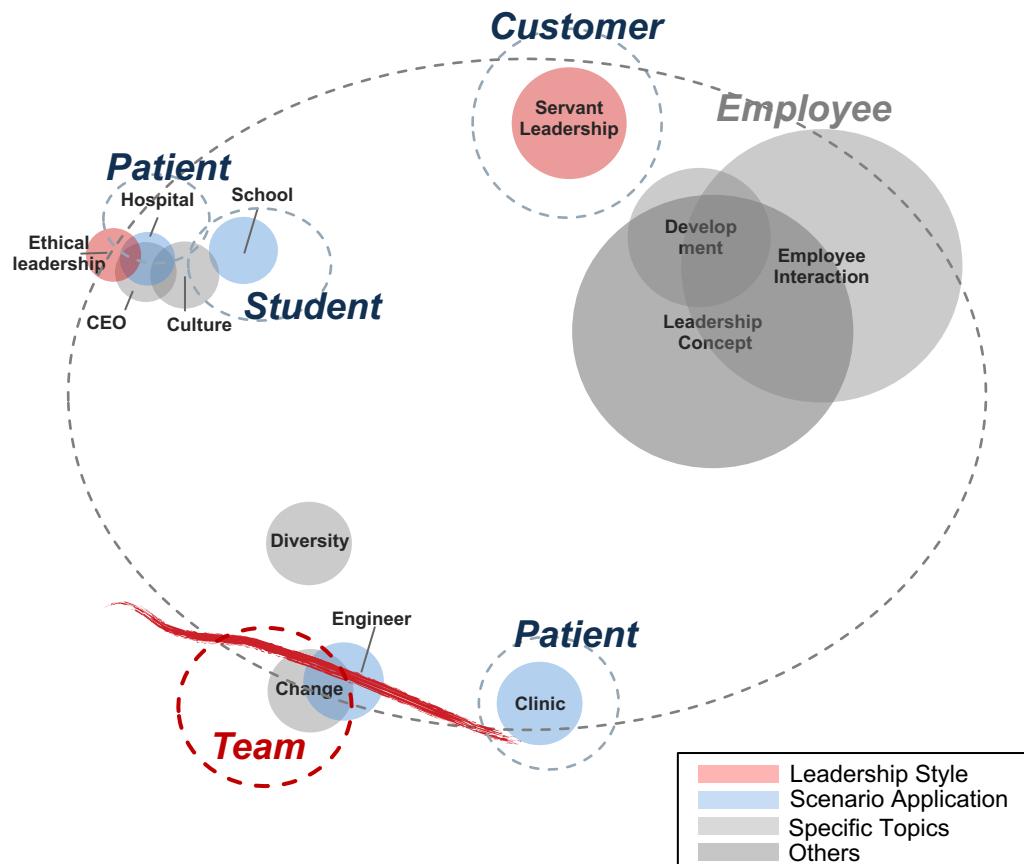
- [1] Fischer, T., Dietz, J., & Antonakis, J. (2017). Leadership process models: A review and synthesis. *Journal of Management*, 43(6), 1726-1753.
- [2] Van Dierendonck, D. (2011). Servant leadership: A review and synthesis. *Journal of management*, 37(4), 1228-1261.
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B

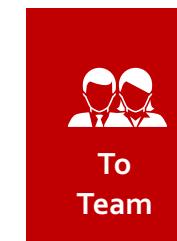
Stakeholder Analysis: Entities can be divided into team and individual two layers. Change topic is mainly on team layer and other topics are on the basis of individual aspect upon most occasions

INTERTOPIC DISTANCE MAP



COMMENTS

- Stakeholder analysis aims at illustrating the specific **stakeholder entities** which leadership is related to. For some result only occurs on specific subject
- Stakeholder can be divided into **team and individual two levels**. In individual part, employee is the most basic entity, and customer, patient, student can also be included with the development of scenario research



- Team level is mainly about **change management**. Innovative leadership practices provide radical changes through new ideas, methods, processes, and techniques to solve the present and anticipated future problems (Sen & Eren, 2012). The implementation of new practice is highly dependent on the team members' attitude and behavior



- **Customer** is a specific follower, which is strongly linked with servant leadership. And the word 'customer' occurs only in servant leadership topic
- **Employee** is a common entity in leadership studies. The object of servant leadership can also be employee, which refers to empowerment and development
- The leverage of leadership works not only in workplace, but also involves everyone in the world, like student in school with teacher, patients in healthcare scenario



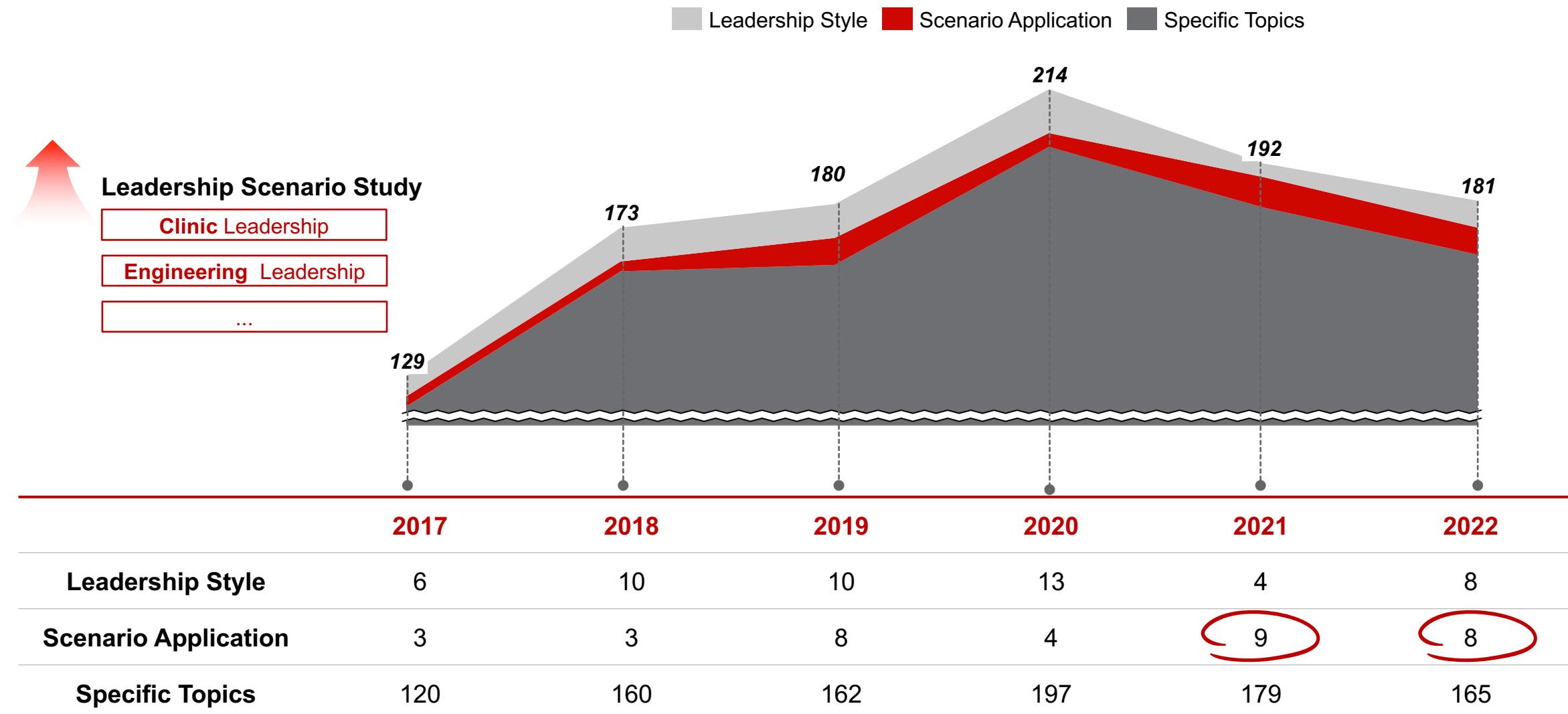
C

Topic Development (1/5): Research concepts of leadership area mainly keep stable, while innovative research topics continuously generated, e.g. change became a hotspot during Covid-19



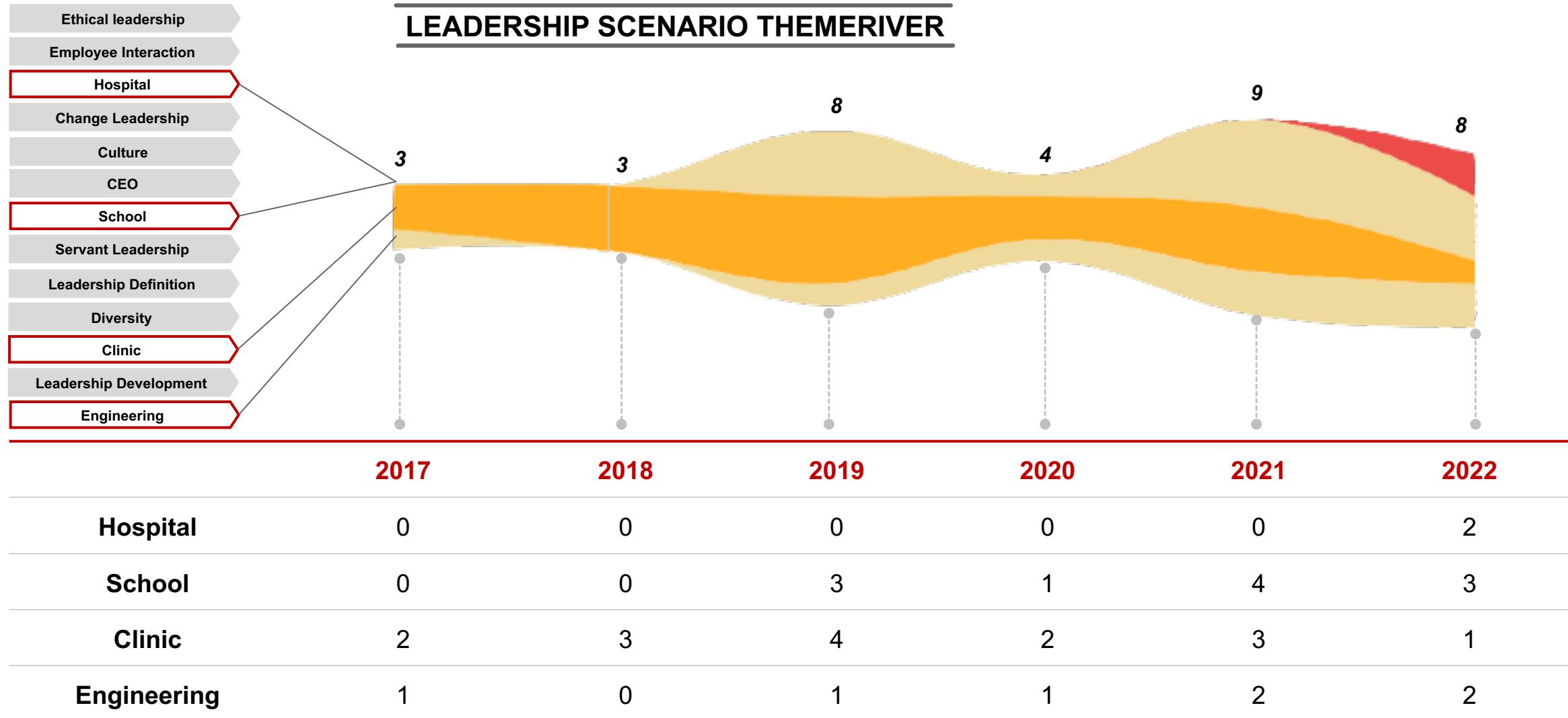
c

Topic Development (2/5): FY2020 reaches a new level of leadership study based on total amount published. And with the leadership study going deeper, scenario may become more important



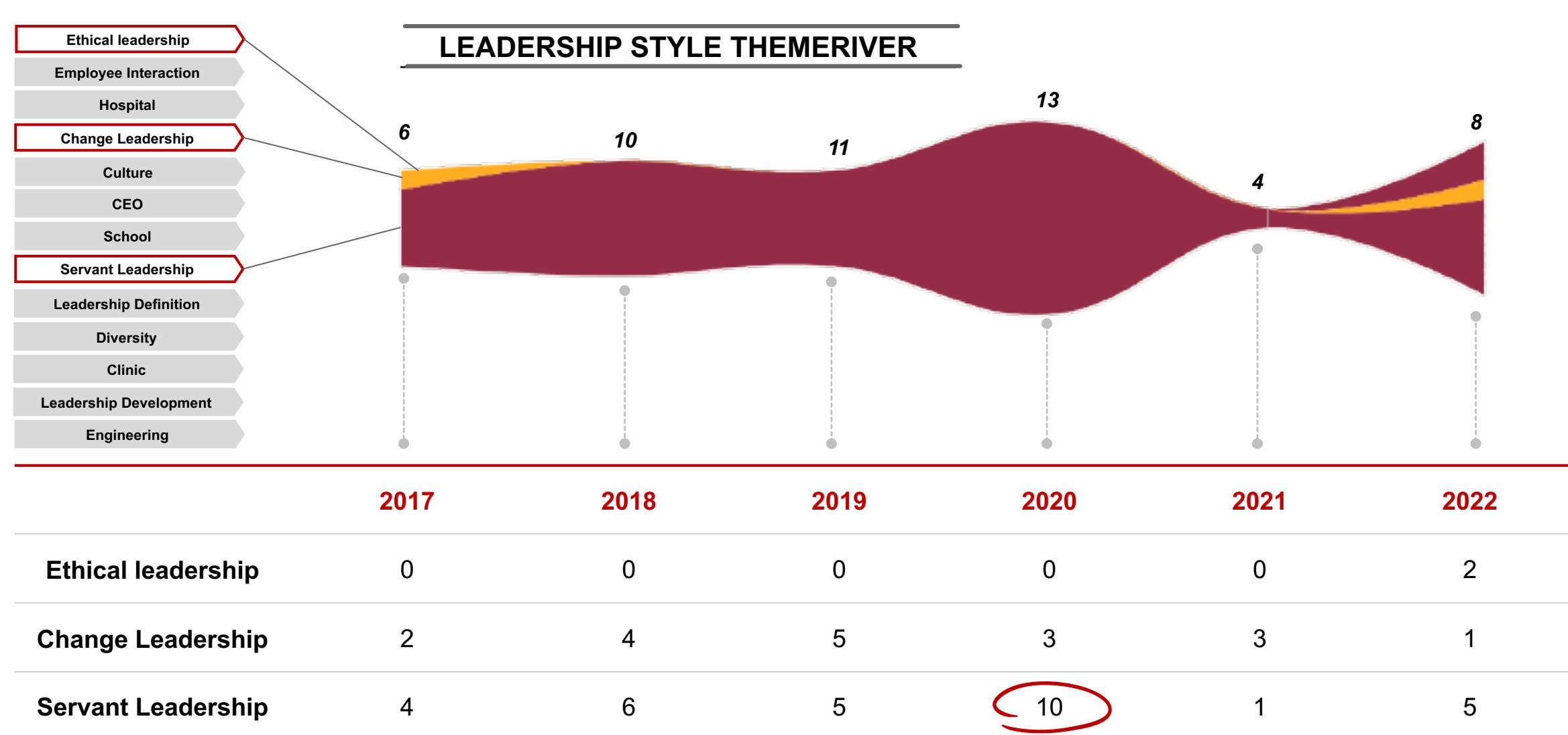
c

Topic Development (3/5): All the scenario studies are at the begining stage, especailly the school and engineering scenario. For each scenario, amount of articles per year is below 5

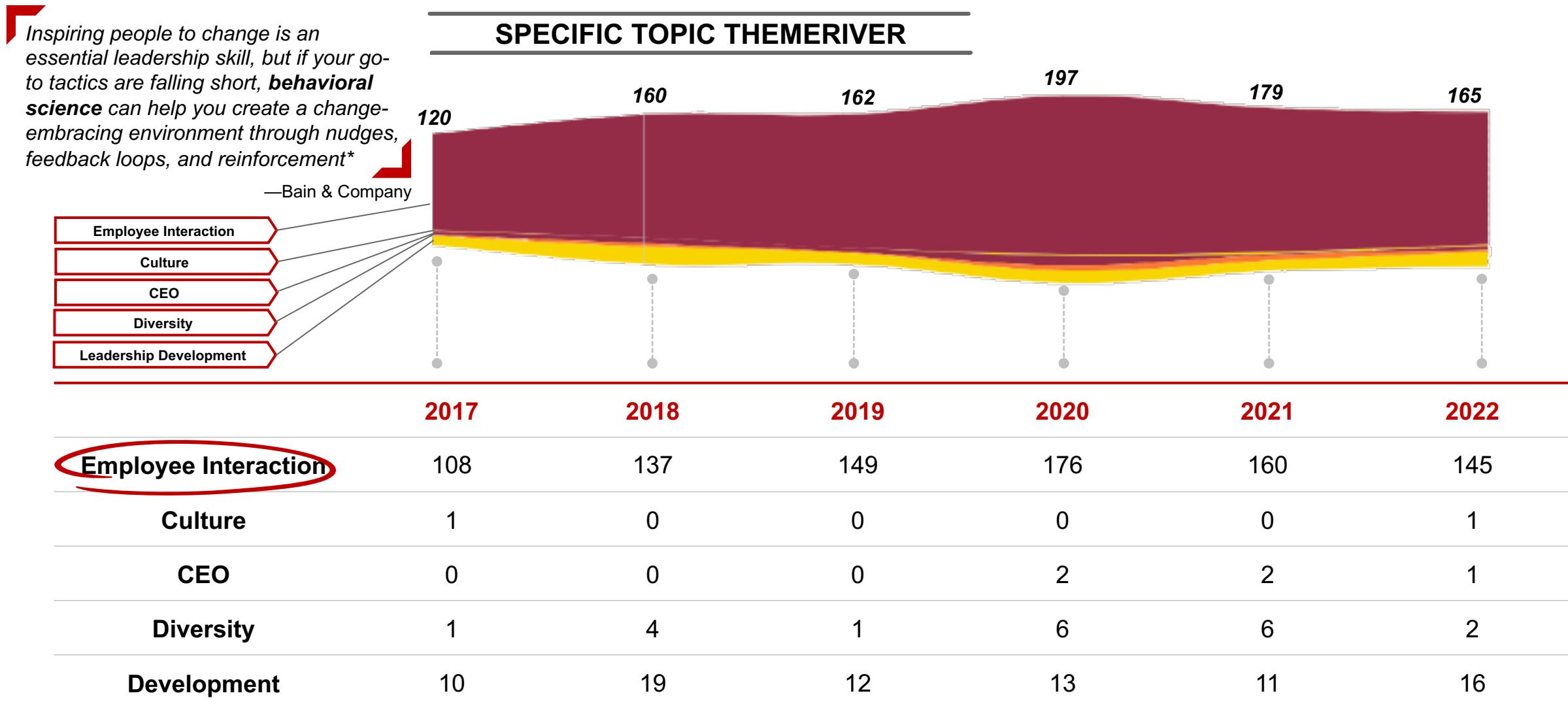


c

Topic Development (4/5): Servant leadership is the most popular one among three leadership styles topics, and reaches the publication peak in FY2020



c Topic Development (5/5): Employee interaction continuously performs distinctive, for leadership as an concept in organizational behavior is mainly about leader-employee conceptual relationship





Author² Analysis

D

Top Author Analysis: Authors with top eigenvector centrality in each research field (community) have continuously increasing citation

TOP AUTHOR FROM EACH COMMUNITY

Suppose we are interested in ethics

	Affiliation	Research Field	Citation												
Stella M Nkomo	University of Pretoria	<ul style="list-style-type: none"> Gender and Diversity Postcolonial Management in Africa 	<table border="1"> <thead> <tr> <th>Year</th> <th>Citation Count</th> </tr> </thead> <tbody> <tr><td>2017</td><td>615</td></tr> <tr><td>2018</td><td>653</td></tr> <tr><td>2019</td><td>765</td></tr> <tr><td>2020</td><td>812</td></tr> <tr><td>2021</td><td>917</td></tr> </tbody> </table>	Year	Citation Count	2017	615	2018	653	2019	765	2020	812	2021	917
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2017	615														
2018	653														
2019	765														
2020	812														
2021	917														
Robin Martin	Alliance Manchester Business School	<ul style="list-style-type: none"> Implicit leadership LMX 	<table border="1"> <thead> <tr> <th>Year</th> <th>Citation Count</th> </tr> </thead> <tbody> <tr><td>2017</td><td>856</td></tr> <tr><td>2018</td><td>885</td></tr> <tr><td>2019</td><td>897</td></tr> <tr><td>2020</td><td>938</td></tr> <tr><td>2021</td><td>968</td></tr> </tbody> </table>	Year	Citation Count	2017	856	2018	885	2019	897	2020	938	2021	968
Year	Citation Count														
2017	856														
2018	885														
2019	897														
2020	938														
2021	968														
Mayowa T. Babalola	RMIT	<ul style="list-style-type: none"> Leadership Behavioral Ethics Sustainability 	<table border="1"> <thead> <tr> <th>Year</th> <th>Citation Count</th> </tr> </thead> <tbody> <tr><td>2017</td><td>40</td></tr> <tr><td>2018</td><td>84</td></tr> <tr><td>2019</td><td>223</td></tr> <tr><td>2020</td><td>352</td></tr> <tr><td>2021</td><td>556</td></tr> </tbody> </table>	Year	Citation Count	2017	40	2018	84	2019	223	2020	352	2021	556
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Rajesh Kumar Upadhyay	Graphic Era Hill University	<ul style="list-style-type: none"> Transformational Leadership 	<table border="1"> <thead> <tr> <th>Year</th> <th>Citation Count</th> </tr> </thead> <tbody> <tr><td>2017</td><td>4</td></tr> <tr><td>2018</td><td>2</td></tr> <tr><td>2019</td><td>11</td></tr> <tr><td>2020</td><td>11</td></tr> <tr><td>2021</td><td>25</td></tr> </tbody> </table>	Year	Citation Count	2017	4	2018	2	2019	11	2020	11	2021	25
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2019	11														
2020	11														
2021	25														
Nik Steffens	University of Queensland	<ul style="list-style-type: none"> Identity Leadership Health Creativity 	<table border="1"> <thead> <tr> <th>Year</th> <th>Citation Count</th> </tr> </thead> <tbody> <tr><td>2017</td><td>264</td></tr> <tr><td>2018</td><td>452</td></tr> <tr><td>2019</td><td>623</td></tr> <tr><td>2020</td><td>929</td></tr> <tr><td>2021</td><td>1,436</td></tr> </tbody> </table>	Year	Citation Count	2017	264	2018	452	2019	623	2020	929	2021	1,436
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2019	623														
2020	929														
2021	1,436														
Long Zhang	Hunan University	<ul style="list-style-type: none"> Servant Leadership 	<table border="1"> <thead> <tr> <th>Year</th> <th>Citation Count</th> </tr> </thead> <tbody> <tr><td>2017</td><td>5</td></tr> <tr><td>2018</td><td>13</td></tr> <tr><td>2019</td><td>32</td></tr> <tr><td>2020</td><td>72</td></tr> <tr><td>2021</td><td>144</td></tr> </tbody> </table>	Year	Citation Count	2017	5	2018	13	2019	32	2020	72	2021	144
Year	Citation Count														
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2021	144														

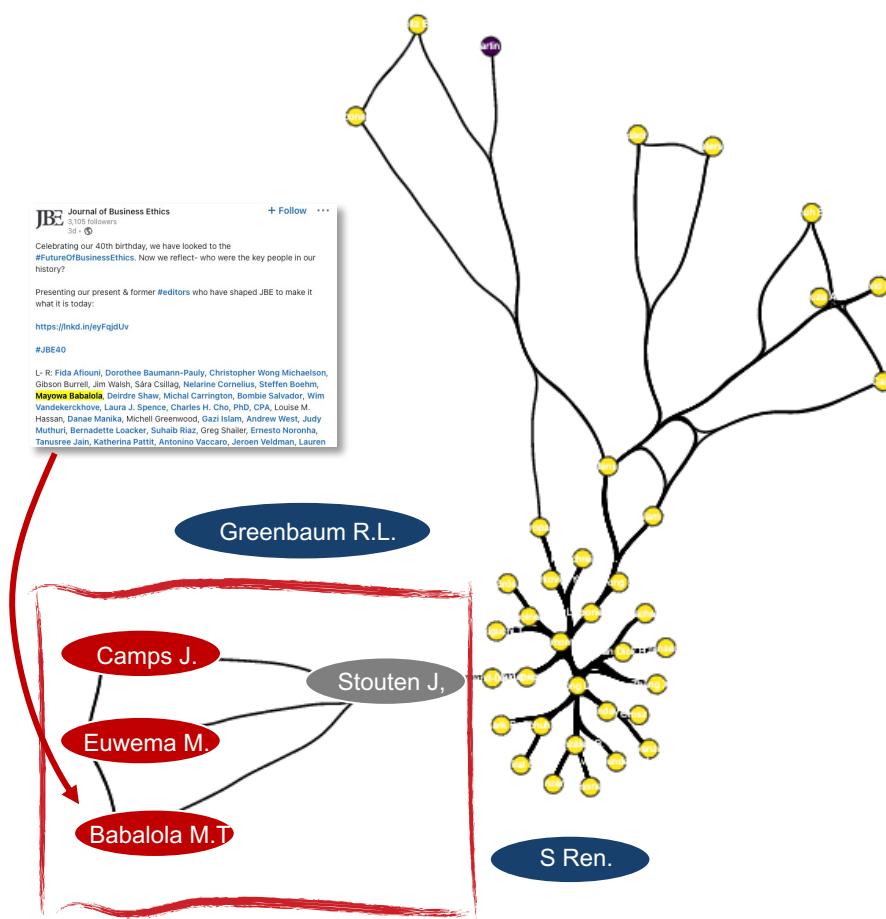
Further Discussion



E

Ethic Field Authors: Researchers from K.U.Leuven tend to internal corporate and share higher eigenvector centrality in the network. Babalola M. is the key scholar in this area in past five years

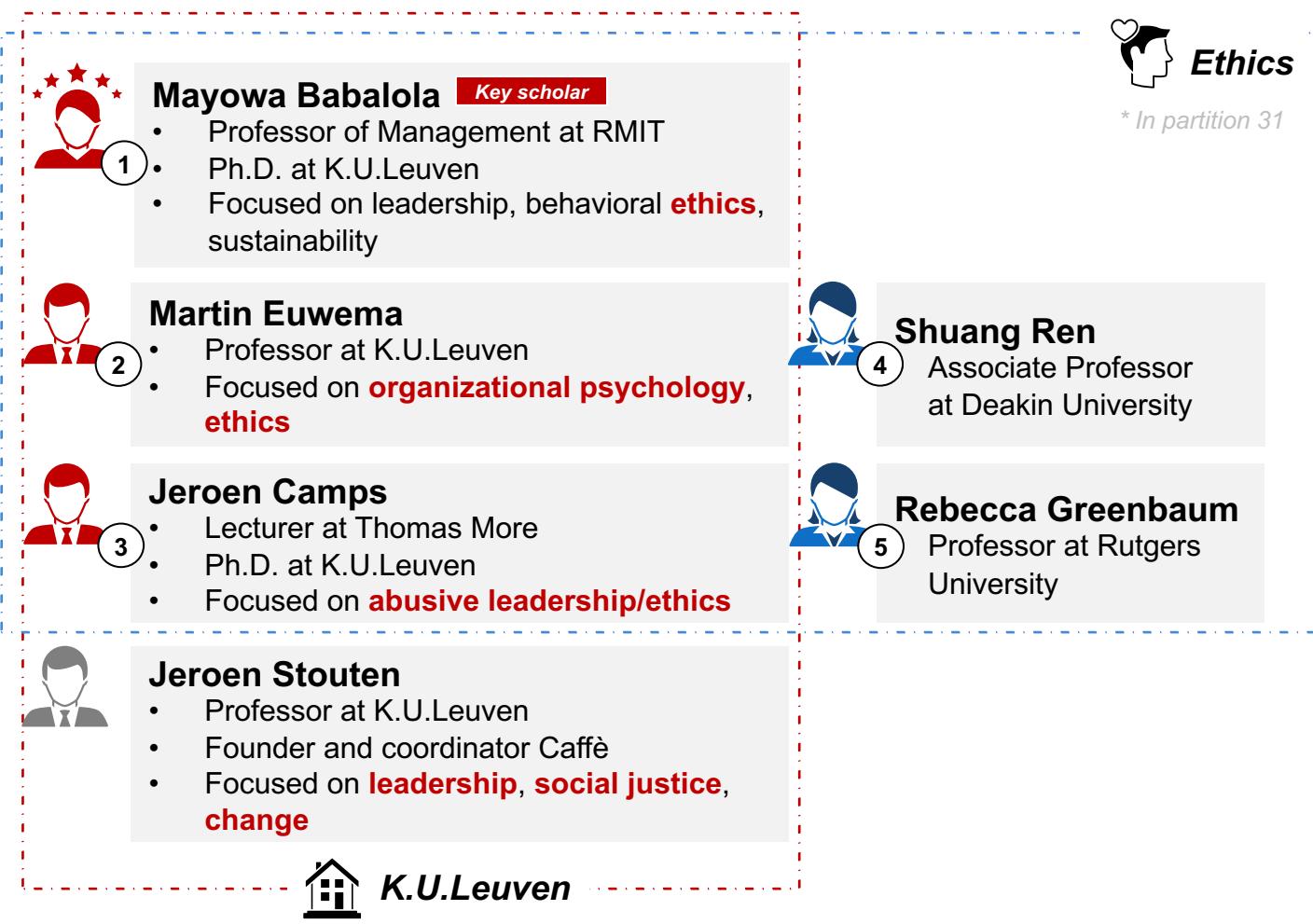
AUTHOR CORPORATION NETWORK



eigenvector centrality rank in partition

Source: 1* Google scholar 2* LinkedIn

ETHIC FIELD RESEARCHERS PROFILE

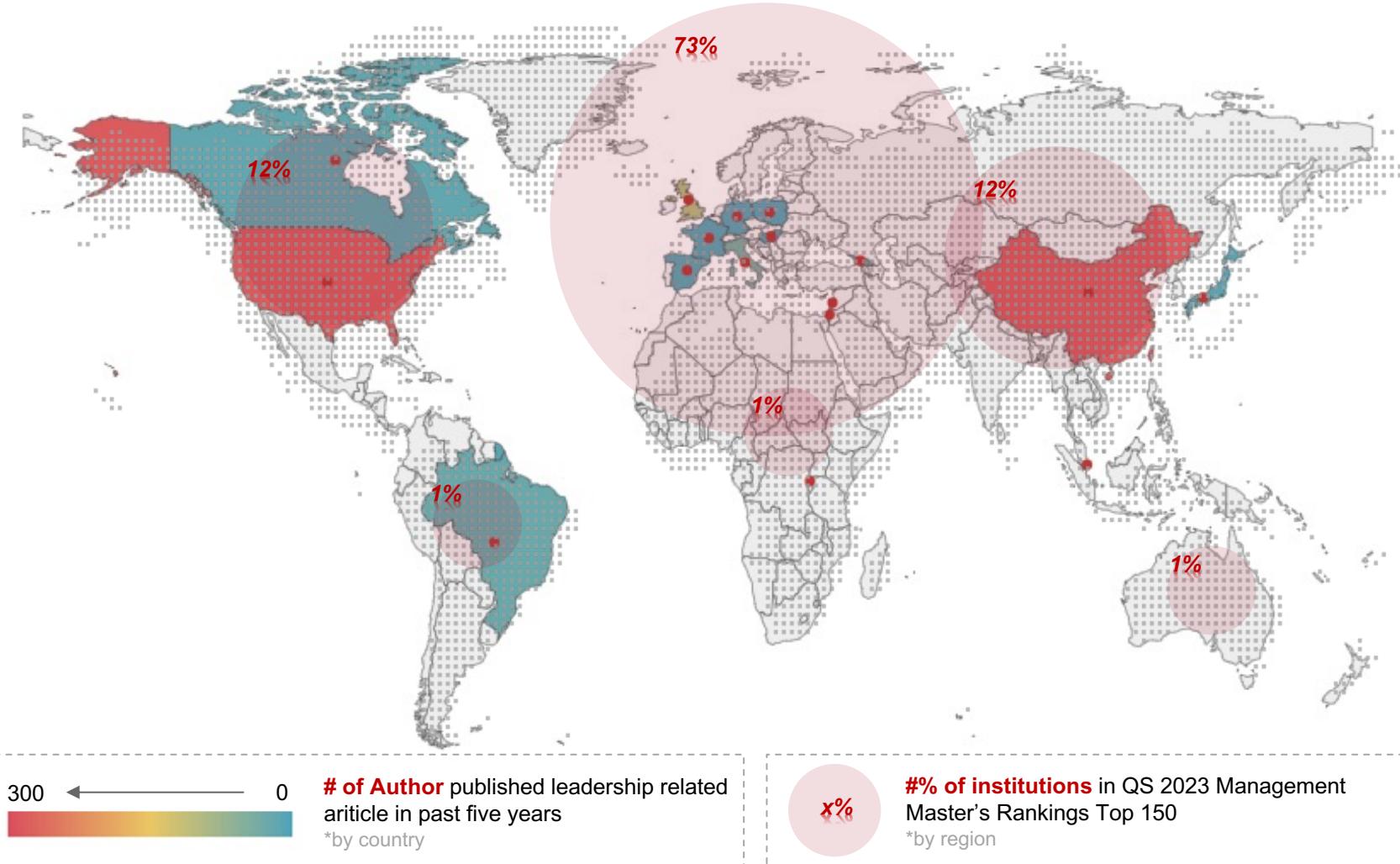


F

Affiliation Analysis: US, China and UK authors are the main contributors to the leadership area study. Although EU has ~73% top business school, the publication on leadership is at middle level

DISTRITBUTION OF AUTHOR AFFILIATION V.S. TOP MANAGEMENT SHOOL

COMMENTS



For leadership study:

- **United States** and **China** are two nations with the largest number of publication on leadership study (~300)
- **United Kingdom** is another country with high publication number in the past five years (~100), but there is a gap between UK and US/China
- Leadership study did not draw enough attention in the past five years in Africa and Australia

Compared to school rank:

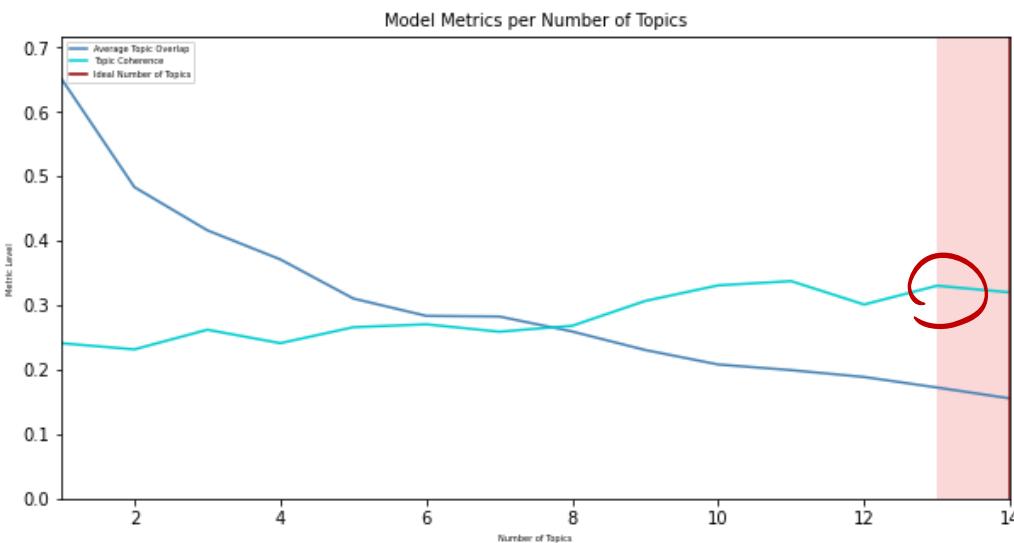
- **European countries** have the largest number of top business management shool, while the publication on leadership area is not at the same level. The reason maybe those botique business schools are more employment-oriented

Appendix (1/4)

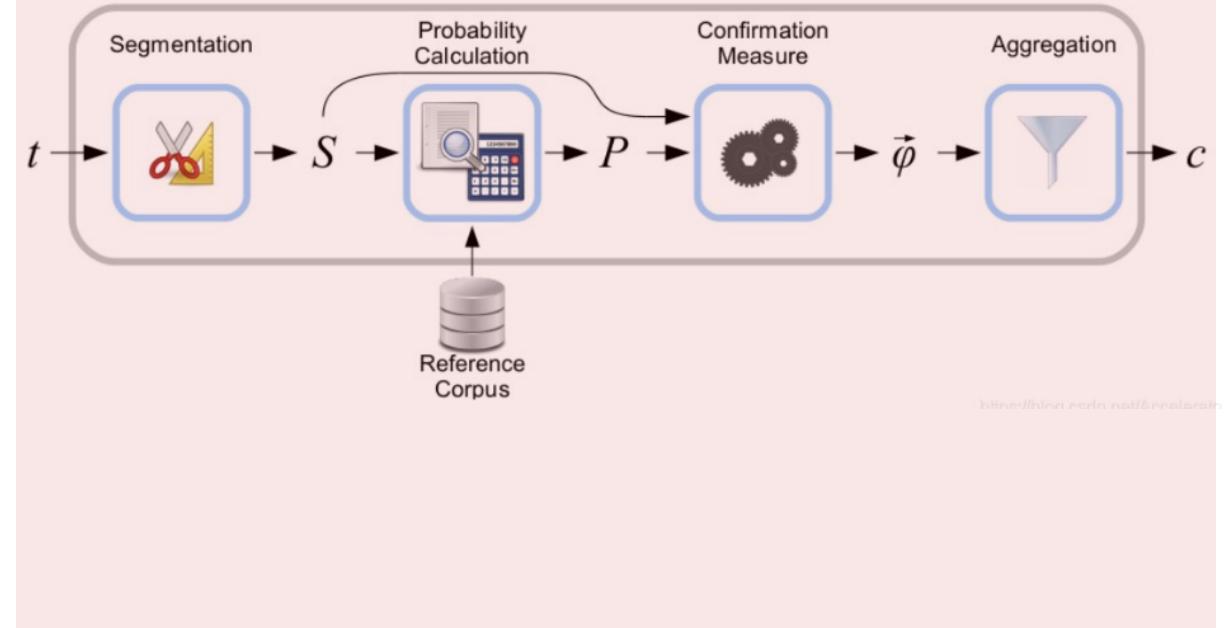
Topic Model Metrics

MODEL METRICS

- After balancing **average topic overlap** and **topic coherence**, this study chooses 13 topics at the begining, and derive new attributes with 4 categories of topics
- The coherence score for 13 topics is **0.3602661137647961**



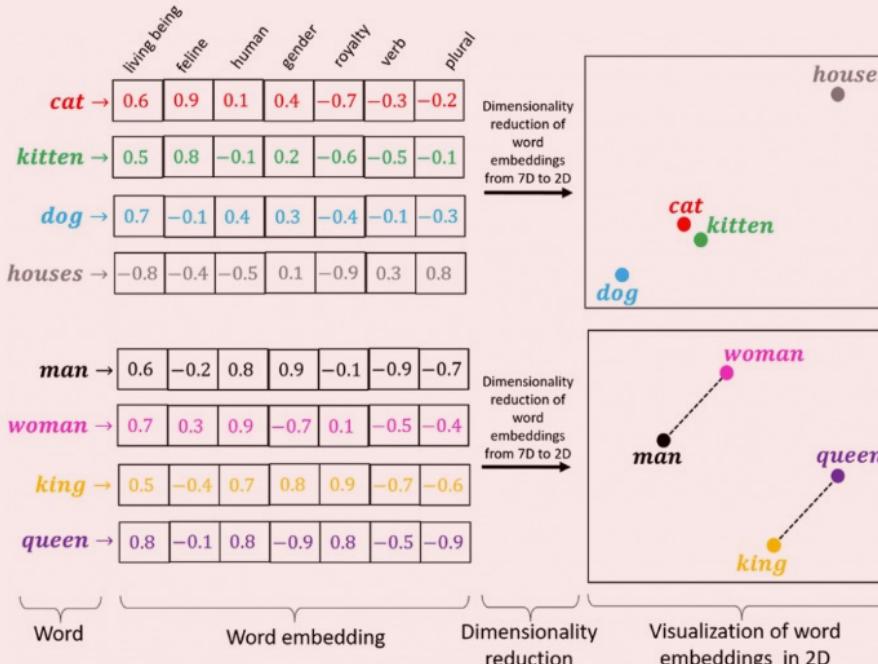
MISTERY BEHIND COHERENCE SCORE



Appendix (2/4)

Embedding Method

EMBEDDING PROCESS



TRADITIONAL

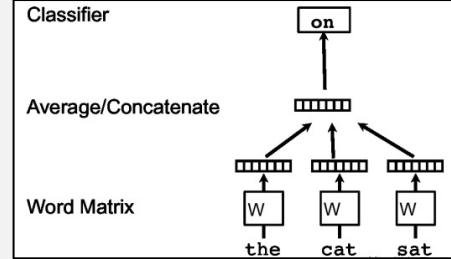
TF-idf

https://github.com/wangzhennn/NLP_studying/blob/main/datacamp_Feature%20Engineering.py

Bow Naive Bayes Classifier

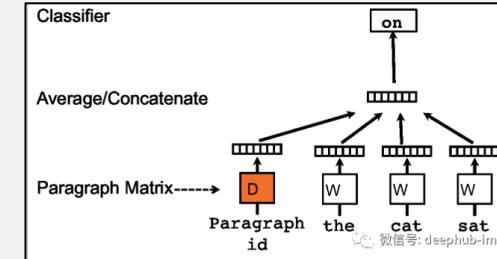
WORD2VEC

Classifier



DOC2VEC

Classifier



FASTTEXT

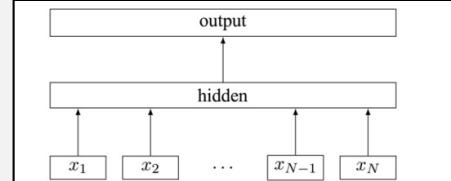
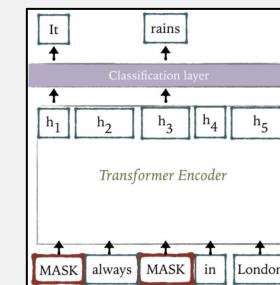


Figure 1: Model architecture of fastText for a sentence with N n-gram features x_1, \dots, x_N . The features are embedded and averaged to form the hidden variable. <http://www.csail.mit.edu/lemoning1093/>

BERT



Appendix (3/4) Text Recommender System

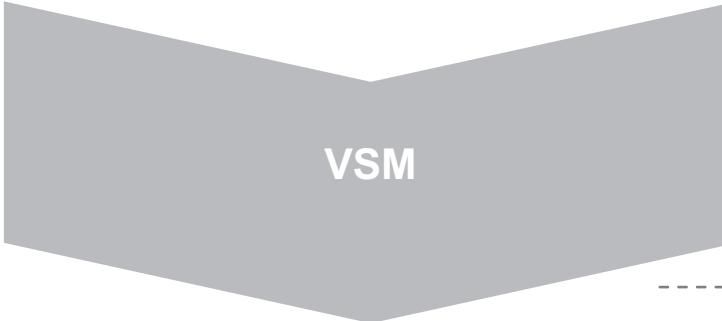
The impact of **ethical leadership** on organizational citizenship behavior:
The moderating role of workplace ostracism



1. The impact of **ethical leadership** on organizational citizenship behavior: The moderating role of workplace ostracism (1.000000)
2. The role of **leader's spiritual leadership** on organisation outcomes (0.814443)
3. Developing organizational **citizenship behavior** in women entrepreneurs business community (0.652020)
4. The dynamics of **ethical climate**: mediating effects of ethical leadership and workplace pressures on organisational citizenship behaviour (0.601327)
5. **Organizational Citizenship Behavior** Determinants (0.514447)

Appendix (4/4)

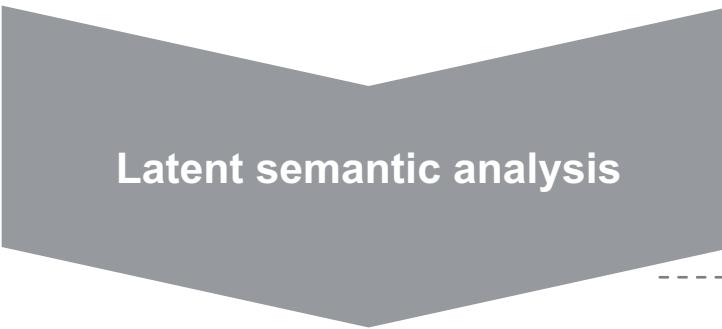
Evolution Process of Topic Model



Sample Term by Document matrix

	access	document	retrieval	information	theory	database	indexing	computer	REL	MATCH
Doc 1	x	x	x		x*	x	x	x*	R	M
Doc 2				x*	x			x*		M
Doc 3			x	x*				x*	R	M

Query: "IDF in computer-based information look-up"



$$A' = U_t \begin{matrix} \sigma_1 & \dots & \sigma_t \end{matrix} V_t^\top$$

