CAN AI-DRIVEN RÉSUMÉ SCREENING REFLECT HUMAN COMPETENCE COMPLEXITY? A CORPUS-ASSISTED DISCOURSE ANALYSIS OF CURRICULA VITAE

Short Paper

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Abstract

Taking into account the defining elements of the objectivist approach to the concept of competence, this paper shows how the growing employment of AI applications to résumé screening and evaluation seems to support and strengthen Competency-based Human Resource Management, by framing human competence as a measurable, observable, and predictable attribute. By focusing on the narrative and discursive dimension of a Curriculum Vitae, this study introduces and adopts a Corpus-Assisted Discourse Studies approach to the analysis of résumés, thus suggesting a perspective on the notion of competence that results from the interplay between information included - or not - in traditional quantitative indicators and textual fields relating to personal capabilities, motivations and aspirations. Hence, this research is based on a corpus of Curricula Vitae submitted by recent graduates from the University of Modena and Reggio Emilia, whose self-representation is claimed to emerge from the interaction between different approaches in competencies reporting.

Keywords: Competency-based HRM, AI-driven résumé screening, Corpus-Assisted Discourse Studies

1 Introduction

Today's renewed interest in the so-called Competency-based Human Resource Management is evidenced by the numerous contributions in the organisational literature (Salman et al., 2020), as well as by the wide dissemination of non-academic reports (OECD, 2023). With McClelland (1973), Boyatzis (1982), Spencer and Spencer (1993) often identified as the cornerstones of the objectivist approach to competence - regarded as a specific set of attributes that workers use to accomplish their work (Sandberg, 2000) - the *mainstream* approach assumes that organisations can precisely identify, define and codify the competencies required to achieve desired performance. In this regard, the categorisation and crystallisation of certain combinations of universal characteristics and properties is meant for rapid identification and efficient mobilisation of resources (Vecchio, 2021). This results in an extreme inclination to codification of know-how, which leads to a problematic reductionism (De Terssac, 1992).

Alongside this prevailing perspective on human competence at work, the involvement of Artificial Intelligence (AI) tools is gradually affecting all different HRM tasks (Kim et al., 2025), and the progressively more and more automated recruitment process through AI-powered software represents a widespread transformative trend (Hunkenschroer & Luetge, 2022). Taking into account the defining elements of the objectivist approach to the concept of competence, this paper shows how the growing

employment of AI applications to résumé screening and evaluation seems to support and strengthen Competency-based HRM, by framing human competence as a measurable, observable, and predictable attribute.

Therefore, building on Tambe et al. (2019, p. 16) argument about the necessity to develop theoretical and conceptual thinking, since "data science analyses - when applied to decisions about people - can create serious conflicts with what society typically sees as important for making consequential decisions about individuals", and relying on the centrality of discursive practices and narrative knowledge (Czarniawska, 2004; Nicolini, 2012) in the construction and reproduction of all organisational and social things, this paper introduces and adopts a Corpus-Assisted Discourse Studies (CADS) approach (Gillings et al., 2023) to the analysis of Curricula Vitae (CVs). By focusing on the narrative (Lipovsky, 2014) and discursive dimension of a CV, this paper suggests a perspective on the notion of competence that results from the interplay between information included - or not - in traditional quantitative indicators and textual fields relating to personal capabilities, motivations and aspirations. Hence, this research is based on a corpus consisting of Curricula Vitae from recent graduates of the University of Modena and Reggio Emilia, whose self-representation is claimed to emerge from the interaction between different approaches in competencies reporting.

2 Theoretical Background and Research Question

Competency-based HRM today presents itself as a lexicon of predetermination, consisting of *skills dictionaries* from which individual labels are selected to form a role profile against which people are assessed and recruited (Curzi & Fabbri, 2024). Given the dominance and pervasiveness of this perspective, competence is conceptualised on the basis of an understanding of human beings and workers as resource-object, characterised by a set of enduring properties (Neri, 2021), and the organisational requirements are categorised into distinct roles, delineating the anticipated contribution of each and defining it in terms of the specific activities to be undertaken (Berdicchia, 2013). Therefore, the adoption of quantitative indicators is perceived to make the overall recruitment and selection process more objective, by allowing the construction of a sort of individual competence profile, which can be represented by sequence of quantitative measures using algorithms (Elia & Margherita, 2015).

Effectively pursuing a sort of "objectivity by design" (Gafni et al., 2024), organisations are increasingly deploying "quantitative, evidence-based, and data-driven approaches" (Giermindl et al., 2022, p. 410) in hiring processes. This is particularly evident in the outsourcing of candidate evaluation to AI systems, especially through automated résumés screening processes (Cowgill, 2020). AI applications are now used to scan CVs to score or rank candidates, and to match candidate profiles with job openings to identify the best fit (Hunkenschroer & Luetge, 2022). In this regard, by treating human competence at work as a quantifiable and measurable attribute, AI tools appear to align with - and even reinforce - the unambiguous, codified profiling of candidates required by the mainstream approach to recruitment and selection (Paquette et al., 2021). This contributes to a specific perception of *algorithmic reductionism* (Newman et al., 2020).

However, as suggested by Dietz et al. (2000, p. 420), a résumé "is not simply a list of credentials, but a historical document that evolves over time capturing changes in interests, jobs, and collaborations". Intended as a "form of self-representation" (Phillips et al., 2019), these "living documents" (Fillenwarth et al., 2017, p. 52) convey what "applicants' deem are their most important life experiences believed to be applicable to a work context" (Cole et al., 2009, p. 6). Moreover, according to Lipovsky (2014), since applicants' qualifications and experiences are acquired over time, their personal, educational and employment histories are typically presented as a sequential progression over time. This "introduces into the CV a temporal dimension that suggests a narrative" (Lipovsky, 2014, p. 438). The structure of a CV is therefore intended to convey this narrative dimension through the coexistence of metadata and free-text fields that allow the candidates to express their personal and professional identity.

Thence this study aims to explore if candidates' self-representation of competencies can be fully intercepted through quantifiable and scaled indicators, by comparing the way they navigate and complete standardised sections on competencies and free-text discursive fields.

3 Materials and Methods

This study is based on a purpose-built corpus of CVs containing at least one degree certified by the University of Modena and Reggio Emilia during the 2022/2023 academic year. Data were provided by AlmaLaurea, an inter-university consortium currently representing 82 universities and about 90% of graduates in Italy. AlmaLaurea provided a total of 8,096 CVs in XML (Extensible Markup Language) format; extraction and formatting of the data was conducted using a custom Python script, whose function was that of creating a machine-readable XML structure preserving both metadata and textual contents. The Italian final corpus was loaded on #LancsBox X (v. 4.0.0, Brezina & William, 2024) and consists of 8,096 texts, 2,597,760 grammar tokens and 2,520,735 space tokens.

Data is investigated through a Corpus-Assisted Discourse Studies framework, which explores language as a social practice (discourse) through examining sets of textual data (corpora), thus linking "micro-linguistic choices with context, not only on a text level, but also on organisational, political, and societal levels" (Gillings et al., 2023; Gillings et al., 2024). A procedure able to mix both qualitative and quantitative perspectives enables a comprehensive analysis of the underlying narrative present in CVs, while making it possible to combine textual and metadata contents. This method is applied to the subcorpus which includes textual fields to aid candidates in reflecting on their social, organisational, technical and artistic skills, as well as a personal description of themselves, their professional objectives and their desired profession: 3,859 CVs were found with at least one of them, thus generating a subcorpus of 324,846 tokens. The linguistic content of these fields has been analysed and compared with what is provided in the structured metadata relating to digital and so-called soft skills.

4 Analysis and Results

4.1 Competencies as Quantitative and Scaled Indicators

As previously discussed, Competency-based HRM today operates through predefined skills dictionaries, where specific labels are combined to construct role profiles used to assess and select candidates. Different names have been proposed to label these individual characteristics, but *soft skills* certainly is the most common (Asefer & Abidin, 2021). Among them, different categories have been labelled to identify in a standard and quantifiable manner personal attributes. Table 1 shows the results summarising the data extracted from the CVs.

Skill rating	sklear	skinfo	skdeta	skself	skflex	skinit	skauto	sklead	skcomu	skobje	skplan	skprob	skstre	skteam
0	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296	4.296
1	1	1	---	1	1	1	1	6	---	1	1	1	1	1
2	---	---	1	2	---	2	1	3	1	---	---	---	2	---
3	2	1	---	1	---	2	3	10	---	---	1	---	3	1
4	---	3	1	7	3	5	4	23	6	---	2	4	10	1
5	5	8	8	28	3	34	17	54	13	3	9	15	26	8
6	25	60	55	112	24	165	60	276	93	24	68	64	111	25
7	253	521	363	581	226	697	472	846	595	164	413	516	628	243
8	1.032	1.511	1.029	1.560	948	1.322	1.580	1.235	1.360	976	1.146	1.443	1.472	892
9	1.283	1.108	1.189	960	1.254	916	1.068	857	1.022	1.325	1.121	1.110	1.017	1.225
10	1.199	587	1.154	548	1.341	656	594	490	710	1.307	1.039	647	530	1.404
Tot	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096	8.096

Table 1. Soft skills self-assessment.

Across all skills categories, a significant number of candidates (53.1% in each case) assigned themselves a score of 0, which means that they did not report these skills in their CVs. The results also show that there is considerable variation in how they rated themselves, with skills such as teamwork, goal orientation and flexibility exhibiting a higher proportion of the maximum score (10). Leadership, on the contrary, presents the lowest number of candidates assigning themselves the maximum score, together

with stress resistance and self-confidence. Widely discussed as crucial for the present and future of occupations (Rikala et al., 2024), graduates were also asked to evaluate their own digital competencies. Table 2 presents the results extracted from the data provided in the CVs, showing that the majority (>50%) of users did not evaluate (or simply fill in) the relevant fields.

Answer	Communication	Content creation	Information processing	Problem solving	Safety
No Answer	4.835 (59,7%)	4.856 (60%)	4.820 (59,5%)	4.850 (59,9%)	4.878 (60,3%)
None	8	40	6	34	106
Basic user	281	888	267	836	973
Autonomous user	1.594	1800	2.037	1.831	1.754
Advanced user	1.378 (17%)	512 (6,3%)	966 (11,9%)	545 (6,7%)	385 (4,8%)
Tot	8.096	8.096	8.096	8.096	8.096

Table 2. Digital competencies self-assessment.

Among those who evaluated their digital skills, most considered themselves to be autonomous users rather than advanced users; a self-assessment that seems to reflect confidence in basic digital tasks, yet not necessarily in more advanced or specialised digital activities. A notable consideration given that *Generation Z* is often referred to as the *digital native* generation - grown up in a world where the Internet and digital technologies are not just tools but integral parts of daily life (Benitez-Marquez et al., 2022).

4.2 Competencies in Free-Text Fields

As previously mentioned, from the whole corpus of CVs a subcorpus has been compiled by including textual fields. The analysis began with the exploration of word frequencies, identifying the most frequent ones. Table 3 shows the 50 most frequent words in the corpus in descending order.

Ranking	Word	Frequency	Ranking	Word	Frequency
1	di (*of*)	20.413	26	buona (*good*)	1.612
2	e (*and*)	14.224	27	mio (*my*)	1.599
3	in (*in*)	7.812	28	esperienza (*experience*)	1.597
4	a (*to/at*)	4.235	29	della (*of the*)	1.589
5	che (*that*)	4.075	30	conoscenze (*knowledge*)	1.538
6	capacità (*capabilities*)	3.809	31	i (*the*)	1.512
7	il (*the*)	3.678	32	ambito (*fields*)	1.499
8	le (*the*)	3.584	33	studi (*studies*)	1.473
9	mi (*me*)	3.521	34	l' (*the*)	1.449
10	per (*for*)	3.198	35	ad (*to / at*)	1.443
11	la (*the*)	3.091	36	alla (*to / at the*)	1.332
12	con (*with*)	3.008	37	da (*from*)	1.312
13	un (*a*)	2.884	38	lavorare (*to work*)	1.296
14	ho (*I have*)	2.585	39	gestione (*management*)	1.289
15	una (*a*)	2.476	40	acquisite (*acquired*)	1.272
16	sono (*I am / they are*)	2.261	41	poter (*to be able to*)	1.258
17	del (*of the*)	2.216	42	competenze (*competencies*)	1.233
18	lavoro (*work*)	2.187	43	delle (*of the*)	1.203
19	nel (*in the*)	2.165	44	mie (*my*)	1.181
20	durante (*during*)	2.026	45	mia (*my*)	1.178
21	al (*to / at the*)	1.823	46	dei (*of the*)	1.136
22	vorrei (*I would like*)	1.816	47	dell' (*of the*)	1.077
23	all' (*to / at the*)	1.666	48	come (*as*)	1.068
24	gruppo (*group*)	1.655	49	gli (*the*)	1.047
25	grazie (*thanks*)	1.631	50	comunicazione (*communication*)	1.033

Table 3. Frequency list.

The very frequent use of first-person forms reflects a strong tendency toward self-representation. Verbs are mostly tied to the expression of actions, desires, and states: the high frequency of *sono* (2,261), *ho* (2,585) and *vorrei* (1,816) refers to the formulation of personal experience, identity, and ambitions. Together, these verbs create a layered narrative. Some of the most frequent lexical words are nouns related to the semantic domain of self-assessment and description of abilities. The fact that *capacità* appears as the first content word in the frequency list may reflect the individual's effort to shape their identity, by actively positioning themselves as someone who possesses valuable skills for potential employers. The presence of *lavoro*, *ambito* and *studi* further emphasises both the professional and academic orientation of the discourse and the aim to place capabilities within specific work or study contexts.

The use of *capacità* was further investigated through its collocates, namely "words which frequently co-occur, more often than would otherwise be expected by chance alone" (Gillings et al., 2023, p. 27). The top 30 collocations were identified and displayed in Table 4 - ranked by Log Dice. The set parameters were freq. (collocation) >10, Log Dice >6 and range L1-R3.

Collocate	**Freq. (collocation)**	**Freq. (subcorpus)**	**Log Dice**	**Z-score**
buona (*good*)	1.033	1.612	12,6	233,2
di (*of*)	2.903	20.413	11,9	172,1
buone (*good*)	493	721	11,8	166,6
comunicazione (*communication*)	490	1.033	11,7	137,3
ottime (*excellent*)	330	458	11,3	140
lavorare (*to work*)	329	1.296	11	80,5
ottima (*excellent*)	265	458	11	112
adattamento (*adaptation*)	250	394	10,9	114,1
adeguarsi (*to adapt oneself*)	228	253	10,8	130,6
comunicative (*communicative*)	235	456	10,8	99,3
e (*and*)	986	14.224	10,8	63,4
ad (*to / at*)	280	1.443	10,8	63,9
organizzative (*organizational*)	205	354	10,7	98,6
in (*in*)	500	7.812	10,5	42,7
mie (*my*)	190	1.181	10,3	47,3
relazionali (*interpersonal*)	148	262	10,2	82,7
ascolto (*listening*)	144	269	10,2	79,3
ottenuta (*obtained*)	124	274	10	67,4
gestione (*management*)	143	1.289	9,8	32,9
con (*with*)	163	3.008	9,6	21,5
organizzazione (*organisation*)	112	878	9,6	31,7
solving (*solving*)	87	263	9,5	47,8
a (*to / at*)	161	4.235	9,4	15,8
problem (*problem*)	79	259	9,3	43,6
lavoro (*work*)	115	2.187	9,3	17,6
-buona (-*good*)	67	106	9,1	59
organizzativa (*organisational*)	62	86	9	60,7
la (*the*)	98	3.091	8,9	10,3
comunicativa (*communicative*)	55	69	8,9	60,2
grazie (*thanks*)	77	1.631	8,9	13,2

Table 4. Collocations of "capacità".

Many collocates of *capacità* are evaluative adjectives that qualify the extent or quality of one's abilities, indicating that *capacità* is frequently framed in positive and self-promotional terms. A significant number of collocates pertain to the semantic domains of communication and organisation, thus suggesting an emphasis on interpersonal, verbal, as well as management and planning competencies. However, regarding communication skills, it is interesting to note the relevance of *ascolto* and *relazionali* referring to two spheres not included in the predefined self-assessment labels - thus positioning themselves as socially competent and able to practise active listening seems to be crucial for young candidates.

5 Discussion and Conclusion

The research presented here introduces and explores an alternative perspective on the use of information included in CVs. Findings from soft skills self-assessment indicated the reluctance of many graduates to assess their soft skills within predefined categories, which may be indicative of a lack of confidence in the efficacy of such a method. Alternatively, it is possible that graduates may not perceive the value in explicitly categorising or formally evaluating soft skills. In addition, it is to be noted that graduates may not be able to recognise themselves as possessing the specific soft skills as defined in the established framework. Moreover, when it comes to how digital natives interact with technology, traditional categories for assessing digital skills appear to have lost some of their relevance. It was therefore interesting to focus on how candidates approach free-text fields that allow them to communicate their personal and professional identity. Only 47.7% of them completed at least one of the fields under consideration; this could suggest both a difficulty in expressing their personality and capabilities, and a disregard for these sections, stemming from the perception that they are not actually relevant for recruitment purposes. However, there emerges a desire to communicate their unique personality above all in the form of a *willingness* to do something, based on their *excellent/good capabilities* to become part of the work environment. While some of the formulations of competencies echoed those in the predefined skill dictionaries, others revealed attitudes that would not otherwise have surfaced.

The primary contribution of this study therefore is to shed light on how candidates deal with the representation of competencies both as quantitative and scaled indicators and discourse in free-text sections. By examining the interplay between metadata and textual content in CVs, this study shows how a more exhaustive understanding of candidates can be intercepted, challenging the almost "vectorial" versions based on scores tied to pre-determined labels, that are also often absent. Moreover, the insights from this study have both theoretical and practical implications.

Theoretically, it integrates and expands the existing literature which analyses and challenges the increasing use of AI tools in recruitment and selection processes. It further discusses the extent to which these tools conform to, and simultaneously serve to reinforce, a predetermined, codified and measurable conception of individuals and their competencies. Nonetheless, in consideration of the ever-present nature of narrative knowledge in all social practices (Czarniawska, 2004), the knowledge value of CVs does not solely derive from lists of competencies and qualifications, but it can be explored as a discourse through which candidates express themselves. Consequently, a methodological approach impinging on the interaction between structured metadata and textual information is proposed to explore a corpus of CVs from recent graduates. Practical implications are drawn from the information contained within the CVs, whilst it is the absence of information that is of particular significance. In fact, in the absence of scores for soft and digital skills in most CVs, the question arises as to how this information is assessed by human recruiters and, with even greater pertinence, by algorithms.

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References

Asefer, A., & Abidin, Z. (2021). Soft skills and graduates' employability in the 21st century from employers' perspectives: A review of literature. *International Journal of Infrastructure Research and Management, 9*(2), 44-59.

Benitez-Marquez, M. D., Sanchez-Teba, E. M., Bermudez-Gonzalez, G., & Nunez-Rydman, E. S. (2022). Generation z within the workforce and in the workplace: A bibliometric analysis. *Frontiers in psychology, 12*, Article 736820. https://doi.org/10.3389/fpsyg.2021.736820

Berdicchia, D. (2013). Gestione delle competenze: critica e proposta interpretative. In G. Masino (Ed), *Work as a process of personal development / Il lavoro come processo di sviluppo personale* (pp. 76-114). TAO Digital Library. http://doi.org/10.6092/unibo/amsacta/3716

Boyatzis, R. E. (1982). *The Competent Manager: A Model for Effective Performance*. John Wiley & Sons.

Brezina, V. & William, P. (2024). *#LancsBox X* [software]. Lancaster University.

Cole, M. S., Feild, H. S., Giles, W. F., & Harris, S. G. (2009). Recruiters' inferences of applicant personality based on résumé screening: do paper people have a personality? *Journal of Business and Psychology, 24*, 5-18. https://doi.org/10.1007/s10869-008-9086-9

Cowgill, B. (2020). Bias and productivity in humans and algorithms: Theory and evidence from résumé screening. Working paper, Columbia Business School.

Curzi, Y., & Fabbri, T. (2024). Dalla "Gestione delle Risorse Umane" alla valorizzazione delle competenze. In R. Albano & T. Fabbri (Eds.), *La regolazione organizzativa nei servizi sociali. Strumenti di analisi e casi concreti* (pp. 41-75). Giappichelli.

Czarniawska, B. (2004). *Narratives in Social Science Research*. Sage Publishing.

De Terssac, G. (1992). *Autonomie dans le travail*. PUF.

Dietz, J., Chompalov, I., Bozeman, B., Lane, E., & Park, J. (2000). Using the curriculum vita to study the career paths of scientists and engineers: An exploratory assessment. *Scientometrics, 49*(3), 419-442. https://doi.org/10.1023/a:1010537606969

Elia, G., & Margherita, A. (2015). Next-generation human resource management: a system for measuring and visualising professional competencies. *International Journal of Human Resources Development and Management, 15*(1), 1-15. https://doi.org/10.1504/IJHRDM.2015.069975

Fillenwarth, G. M., McCall, M., & Berdanier, C. (2017). Quantification of engineering disciplinary discourse in résumés: A novel genre analysis with teaching implications. *IEEE Transactions on Professional Communication, 61*(1), 48-64. https://doi.org/10.1109/TPC.2017.2747338

Gafni, R., Aviv, I., Kantsepolsky, B., Sherman, S., Rika, H., Itzkovich, Y., & Barger, A. (2024). Objectivity by design: The impact of AI-driven approach on employees' soft skills evaluation. *Information and Software Technology, 170*, Article 107430. https://doi.org/10.1016/j.infsof.2024.107430

Giermindl, L. M., Strich, F., Christ, O., Leicht-Deobald, U., & Redzepi, A. (2022). The dark sides of people analytics: reviewing the perils for organisations and employees. *European Journal of Information Systems, 31*(3), 410-435. https://doi.org/10.1080/0960085X.2021.1927213

Gillings, M., Mautner, G., & Baker, P. (2023). *Corpus-assisted discourse studies*. Cambridge University Press.

Gillings, M., Learmonth, M., & Mautner, G. (2024). Taking the Road Less Travelled: How Corpus-Assisted Discourse Studies Can Enrich Qualitative Explorations of Large Textual Datasets. *British Journal of Management, 35*(4), 1667-1679. https://doi.org/10.1111/1467-8551.12816

Hunkenschroer, A. L., & Luetge, C. (2022). Ethics of AI-enabled recruiting and selection: A review and research agenda. *Journal of Business Ethics, 178*(4), 977-1007. https://doi.org/10.1007/s10551-022-05049-6

Kim, S., Khoreva, V., & Vaiman, V. (2025). Strategic Human Resource Management in the Era of Algorithmic Technologies: Key Insights and Future Research Agenda. *Human Resource Management, 64*(2), 447-464. https://doi.org/10.1002/hrm.22268

Lipovsky, C. (2014). The cv as a multimodal text. *Visual Communication, 13*(4), 429-458. https://doi.org/10.1177/1470357213497869

McClelland, D. C. (1973). Testing for competence rather than for "intelligence." *American Psychologist, 1*, 1-14. https://psycnet.apa.org/doi/10.1037/h0034092

Neri, M. (2021). Risorse, persone, …*what else?* In M. Neri (Ed.), *Humans, resources, or what else?* (pp. 5-20). TAO Digital Library. http://doi.org/10.6092/unibo/amsacta/6754

Newman, D. T., Fast, N. J., & Harmon, D. J. (2020). When eliminating bias isn't fair: Algorithmic reductionism and procedural justice in human resource decisions. *Organizational Behavior and Human Decision Processes, 160*, 149-167. https://doi.org/10.1016/j.obhdp.2020.03.008

Nicolini, D. (2012). *Practice theory, work, and organization: An introduction*. Oxford University Press.

OECD. (2023). *Skills Outlook 2023: Skills for a Resilient Green and Digital Transition*, OECD Publishing. https://doi.org/10.1787/27452f29-en

Paquette, G., Marino, O., & Bejaoui, R. (2021). A new competency ontology for learning environments personalization. *Smart Learning Environments, 8*(16), 1-23. https://doi.org/10.1186/s40561-021-00160-z

Phillips, T., Saunders, R. K., Cossman, J., & Heitman, E. (2019). Assessing trustworthiness in research: a pilot study on cv verification. *Journal of Empirical Research on Human Research Ethics, 14*(4), 353-364. https://doi.org/10.1177/1556264619857843

Rikala, P., Braun, G., Järvinen, M., Stahre, J., & Hämäläinen, R. (2024). Understanding and measuring skill gaps in industry 4.0—a review. *Technological Forecasting and Social Change, 201*, Article 123206. https://doi.org/10.1016/j.techfore.2024.123206

Salman, M., Ganie, S. A., & Saleem, I. (2020). The concept of competence: a thematic review and discussion. *European Journal of Training and Development, 44*(6/7), 717-742. https://doi.org/10.1108/EJTD-10-2019-0171

Sandberg, J. (2000). Understanding human competence at work: an interpretative approach. *Academy of management journal, 43*(1), 9-25. https://doi.org/10.5465/1556383

Spencer, L. M., & Spencer, S. M. (1993). *Competence at work: Models for superior performance*. John Wiley & Sons.

Tambe, P., Cappelli, P., & Yakubovich, V. (2019). Artificial intelligence in human resources management: Challenges and a path forward. *California Management Review, 61*(4), 15-42. https://doi.org/10.1177/0008125619867910

Vecchio, L. (2021). Risorse, persone e psicologia. In M. Neri (Ed.), *Humans, resources, or what else?* (pp. 83-95). TAO Digital Library. http://doi.org/10.6092/unibo/amsacta/6754