Intelligenza artificiale e *accounting*: le possibili relazioni

Diego Valentinetti, Michele A. Rea,[*]

Artificial intelligence and accounting: Possible relationships

Abstract

Artificial Intelligence (AI) is increasingly emerging as a new frontier in business studies. The main feature of this group of technologies lies in the ability to replicate human behaviors and cognitive processes for the resolution of complex problems, including those related to business activities and choices. To investigate how this phenomenon is emerging in the scientific debate, this paper proposes a systematic literature review on the role of AI in the context of corporate accounting systems. In particular, our analysis aims at identifying how scholars unveil potential implications and consequences related to financial accounting systems and instruments (i.e., financial accounting, reporting, and auditing) and management accounting. The analysis carried out seems to emphasize the role of AI tools which, on the one hand, aim to automate repetitive and standardized operations, and on the other hand appear to be able to significantly support decision-making processes for management control. This dual functionality can be related to the broader debate on the ability of the so-called smart technologies to give a significant impetus to the development of accounting information systems.

Keywords: Artificial intelligence, Financial accounting, Financial reporting, Financial audit, Management accounting.

[*]University "G. d'Annunzio" of Chieti-Pescara, Department of Economic studies. Corresponding author: d.valentinetti@unich.it

Appendice 1- Tavola sinottica

Anno	Autori	Titolo	Rivista	Metodo
1986	Akers et al.	Expert Systems for Management Accountants	MA	T
1995	Baldwin-Morgan	Integrating artificial intelligence into the accounting curriculum	AE	T
	Coakley	Using pattern analysis methods to supplement attention directing analytical procedures	ESWA	E
1997	Eining et al.	Reliance on decision aids: An examination of auditors' assessment of management fraud	AJPT	E
1999	Cerullo, Cerullo	Using neural networks to predict financial reporting fraud: Part 1	CFS	T
2012	Omoteso	The application of artificial intelligence in auditing: looking back to the future	ESWA	R
2013	Minhas	A Review of Artificial Intelligence and Biologically Inspired Computational Approaches to Solving Issues in Narrative Financial Disclosure	proceeding	R
2016	Sutton et al.	"The reports of my death are greatly exaggerated" – Artificial intelligence research in accounting	IJAIS	R
2017	Amani, Fadlalla	Data mining applications in accounting: a review of the literature and organizing framework	IJAIS	R
2019	Guo	Research on the Transition from Financial Accounting to Management Accounting under the Background of Artificial Intelligence	JP	T
	Peng, Chang	An exploration on the problems of replacing accounting professions by AI in the future	proceeding JCAF	E
	Turegun	Impact of technology in financial reporting: The case of Amazon Go		C
2020	Altukhov et al.	Process Approach to the Creation of Intellectual-Information Management System of Industrial Enterprise Development	proceeding	T
	Cristiano	Intellligenza artificiale, impatto sul sistema aziendale e performance	capitolo	T
	Ding et al.	Machine learning improves accounting estimates: evidence from insurance payments	RAS	E
	Gavrilova, Gurvitsh-Suits	Contemporary Innovation Challenges - Future of Adoption Artificial Intelligence: Case of Estonia	EIS	E
	Kipp et al.	The attenuating effect of intelligent agents and agent autonomy on managers' ability to diffuse responsibility for and engage in earnings management	AH	E
	Li	Analysis on the Influence of Artificial Intelligence Development on Accounting	proceeding	T
	Li et al.	Research on the Impact of Artificial Intelligence Technology on Accounting	JP	T
	Marcello	The use of Big data analytics and artificial intelligence tools to prevent fraud in the audit field: A conceptual frame	RIREA	T
	Petkov	Artificial intelligence (Ai) and the accounting function—a revisit and a new perspective for developing framework	JETA	T
	Shi			T

	Tofan	The Impact of Artificial Intelligence on the Accounting Industry	ISC proceeding	T
	Wang	Digital trends in audit	proceeding	T
		Research on the transition from financial accounting to management accounting in the era of artificial intelligence		
2021	Albitar *et al.*	Auditing in times of social distancing: the effect of COVID-19 on auditing quality	IJAIM	T
	Avelar *et al.*	Artificial intelligence as support for management accounting and control systems: an analysis in transport companies by application	S&G	E
	Ciampi *et al.*	Rethinking SME default prediction: a systematic literature review and future perspectives	S	R
	Dheeriya, Singhvi	A conceptual framework for replacing audit committees with artificial intelligence infused bot	EDPACS	T
	Handoko	How audit firm size moderate effect of TOE context toward auditor adoption of machine learning	JTAIT	E
	Hu *et al.*	Identifying key factors for adopting artificial intelligence-enabled auditing techniques by joint utilization of fuzzy-rough set theory and MRDM technique	TEDE	E
	Jan	Detection of financial statement fraud using deep learning for sustainable development of capital markets under information asymmetry	SUS	E
	Korhonen *et al.*	Exploring the programmability of management accounting work for increasing automation: an interventionist case study	AAAJ	C
	Korobeynikova *et al.*	Artificial intelligence for digitalization of management accounting of agricultural organizations	proceeding	T
	Qin, Qin	Cloud Platform for Enterprise Financial Budget Management Based on Artificial Intelligence	WCMC	E
	Roszkowska	Fintech in financial reporting and audit for fraud prevention and safeguarding equity investments	JAOC	R
	Shen	Research on the Transition from Ginancial Accounting to Management Accounting in the Era of Artificial Intelligence	proceeding	T
	Wang	Cultivation of International Accounting Talents under the Background of Informatization	JP	E
	Zhang	Application of data mining and machine learning in management accounting information system	JASE	E
2022	Hou	Design and Application of Intelligent Financial Accounting Model Based on Knowledge Graph	MIS	E
	Hu	Partial Differential Equation-Assisted Accounting Professional Education and Training Artificial Intelligence Collaborative Course System Construction	SP	C
	Korol *et al.*	Elaboration of recommendations on the development of the state internal audit system when applying the digital technologies	EJET	E
	Liu *et al.*	Research on the Transformation from Financial Accounting to Management Accounting Based on Drools Rule Engine	CIN	T
	Munir	Big data analytics capabilities and innovation effect of dynamic capabilities, organizational culture and role	F	E

Diego Valentinetti, Michele A. Rea

	of management accountants		
Naidoo, Dulek	Artificial Intelligence in Business Communication: A Snapshot	IJBC	E
Nielsen	Management accounting and the concepts of exploratory data analysis and unsupervised machine learning: a literature study and future directions	JAOC	R
Qiu	Analysis of Human Interactive Accounting Management Information Systems Based on Artificial Intelligence	JGIM	E

C = caso studio; E = empirico; R = *review* della letteratura; T = teorico

AAAJ *Accounting, Auditing & Accountability Journal;* AE *Accounting Education*; AH *Accounting Horizons*; AISC *Advances in Intelligent Systems and Computing*; AJCP *Auditing: A Journal of Practice and Theory*; CFS *Computer Fraud and Security*; CIN *Computational Intelligence and Neuroscience*; EDPACS *The EDP Audit, Control, and Security Newsletter*; EIS *European Integration Studies*; EJET *Eastern-European Journal of Enterprise Technologies*; ESWA *Expert Systems With Applications*; F *Foresight*; IJAIM *International Journal of Accounting and Information Management*; IJAIS *International Journal of Accounting Information Systems;* IJBC *International Journal of Business Communication*; JCAF *Journal of Corporate Accounting and Finance*; JAOC *Journal of Accounting and Organizational Change;* JASE *Journal of Applied Science and Engineering*; JETA *Journal of Emerging Technologies in Accounting;* JGIM *Journal of Global Information Management*; JP *Journal of Physics Conference Series;* JTAIT *Journal of Theoretical and Applied Information Technology*; MA *Management Accounting*; MIS *Mobile Information Systems*; QRAM *Qualitative Research in Accounting and Management;* RAS *Review of Accounting Studies*; RIREA *Rivista Italiana di Ragioneria e di Economia Aziendale*; S *Scientometrics*; S&G *Sistemas & Gestão*; SP *Scientific Programming*; SUS *Sustainability*; TEDE *Technological and Economic Development of Economy*; WCMC *Wireless Communications and Mobile Computing.*

Appendice 2 – Riviste e contributi con maggior impatto (Fonte: Biblioshi-ny)

Most Relevant Sources

Sources	N. of Documents
JOURNAL OF PHYSICS: CONFERENCE SERIES	3
EXPERT SYSTEMS WITH APPLICATIONS	2
INTERNATIONAL JOURNAL OF ACCOUNTING INFORMATION SY	2
JOURNAL OF ACCOUNTING AND ORGANIZATIONAL CHANGE	2
ACCOUNTING EDUCATION	1
ACCOUNTING HORIZONS	1
ACCOUNTING, AUDITING AND ACCOUNTABILITY JOURNAL	1
ACM INTERNATIONAL CONFERENCE PROCEEDING SERIES	1
ADVANCES IN INTELLIGENT SYSTEMS AND COMPUTING	1
AUDITING	1

Most Global Cited Documents

Documents	Global Citations
EINING MM, 1997, AUDITING	102
AMANI FA, 2017, INT J ACCOUNT INF SYST	75
SUTTON SG, 2016, INT J ACCOUNT INF SYST	69
OMOTESO K, 2012, EXPERT SYS APPL	60
ALBITAR K, 2021, INT J ACCOUNT INF MANAGE	47
DING K, 2020, REV ACCOUNT STUD	36
CIAMPI F, 2021, SCIENTOMETRICS	25
KORHONEN T, 2021, ACCOUNT AUDIT ACCOUNT J	17
ROSZKOWSKA P, 2021, J ACCOUNT ORGAN CHANGE	16
CERULLO MJ, 1999, COMPUT FRAUD SECUR	15

5