Transdisciplinary Risk Management Accounting 4.0: Finance Egalitarian Digital Evidance From Indonesia

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ABSTRACT

The purpose of this paper is to development of a transdisciplinary risk management accounting 4.0 through comprehensive skills, technology updates, and knowledge upgrades. This achievement requires reflection and supervision in awareness, professional development, education and reaching out through creative, independent and responsible exploration. In so doing, it draws upon insights from other papers in risk management accounting on the theme of high order cognitive skills finance for business. The paper draws heutagogical philosophy by providing choices and opportunities to design the business process in descriptive qualitative through in-depth interviews with educational observers. The paper explain that the risk finance design for business accounting management fosters the convergence of knowledge and technology. This convergence makes the development of business adaptive. The paper produce a risk management that promotes a dynamic and flexible egalitarian digital to explore scholar creatively, independently and responsibly.

Keywords Transdisciplinary, risk management accounting 4.0, and egalitarian digital.

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INTRODUCTION

Risk management must be responsive to the needs of society and must also reflect the social, political, legal, cultural and economic conditions in which accounting operates or is applied (Prasetyo, 2019). The explanation above is in line with the phenomenon of independent learning, encouraging responsibility for the realization of attitudes, knowledge, general and special skills in the educational process. The shift in higher education orientation from competency attainment to capability requires updating the higher education curriculum platform for finance study programs. Curriculum development guidelines that use a competency-based curriculum model need to be updated. This situation refers to (Marriott & McGuigan, 2018; Cheung, 2019) explanation that competence as the basis for higher education curriculum achievement will not be achieved if multi-skill demands become the expected achievement. Furthermore, (Pincus, et al 2017) and (Schlenz, et al 2020) states that the formulation of competency learning outcomes reflects more closed learning and tends to break down discrete skills. This explanation is in line with the results of research on the management accounting process by Livdan and Nezlobin (2017), Prasetyo (2019) and Springer & Borthick, (2004). They stated that the conventional management accounting that prioritizes memorization skills can cause scholar to be unable to develop competencies that are actually needed in accounting. This demand requires a change in the risk management paradigm. The risk management process has changed no longer, as stated by Hamilton, et al (2021) in The Power of Now, which is intensive, but the practice of heutagogy provides space for business to design their own learning (self-directed / determined learning). This process is the main characteristic of Education 4.0 by opening dialogue between business and practice or colleagues in learning activites. Information technology support provides the effectiveness of risk management accounting learning (Goldwater and Fogarty, 2007; Lashine and Mohamed, 2013; Mohammed, et al 2018; Ismail, et al 2020).

This condition demands that the goal of learning achievement for management accounting is more open, which will give scholar learning flexibility to develop their capabilities, and be open to developing individual potential. Personalized learning gets enough space for those who have a certain passion for learning. This atmosphere is a response to following technological changes. This explanation is in line with the relationship between users and decision-making becomes unified in responding to business environmental changes. Changes that lead to core competence in achieving of sustainable competitive (Duff, 2014; Fordham & Hayes, 2009; Villiers, et al 2017) which state that risk management accounting must change by following environmental changes and the response to technological developments to continue to develop and be useful.

The convergence of risk management accounting science and technology occurs naturally in line with the widening of knowledge democracy and openness of scientific disciplines as a result of knowledge proliferation. The openness and ease of access to information in various disciplines provided by information and communication technology widens the convergence of science and technology. This is as explained by Pincus, et al (2017), Mohammed, et al (2018), and Bourmistrov(2020) that there will be no discipline that is sterile from the influence of other disciplines. Each discipline will require roles or contributions from other disciplines. Dynamic and flexible harmonization of transdisciplinarity. The

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expected implications of transdisciplinary learning require a change in the academic landscape architecture that provides flexibility on a sustainable basis for process and learning experience of business and practice as well as scholar curricula for interdisciplinary learning. The interaction of these three main educational subjects makes a fundamental change in transdisciplinary achievement. Of course, what is meant in nonmenklatur is not only the achievement of instrumental input in educational praxis but also in the multi-skills learning process which is metacompetence.

This concept is a link and match means of combining skills and knowledge in nonmenklatur towards inspiring quality higher education facilities. So that in facing the era of disruptive technology and innovation, accounting education 4.0 must take a paradigmatic leap. It is time to leave the practice of teaching young children, and transform the heutagogical learning paradigm that provides learning menu choices and opportunities for scholar to design their own learning. This method gives the responsibility to be able to accept a certain role in determining the profession from one's own identity. Therefore, in terms of learning, they are given many choices about study topics of interest and their learning preferences (Lashine & Mohamed, 2013; Cheung, 2019; Ismail, et al 2020; Sangster, et al 2020).

The concept of risk management accounting 4.0 with this technology makes it easier for accounting scholar to learn. This objective is what makes accounting learning adaptive and creative in response to environmental development. This response makes the atmosphere of inspirational learning open and accomodating to receive input in other scientific developments. Therefore there is a relationship between one field of science and another. The mainstreaming of accounting knowledge has turned inspiring to the climate of scientific development in the finance arena which positions each science to support each other and equal, namely capability, meaning that the goal of learning outcomes is more open or transdisciplinary learning. This condition makes this research study formulate the **problems and objectives** of how risk management accounting 4.0 learns to be sustainable competitive through transdisciplinarity. A concept that makes students have the widest space to explore creatively, independently, and responsibly towards an inspiring management risk for finance bussiness.

THEORETICAL STUDIES

An Accountability view of risk management accounting might offer a useful grounding with respect to maintaining a better sense of the profession through an everchanging business environment (Watkins, 2007). The idea of Watkins' writing thirteen years ago was proven when entering the current era of the Industrial Revolution 4.0, a study which states that technological developments support the discipline of accounting in disseminating finance information that is more accurate, bulk, faster and easier to understand. Therefore, technology provides big data and data analytics to support specific decisions and value confidence acceptance of information. This concept according to Goldwater & Fogarty (2007), Pincus, et al (2017), Prasetyo (2019), Fogarty (2020) is an risk management accounting transformation that contains information sources that are integrated with other knowledge.

This risk for business transformation makes the stewardship function presented demands real, fair, objective and reliable quality. Condition, according to

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Duff & McKinstry (2007), Duff (2014), Villiers, et al (2017) and Bourmistrov (2020) creates a harmonious relationship between stakeholders and accounting management information becomes more reliable, which can then be used as information for decision making, especially in the management, assessment, and inspirational functions. do further thinking in developing the existence of the use of technology for risk management accounting knowledge.

Accounting requires technology that enables accounting to produce useful information. What is meant by technology here as referring to the explanation of Bogt & Helden (2012), Gnangnon & Brun (2019), and Schlenz, et al (2020) is adaptive technology that reflects the enactment of reality in developing the existence of risk for management accounting knowledge. This adaptive technology encourages accounting management learners to change their mindset towards accounting from initially being a purely social academic discipline to an integrated academic discipline that combines social knowledge and other knowledge studies in a balanced manner.

That adaptive technology, as explained by Marriott & McGuigan (2018), Cheung (2019), Fogarty (2020) is to provide financial and non-financial information that complements the presentation of accounting information that contributes to life. Adaptive finance technology makes risk management accounting knowledge balanced to receive other knowledge. This balance according to Fordham & Hayes (2009), Pincus, et al (2017), Lashine & Mohamed (2013); Hamilton, et al (2021) is a tactical step in recognizing accounting as real social knowledge with the environment business. This situation is in line with what Djamhuri (2011), Prasetyo (2019), Ismail, et al (2020) stated that the domain of accounting is in area of social sciences and not just social science which basically reaches potential to be harmoniously combined.

This achievement encourages accounting scholar and practice to increasingly utilize technology in synergizing accounting with other sciences. The goal is to control complete and able to anticipate future needs (Villiers, et al 2014; Reiss, 2020; Sangster, et al 2020). This synergy develops an risk management accounting mindset or orientation in science and research, curriculum, learning methods and technology, organizational management and other learning processes.

Furthermore, finance technological literacy is through understanding how machines work, technology applications (coding, artificial intelligence, and engineering principles), and finally human literacy, namely humanities, communication and design. The third is finance literacy which demands the development of the capacity of cognitive accounting scholar, which means that they have superior mental capabilities (higher order mental skills) and critical and systematic thinking. Management accounting develops following the pattern of society's situation. The situation of society (nature of society) will provide openness to the presence of a new paradigm, namely that previous risk management accounting research has always started positivistically (based on field) reverses in a subjective direction (i.e. the meaning of events depends on what is known, or personal perceptions experienced and draws conclusions-conclusion). The presence of risk management accounting science with an interest in providing and delivering information is a means of business communication, so that accounting can be called the language of business. The language of business communication (full of signs and rules) at the level of syntax (sign language), semantics (meaning) and

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pragmatics (communicative effect) depends on the sender (information provider) to the recipient (information user)(Suwardjono, 2016: 28-29).

The development of information as a means of communication in business will always provide an understanding of the presence of risk mangement accounting to keep abreast of finance technological developments based on interactions that occur. Technology provides finance information for evaluation facilities regarding the configuration of receipts for transaction changes (Livdan & Nezlobin, 2017; Schöndube-Pirchegger & Schöndube, 2017; Utama, 2016; Käpplinger & Lichte, 2020). In general, scholar and practice fail to understand that the reality they face is an entity that does not stand alone. The real reality is an interdependent reality that is formed through a complex and continuous process of social interaction. Thus, it isn't strange if there is a wide gap between theory and practice, because of the condition that the demands for the presence of risk management accounting must be able to be developed objectively, quantitatively, and based on rational logic, because development based on objectivity is in accordance with existing circumstances. will make the development of finance presence take place in a direction that is consistent with the environmental conditions that occur. But we should be able to understand that a neutral form of accounting knowledge does not actually exist at all.

Risk management accounting changes are in line with the development of the environment in which accounting scholar seek knowledge (Duff and McKinstry, 2007; Demski, 2007; Goldwater & Fogarty, 2007; Fordham & Hayes, 2009; Duff, 2014; Fogarty, 2020). Furthermore, according to Schlenz, et al (2020), Helm (2020) and Bourmistrov (2020) scholar are note takers who take notes and record everything they feel, experience, and encounter during their life. Humans as subjects and the environment as objects converge and meet to become what is called knowledge. Therefore, business knowledge from day to day is always increasing and cumulative.

The transdisciplinary learning paradigm promotes learning that is more participatory, open and reflective. Mainstreaming risk management accounting that emphasizes finance egalitarian to foster flexibility and flexibility in dialogue among business activities to learn across disciplines. Disruptive innovation of business field architecture to create convergence and crossovers between disciplines of science and technology.

RESEARCH METHODS

This research is a qualitative descriptive study through in-depth interviews Reiss (2020) and Zhao (2020) to explore risk management accounting 4.0 which fosters the convergence of accounting knowledge and technology. This convergence makes the development of adaptive accounting by providing flexibility in a sustainable manner the process plane and learning experience achieve transdisciplinarity animated by higher order mental skills and critical-systematic thinking.

The development of an transdisciplinary for risk management accounting 4.0 business that promotes this finace egalitarian digital is based on in-depth interviews with education observers, namely:

First, Mr. Dr.Sandiaga Salahuddin Uno M.B.A. (Minister of Tourism and Creative Economy of the Republic of Indonesia), His appointment as an informant was due

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to his competence in developing risk management as a solution to face competition with a financial strategy to respond to the digital era. This competence is manifested in the writing of his article entitled: The response of the business environment in utilizing digital as a sustainable competitive advantage. and

Second, Prof. Dr. Unti Ludigdo, Ak., CA. (Observer of Accounting Education as well as Director of Vocational University of Brawijaya). His appointment as an informant was due to his competence in developing accounting through his study of writing his article entitled: The digital era is developing accounting education era as a manifestation of digital transformation

The determination of the two informants above was carried out at the International Conference on Accounting and Finance at Brawijaya University Malang on 16-17 September 2022. This process continued with discussion interviews for three months from 20 September to 23 December 2022. In the next stage, the interpretation of the text obtained from the field and the interview is developed into the context of interpretation.

RESULTS AND DISCUSSION

Education and technology are forms of creativity, critical thinking, cooperation and communication. This achievement provides cognitive abilities, social and behavioral abilities as well as technical abilities. This is as stated by Sandiaga Salahudin Uno the following:

> Digital technology has become a driving force in the development of management business methods. Business methods that make learners motivated analysis to develop knowledge without limits.

This statement is in line with Parker (2008), Cheung (2019), Al Masum & Parker (2020) and Parker (2020) which states that the risk management accounting for business method needed is to motivate learners to financedevelop knowledge as high and broad as possible with the sky is the limit. The learning concept that changes competency-based final goals shifts to capabilities.

The formulation of such risk mnagement accounting learning outcomes makes it more open by giving business learning flexibility to develop their capabilities, and is open to developing individual potential. Personalized learning gets enough space for those who have a certain passion for learning. Learning outcomes show creativity is not just a change in instrumental input in meeting praxis such as changes from face to face to blended learning, or online distance learning, and building big data, because accounting 4.0 is not just digitizing accounting but as stated by Marriott & McGuigan (2018) and Gnangnon & Brun (2019) that risk management accounting can present new non-financial resources to provide confidence in decision making.

This capability explains self-awareness about the existence of metacompetence and multiskills that can act effectively on one's own knowledge. This self-knowledge as expressed by Goldwater & Fogarty (2007), Livdan & Nezlobin (2017), Schöndube-Pirchegger & Schöndube (2017), Sangster, et al (2020) is that it provides space for designing self-learning (self-directed or determined learning). The goals of learning outcomes are more open to provide learning flexibility to develop their capabilities, open to developing individual

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potential. Personalized learning gets enough space for those who have a certain passion for learning.

The learning process becomes a pleasant experience and gets meaning from the disclosure of risk management accounting knowledge, meaning that the self plays a role in controlling everything it does to lead to the truth of knowledge. This process senses the existence of teachings in form of inspiration and ideas flowing in mind, fostering disruptive innovation, convergence and crossover between disciplines of scientific and technological. Self-awareness requires a role or contribution to compile (mix) its own learning needs. This condition allows the development of new studies in the risk management accounting discipline through the five senses of transdisciplinary learning. This method provides a dimension of wisdom Livdan & Nezlobin (2017), Marriott & McGuigan (2018) and Fogarty (2020). Wisdom which further refers to Prof. Unti Ludigdo as follows:

> *Revolution 4.0 provides policies on the ability of technical skills, business understanding and soft skills. All three require a role or contribution of desire that is in us or a physical self-body to develop it ourselves. This is in line with what Burrit and Christ stated in the international edition of risk management accounting that the physical self-body provides four achievements, namely awareness, education, professional development and reaching out*.

The concepts of awareness, education, professional development and reaching out present phenomenal thinking or mind processing from the five senses. Why is it phenomenal? Because humans as subjects and the environment as objects. As this subject, he took notes and recorded everything he felt, experienced and encountered during his interactions with the environment. Conditions like this make the scientific field of accounting in the economic environment inseparable from the user and the environment. This linkage makes accounting management science must be "combine" with other disciplines, for example with information technology that gave rise to digital business, meaning that there is a unity between the economy and the digital world. Furthermore, these conditions make the campus collaborate between the fields of economics and engineering related to its digital aspects. Or can "combine" accounting with sociology, psychology, culture to medicine.

Such combine creates awareness of the scientific stakeholders in Higher Education to be innovative in the learning process by paying attention to the response to environmental development. This response makes the learning atmosphere open and accommodating to receive input in other scientific developments. This awareness makes arrogance in totaliterating science in one field only. Mainstreaming of risk management accounting has changed positively towards the climate of scientific development business in the educational arena which positions each science to be mutually supportive and equal, namely capability, meaning that the goal of learning outcomes is more open or transdisciplinary learning. The achievements that show valuable learning in the presence of the accounting graduate profession (in the profile of the Challenges to the Accounting Management Bachelor Curriculum in Industrial Era 4.0) experience life dynamics that are no longer easily predictable, resulting in increasingly blurred definitions of the role of accountants. Many workplaces employ temporary or contract workers (out sourcing), and there will be more experience quitting one job

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and changing jobs as part of the worker's career. This illustrates the increasingly high mobility of the labor market, so that the design of the risk management accounting learning curriculum based on prediction of social roles is increasingly inadequate.

This explanation is in accordance with Goldwater & Fogarty (2007), Pincus, et al (2017), Sangster, et al (2020), Hamilton, et al (2021) which states that the unity of risk management accounting knowledge with technology makes every development occur based on accounting regulations. The achievement of the identification of this understanding as stated by Sandiaga Salahuddin Uno the following:

> Technology 4.0 for updating skills and learning passion as Cyber physical. This must be interpreted as creative problem solving to realize business knowledge through awareness of the flexibility of scholar knowledge to take their own learning path. Self that contains the least regulation that is aware of the present environment. Furthermore, regulations are time bound. The time that is actually designed to be a useful supporter, has changed with its presence as a major influence, that is transformation with data exchanges, articial intelligence, internet of things and more.

The advancement of infrastructure in risk management accounting learning makes methods for developing cognitive capacities (higher order mental skills), critical and systemic thinking. This 4.0 accounting policy step lies in the ability to reconsider and rethink the existence of a true personal self and express from the extraordinary, draw conclusions from the realities in this ordinary physical world, moment by moment. It is easy to say, but seldom has succeeded in achieving the continued mind development of human person.

Transdisciplinary risk management accounting knowledge 4.0 provides a source of accounting knowledge obtained as a result of a structured process of induction, deduction and verification (validation) testing and verification that never ends. A process that departs from the interdependence and connection of biological, physical, social and environmental phenomena. Dependency that gives rise to eco action and ego action (cyber-physical system), both types of activities are closely related to intuitive and rational. Both things (intuitive and rational) are characteristic features of human thought throughout the ages that produce knowledge. Intuitive and rational are two complementary modes of human reason function. Rational thinking is linear, focused, and analytical. Thought is the realm of intellect, whose function is to distinguish, measure, and classify. Thus, transdisciplinarity is based on direct and non-intellectual experiences of reality that arise in a broad state of consciousness. Intuitive knowledge tends to be coherent, holistic, and nonlinear and forms the basis for ecological activity.

Ecological awareness will grow only if it combines rational knowledge with intuition for the nature of the nonlinear bussiness environment (comprehensive skill, technology update and knowledge upgrade). This makes it possible to link the fact that there is a deep separation between cultural aspects of human nature (Marriott & McGuigan, 2018; Ma, et al 2018; Zhao, 2020; Hamilton, et al 2021). Separation manifests a difference between the development of intellectual powers, scientific knowledge, and technological skills, and the development of wisdom, spirituality and ethics. The combination is an effort to achieve a coherent conceptual

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framework for social and ecological harmony. The cyber-physical system cycle which can also be referred to as an independent learning accounting management curriculum, which can be described in the following coherence:

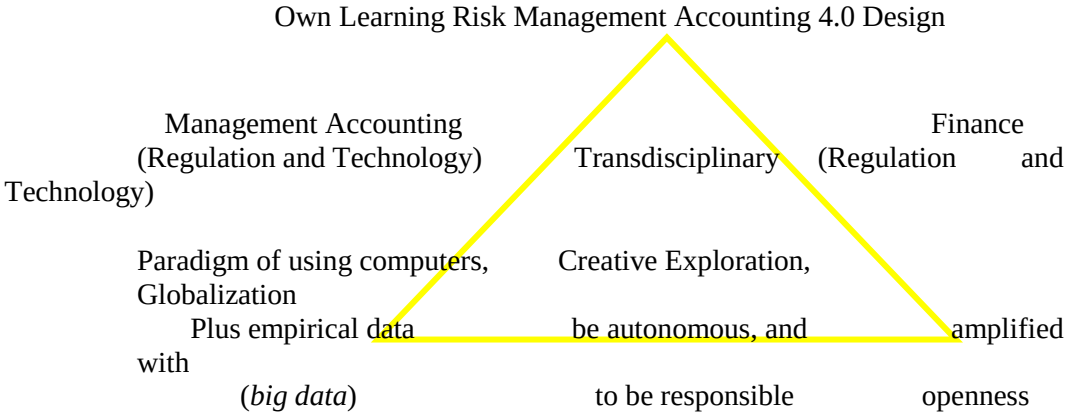

Figure 1: Risk Management Accounting 4.0 Finance Egalitarian Digital Methods Cycle

The implication is that risk management accounting 4.0 requires a phase or path of the academic landscape that is located in the study of the entity paradigm and operational logic, which gives accounting scholar the flexibility to learn across disciplines. Such studies result in disruptive innovations for convergence and crossovers between accounting and technology disciplines. Convergence takes place naturally in line with the wider democracy of knowledge and the openness of scientific disciplines as a result of knowledge proliferation. The openness and easy access to information in various disciplines provided by technology and communication, the result clears the convergence of accounting and technology that is complete in cognitive awareness.

CONCLUSION

This business convergence of accounting and technology fosters innovation in learning process by taking into finance account the response to environmental developments (cyber-physical system). This response creates a transdisciplinary learning atmosphere for heutagogical and egalitarian ones to receive input in other scientific developments. This awareness makes arrogance in totaliterating science in one field only. Mainstreaming of risk management accounting 4.0 has changed positively towards the climate of scientific development in the finance bussiness analysis arena which positions each science to support each other and equals, namely concepts and applications, meaning that learning outcomes promote the integration of cyber-physical systems for practice, lecturers, scholar and the analysis finance in entire risk management accounting learning process. Integrasi cyber-physical system menghasilkan awareness, education, professional development and reaching out present phenomenal thinking or mind processing from the five senses. As this subject, he took notes and recorded everything he felt, experienced and encountered during his interactions with the environment. Conditions like this make the scientific field of risk management accounting in the economic environment bussiness inseparable from the user and the environment.

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This linkage makes risk management accounting science must be "combine" with other disciplines.

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