РОЗДІЛ 4.
МЕНЕДЖМЕНТ ТА ІННОВАЦІЙНИЙ РОЗВИТОК

4. FEJEZET.
MENEDZSMENT ÉS INNOVATÍV FEJLŐDÉS

CHAPTER 4.
MANAGEMENT AND INNOVATIVE DEVELOPMENT

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BIG DATA LITERATURE-BASED BIBLIOMETRIC MAPPING ANALYSIS FOR COMPETENCES ADAPTABLE TO INDUSTRY 4.0 AND 5.0: IMPLICATIONS FOR CAREER ORIENTATION

Анотація. *Це дослідження визнає наявність компетентнісної основи в кар'єрних орієнтаціях як аспірантів, так і фахівців. Кар'єрні орієнтації випускників і спеціалістів, що охоплюють їхні інтереси та цілі, сильно залежать від їхніх компетенцій. Компетентність є важливою основою для вибору кар'єри та узгоджується з конкурентною перевагою фірми, яка ґрунтується на компетентності (наприклад, основна компетенція та динамічні можливості). По суті, компетентність також є структурою «орієнтації на кар'єру», яка забезпечує унікальні функції особи чи організації, демонструючи властивості VRINO диференціації (наприклад, цінність, рідкість, неповторність, незамінність та організованість). Випускники та професіонали розвивають компетенції «знати, чому» (що стосуються кар'єрної мотивації, особистого значення та ідентифікації), компетенції «ноу-хау» (функціональні сильні сторони, які сприяють репертуару загальних можливостей фірми) та компетенції «знати кого», включаючи здатність до спілкування. Концепція компетентності в професійній орієнтації часто ігнорується, і лише деякі вибрані глибоко розуміють, як компетенції повинні бути інтегровані з іншими аспектами кар'єрної орієнтації. У цьому дослідженні розглядаються типологічні характеристики професійної орієнтації та її опори, звертаючись до потреби в більшій кількості знань у поточній літературі. Індустрія 4.0 і 5.0 є прикладом компетенцій, якими повинні володіти випускники та професіонали. Ці індустрії та суспільства використовують інтелектуальну кіберфізичну взаємодію, щоб впливати на різні аспекти, такі як спосіб життя, розробка продуктів, управління процесами та розвиток галузі. У цьому дослідженні використовується метод бібліометричного аналізу в рамках обмежень наукових статей. Він використовує бази даних Sciencedirect.com і зосереджується на ключових словах «Індустрія 4.0 і Індустрія 5.0» для визначення кластерів компетенцій, по суті тематичний аналіз взаємозв'язків кластера тем, які пояснюють профіль компетенцій для Індустрії 4.0 і Індустрії 5.0. За допомогою бібліометричного методу визначено шість профілів компетенції: (1) ключовий кластер*

драйверів, представлений кіберфізичною системою, (2) інтелектуальна інфраструктура та інтелектуальна фабрика, (3) інтелектуальна система та стійкість, (4) цілі сталого розвитку, (5) управління ланцюгом поставок, зацікавлені сторони, стійка економіка, аналітика великих даних і цифрові технології, а також (6) інтелектуальний бізнес. Запропоновано три типологічні виміри кар'єрної орієнтації: інструментальність (континуум самоорганізації), цінність (континуум стабільності та гнучкості) і накладання компетенцій, що включає основну компетенцію в сегменті стабільності та динамічну здатність у сегменті гнучкості. У контексті І4 та І5 пропонується, щоб випускники та професіонали розвивали глобальне мислення та технологічну компетентність для підтримки компетентних у глобальному плані організацій та їхнього бізнесу.
Ключові слова: *кар'єрна орієнтація, Індустрія 4.0, Індустрія 5.0, глобальна кар'єрна орієнтація, бібліометричний метод; компетенції; інструментальність як кар'єрний успіх; ціннісна орієнтація.*

JEL Classification: J24, J31.

Absztrakt. *Ez a tanulmány elismeri a kompetenciakeret jelenlétét mind a végzős hallgatók, mind a szakemberek pályaorientációjában. A végzettek és a szakemberek érdeklődési körükre és céljaikra kiterjedő pályaorientációja erősen függ kompetenciáiktól. A kompetencia fontos alapja a pályaválasztásnak, és összhangban van a cég kompetencia alapú versenyelőnyével (pl. alapkompetencia és dinamikus képességek). Lényegében a kompetencia egy „pályaorientációs" konstrukció is, amely egyedi funkciókat biztosít az egyén vagy szervezet számára a VRINO differeciálás (pl. érték, ritkaság, egyediség, pótolhatatlanság és szervezettség) bemutatásához. A végzősök és a szakemberek know-whe-kompetenciákat fejlesztenek (a karriermotivációval, a személyes jelentéssel és azonosítással kapcsolatban), a know-how-kompetenciákat (funkcionális erősségek, amelyek hozzájárulnak a cég általános képességrepertoárjához) és know-who-kompetenciákat, beleértve a kommunikációs képességet is. A pályaválasztási tanácsadási kompetenciákról gyakran figyelmen kívül hagyják és csak néhány kiválasztott ismeri mélyen azt, hogy a kompetenciákat hogyan kell integrálni a pályaválasztási tanácsadás más aspektusaiba. Ez a tanulmány a pályaválasztási tanácsadás tipológiai jellemzőit és támogatásait vizsgálja, és foglalkozik a több tudás szükségességével. Az Ipar 4.0 és 5.0 példák azokra a kompetenciákra irányulnak, amelyekkel a diplomásoknak és a szakembereknek rendelkezniük kell. Ezek az iparágak és társadalmak intelligens cyber-fizikai interakciókat használnak különböző szempontok befolyásolására, például az életmódra, a termékfejlesztésre, a folyamatmenedzsmentre és az iparág fejlődésére. A kutatás a bibliometriai elemzés módszerét alkalmazza a tudományos cikkek keretein belül. A Sciencedirect.com adatbázisait használja, és az "Industry 4.0 és Industry 5.0" kulcsszavakra összpontosít a kompetenciaklaszterek azonosítására, lényegében az Industry 4.0 és az Industry 5.0 kompetenciaprofilját magyarázó témakörök egymás közötti összefüggéseinek tematikus elemzésére reflektál. A bibliometrikus módszerrel hat kompetenciaprofil került azonosításra: (1) kulcsfontosságú hajtóerő klaszter, amelyet cyberfizikai rendszer képvisel, (2) intelligens infrastruktúra és intelligens gyár, (3) intelligens rendszer és fenntarthatóság, (4) fenntartható fejlődési célok, (5) ellátási lánc-menedzsment, érdekelt felek, fenntartható gazdaság, nagy adatelemzés és digitális technológiák, valamint (6) intelligens üzlet. A pályaorientáció három tipológiai dimenzióját javasoljuk: instrumentalitás (az önszerveződés folytonossága), érték (a stabilitás és rugalmasság kontinuuma) és a kompetenciák átfedéséve, amely magában foglalja az alapkompetenciát a stabilitás szegmensében és a dinamikus képességet a rugalmasság szegmensében. Az I4 és I5 összefüggésében azt javasoljuk, hogy a diplomások és a szakemberek globális gondolkodásmódot és technológiai kompetenciát fejlesszenek a globálisan kompetens szervezetek és vállalkozásaik támogatása érdekében.*
Kulcsszavak: *pályaorientáció, Ipar 4.0, Ipar 5.0, globális pályaorientáció, bibliometrikus módszer; kompetenciák; instrumentalitás mint karrier siker; értékorientáció.*

Abstract. *This study recognizes the presence of a competence-based foundation in the career orientations of both graduate students and professionals. The career orientations of graduating students*

and professionals, encompassing their interests and objectives, are strongly influenced by their competencies. Competence is an essential foundation for making career choices and aligns with the firm-based competitive advantage that relies on competence (e.g., core competence and dynamic capability). Fundamentally, competence is also a structure of "career orientation" that delivers unique functions of a person or an organization, manifesting VRINO properties of differentiation (e.g., valuable, rare, inimitable, non-substitutable, and organized). Graduating students and professionals build know-why competencies (that relate to career motivation, personal meaning and identification, know-how competencies (functioning strengths that contribute to a firm's repertoire of overall capabilities), and know-whom competencies, including communication capability. The concept of competence in career orientation is often overlooked, and only a select few deeply understand how competencies should be integrated with other aspects of career orientation. This study examines the typological characteristics of career orientation and its anchors, addressing the need for more knowledge in the current literature. Industry 4.0 and 5.0 exemplify the competencies that graduating students and professionals should possess. These industries and societies utilize intelligent cyber-physical interactions to impact various aspects such as lifestyles, product development, process controls, and industry advancement. This study utilizes the bibliometric analysis method within the limitations of research papers. It applies the Sciencedirect.com databases and focuses on the keywords "Industry 4.0 and Industry 5.0" to identify the competence clusters, essentially a thematic analysis of the interrelationships of a cluster of themes that explain the competence profile for Industry 4.0 and Industry 5.0. Six competence profiles are identified using the bibliometric method: (1) key driver cluster represented by the cyber-physical system, (2) intelligence infrastructure and intelligent factory, (3) intelligence system and resilience, (4) sustainable development goals, (5) supply chain management, stakeholders, sustainable economy, big data analytics, and digital technology, and (6) intelligent businesses. Three typological dimensions of career orientation are proposed: instrumentality (self-organization continuum), value (stability-flexibility continuum), and competence superimposition, which includes core competence in the stability segment and dynamic capability in the flexibility segment. In the context of I4 and I5, it is suggested that graduating students and professionals build a global mindset and technological competence to support globally competent organizations and their businesses.

Keywords: *Career orientation, Industry 4.0, Industry 5.0, Global Career Orientation, Bibliometric method; competences; instrumentality as career success; value orientation.*

Problem statement. Schein (1987) is widely known for originating the work on individual career orientations. Career orientation is a significant factor below the observable icebergs of the career behaviors of graduating students and professionals. Nevertheless, the parts that are below the icebergs are the roots of career problems. Thus, being aware of what one values and is good at (competent) that contributes to career orientation is critical, as these career anchors (below the iceberg of observable career behaviors) influence thoughts, attitudes, and behaviors (such as career selection and work settings), consciously or unconsciously, and also have consequences on outcomes such as psychological success that jobs are meaningful and subjective career success such as happiness over career choices (Haenggli et al., 2021). Based on these logics, many researchers, such as Hirschi and Koen (2021), recommend conscious career self-management. This study focuses on a significant career anchor, namely competence, as the extant literature often mentions competence as a taken-for-granted anchor without further intellectual elaboration and enriched understanding of the concept.

Literature review. Schein (1987) and Igbaria and Baroudi (1993) show that individual competences are critical career anchors that influence individual career orientation. Apart from competence-based career anchors, such as managerial competence and technical competence, there is also internal psychology (Alavi et al., 2012), traits-based, motivation-driven, and challenge-oriented career anchors; examples are security, autonomy, creativity and entrepreneurship, sense of service, pure challenge, and lifestyle integration. Schein (1987) uses career orientation and career anchors interchangeably; thus, the anchors above are also known as the career orientation inventory. A comparison with the career orientation/anchors typology in DeLong (1984) shows many aspects of career anchors: independence and autonomy, stability and security (organizational security and geographical security), dedication to a cause and service anchor, variety anchor, and pure challenge. Many of these career anchors manifest either similar or opposite characteristics such as managerial competence, entrepreneurial creativity, autonomy, and lifestyle, on the one hand, and challenge, technical competence, security and stability, and service and dedication, on the other hand (Wils et al., 2014). The value orientation aspect of career orientation is a significant anchor of career orientation, which connotes how one values one's career influences one's career orientation. Values include, for instance, flexibility based on career values such as creativity and autonomy versus stability (with career values such as security and stability) and careerist self-concept (with career values such as social power and independence) versus social self-concept (with career values such as altruism and cooperation). Both stability and careerist self-concept rest on the concept of objective career success, in that individual with such career orientations, aim for a long-term association with an organization as compared to longing for salary increases and prestige, respectively. On the other hand, flexibility and social self-concept career orientations rest on the concept of subjective career success, such as in terms of life satisfaction (Hirschi et al., 2016), self-development, and treating careers from an individual learning perspective, or a focus on relational or social terms, such as a career that has an opportunity to help others (Wils et al., 2014). This study considers the self-organization continuum and stability-flexibility continuum as the two typological dimensions of career orientation, which represent the instrumentality and value anchors of career orientation that this study attempts to highlight. In addition, the extant literature provides very minimal understanding of the competence aspect of career orientation.

Research aim and objectives. The purpose of the study is to undertake a bibliometric analysis of big-data literature to propose the types of competences one should master in the context of emerging industries 4.0 and 5.0 and how competencies play a role in conceptualizing career orientations. In other words, how the concept of competencies is to be superimposed onto other dimensions of career orientation or anchors is to be examined and proposed in this study through implications. The bibliometric method provides an exploratory perspective of the study, and the results show the benefits of a parsimonious model of career orientation based on the typological dimensions of value, instrumentality, and competences.

Method. This study adopts the bibliometrics method to study the big-data literature, which has "Industry 4.0 and Industry 5.0" as the keywords in the literature database

search. The aim of the bibliometric method is to identify the knowledge map that can guide organizations in designing and implementing their automation, production, and service systems in responding to the emerging Industry 4 (I4) and Industry 5.0 (I5). According to Liu et al. (2023), "bibliometrics is a cross-disciplinary science of analyzing quantitatively the carriers of knowledge in a field through mathematical and statistical methods, which helps researchers evaluate scholarly research in critical areas" (p. 3). Bibliometrics provides an analytical means to help researchers map a research topic's intellectual and conceptual structure (Martinez-Garcia et al., 2023). Scientists can use the bibliometrics map to find new areas of research (Dino et al., 2023), themes that have not been looked into much or at all (Pandey et al., 2024), and the current research landscape, including new areas of research (Han et al., 2023; Punj et al., 2023) and research trends (Goncalves et al., 2022). Apart from the above benefits, a bibliometric map has an obvious advantage: the visualization of the map (Nobanee and Ullah, 2023), which depicts the interrelationships of the cited themes and core variables of the research study. Given the extensive data literature base, bibliometric analysis is also considered a comprehensive method (Pandey et al., 2024).

Research results. The Sciencedirect.com database reported 106,949 articles on search using the keywords "Industry 4.0 and Industry 5.0" on November 1, 2023. The decision was then made to focus on 2022 (containing 7,955 articles), 2023 (containing 7,636 articles), and 2024 (containing 343) articles, making a total of 15,934 articles in the big-data bibliometric analysis. Most articles are research articles (12,863 articles, or 80.73%) and review articles (1,730 articles, or 10.86%), which comprise 91.59% of the total database. The rest of the article types are encyclopedias, book chapters, case reports, correspondence, data articles, discussions, editorials, mini-reviews, practice guidelines, short communications, and software publications.

When the articles are categorized in terms of subject areas, the ranking is ordered as follows: environmental science (3,722 articles), agricultural and biological science (3,243 articles), chemical engineering (2,759 articles), chemistry (2,625), materials science (2,244 articles), engineering (2,127 articles), biochemistry, genetics, and molecular biology (1,933 articles), energy (1,697 articles), and many others. Among them, only 25.4% of the articles are open-access.

The bibliometrics study uses VOSviewer version 1.6.19, software for constructing and visualizing bibliometric networks of co-occurrences of keywords in "Industry 4.0 and Industry 5.0." According to Lee et al. (2023), the bibliometric plots show a network map of the keywords that appear together by cluster and overlay analysis. The bibliometrics analysis shows the result in Fig. 1, which is further thematically simplified as shown in Fig. 2.

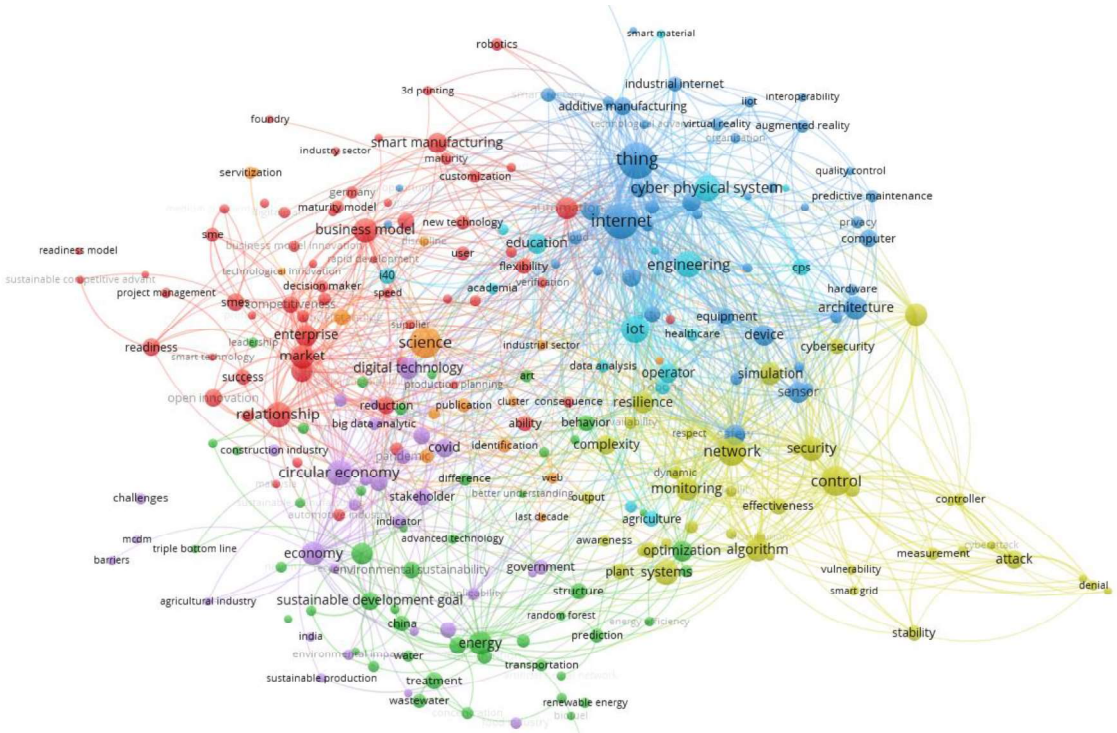

Fig. 1. The Bibliometric Map

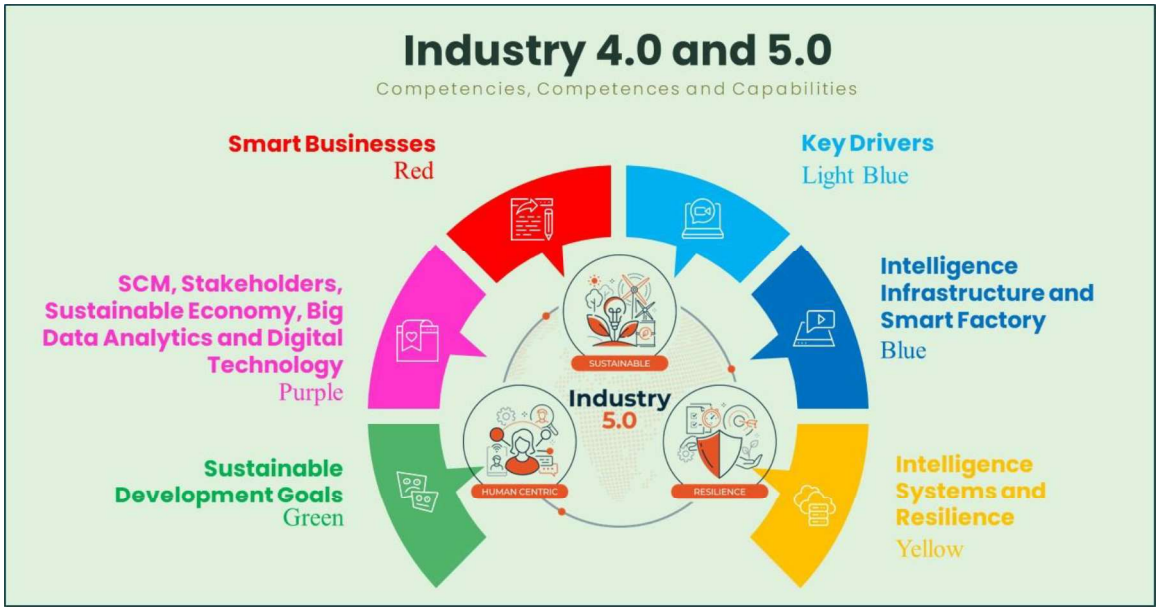

Fig. 2. The Bibliometric Competence Structure for Industry 4.0 and 5.0

The six competences in the context of I4 and I5 are critical drivers through concept of cyber-physical systems (light blue color), intelligence infrastructure and smart factory (blue), intelligence systems and resilience (yellow), smart businesses (red), supply chain management (SCM), stakeholders, sustainable economy, big data analytics and technology (purple), and sustainable development goals (green). Industry 5.0 is a more people-oriented focus while still addressing the problems that companies and industries

face in the I4 models, such as technical integration, human resource issues, supply chain issues, and data security (Khan et al., 2023:30). I5 becomes a necessary evolutionary replacement of I4 as the world involves issues beyond technical and technological, and moreover, human beings and societies face unprecedented global climate change, pandemics, wars, and refugee crises (Golovianko et al., 2023). Accordingly, what stands up in the I5 concept is that organizations need to build human and organizational competences and technologies that are human-centered design (which is the main driver and innovative factor for I5.0), resiliency (stabilization policy for the creation of competitiveness), and sustainability, which involves business models with sustainable aspects and monitoring of sustainability indicators (Hein-Pensel et al., 2023).

At the core of the competence structure in Fig. 2 are the cyber-physical systems (CPS) as the key drivers (light blue in the bibliometric map Fig. 1), which, also, includes the Internet of Things (IoTs), operators, robotics, education, engineering, and science. CPS and IoT are the core enablers for forming smart factories (Coelho et al., 2023). While Operator 4.0 proposes "a vision for human-automation symbiosis by enhancing human's physical, sensitive, and cognitive abilities using human cyber-physical system integration" (Valette et al., 2023: 1), Operator 5.0 is introduced that enhances the focus on human-system collaboration, human-centric consideration, social resilience, and sustainable operation (Gladysz et al., 2023: 173). In addition, a novel educational model should also be developed to successfully upskill workers and staff in I4 and I5 (Doyle-Kent and Shanahan, 2022).

The second and third clusters of competences address the intelligence infrastructure, smart factory (blue bibliometric map), intelligence systems, and resilience (yellow bibliometric map). There are two areas of expertise: infrastructure and intelligence. The infrastructure domain focuses on technologies like additive manufacturing, virtual reality (VR), augmented reality (AR), devices, sensors, and things, the Internet, safety, digital twin hardware, architecture, block chain, and smart factories. On the other hand, the intelligence systems and resilience competence cluster looks at cyber-physical strengths and beneficial traits like resilience, stability, and effectiveness. In many countries, the I4 and I5 infrastructure networks are a significant challenge regarding hard and soft skills (Awinia, 2023). The interconnection between the two clusters shows that an adequate infrastructure should emulate the interconnected environment of physical things, people, devices, sensors, and everything people experience (Kestering et al., 2023). In doing so, the interconnected data enables the designers to design intelligence systems, such as model predictive control systems (Kestering et al., 2023), that can support organizational and business resilience.

The other competence clusters are business-oriented, which has an intelligent business cluster on the one hand, and another, which involves supply chain management (SCM), stakeholder and sustainable economy, big data analytics, and digital technology. The intelligent business model (red color of the bibliometric map) encompasses business model, market, enterprise, relationships, open innovation, technological innovation, customization, smart manufacturing, servitization, flexibility, readiness, automation, 3D printing, competency maturity, ability, and sustainable competitive advantage. The other cluster involves the circular economy, stakeholders, extensive data analysis,

digital technology, supply chain management, and contextual environment, such as COVID-19. These two clusters are closely related to other clusters, such as the impact of a circular business model on organizational resilience (de Sousa Jabbour et al., 2023). In addition, adopting the I5 adoption of interconnected technology enables organizations to transition to circular business models to meet the United Nations sustainable development goals (SDGs) (Toth-Peter et al., 2023). The sustainable development goals (SDGs) form the last cluster of the bibliometrics map, which contains green goals, sustainable development goals, energy, renewable energy storage, and wastewater treatment.

Discussions. The bibliometric result can be referred not only to as a guideline to help organizations invest, design, and implement manufacturing, operations, and business systems to be in alignment with the I4 and I5 trends of technologies, but it can also offer some implications for graduate students and professionals on career orientation. The core drivers of I4 and I5 are technology-driven, manifested, for instance, by the cyber-physical system (CPS), the Internet of Things (IoTs), and the Internet of People (IoP). Thus, graduating students and professionals who have mastered the technologies can quickly go global. The traditional career orientations, such as independent, disengaged, promotion-focused, and loyalty-focused (Tschopp et al., 2014; Gerber et al., 2009), should be complemented with another career orientation, which this study proposes as "global career orientation."

The "global career orientation" fits closely with I5 and shares some of the characteristics of the protean career orientation, which exhibits an attitude characterized as having a strong sense of identity and personal values in guiding people's career decisions. Due to their competencies, such as self-awareness and adaptability, they demonstrate a higher level of employability (Cortellazo et al., 2020). The global career orientation can complement both needs-based career orientations (those related to security, lifestyle, and health) and talent-and-value-based career orientations (related to job contents, such as artificial intelligence job content, Kong et al., 2023) (Cao and Hamori, 2022). A global career orientation allows graduating students and professionals to locate their careers globally without geographical constraints. It enables them to dedicate themselves to organizations to help transform into global leaders. Fig. 3 presents a typological configuration of career anchors based on instrumentality, value, and competence. While the stability-flexibility continuum presents the value aspect of career anchors, the self-organization continuum represents the instrumentality perspective of career anchors. Together with the superimposition of competence, it forms the three typological dimensions of career anchors of career orientation, as shown in Fig. 3

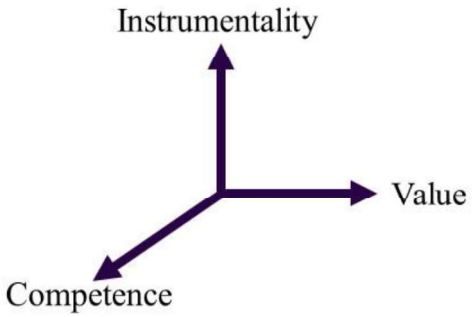

Fig. 3. Career Orientation Typologies

Fig. 3 is a significant contribution to the research subject of career orientation, which shows how different competences, such as core competence and dynamic capability, are superimposed on the two-dimensional domains of stability-flexibility values and self-organization instrumentality aspects of career anchors, and how different career orientations can be manifested. For instance, in the stability anchor, people tend to skew towards a career orientation that is needs-based orientation that aims for job security and work-life balance lifestyle, as shown in Fig. 4. In flexibility anchor, people tend to orient their career aspirations and choice towards talent- and value-based creativity, characterized also with career characteristics that are entrepreneurial, managerial, technical, function, and service to a cause.

Fig. 4. Towards a Competence-based Model of Career Orientation

In addition, as shown in Fig. 4, it is suggested that graduating students and professionals should ensure development of core competences when their careers anchor towards stability, and in flexibility anchors, they should aim to build dynamic capability that is capable of exploiting given opportunities and neutralizing existing and potential threats of competition and risks. It is also suggested that one should build know-why, know-what, and know-whom competences at the self and organizational levels. While

one who advocates self as the instrumentality of career choices tends to exhibit boundaryless career orientation and protean career orientations, individuals who reckon organization as the instrumentality of their career success should build global mindset and technological competences, as the six competency clusters shown in the context of I4 and I5. In doing so, the competence anchor can support globally competent organizations and their businesses.

Conclusions and prospects for further research. According to Doyle-Kent (2021), Industry 5.0 is "the human-centered industrial revolution that consolidates the agile, data-driven digital tools of Industry 4.0 and synchronizes them with highly trained humans working with collaborative technology, resulting in innovative, personalized, customized, high-value, environmentally optimized, high-quality products with a lot size." Thus, I5, as a human-centric, resilience-enabled, and sustainability-led I4, signifies factories of the future (Doyle-Kent and Shanahan, 2022). The study acknowledges a gap in the literature that relates to a lack of a typological dimension of career anchors, and how different natures of competences can be superimposed on the typological dimensions.

Since the topic is uncharted territory in the research frontiers, the study exploits the big-data literature-based bibliometric analysis method to identify the individual and business competencies one or an organization should develop. As competence is a necessary career anchor that guides career orientation, studying the nature of competence would add insight into the discipline of career orientation. The result of the bibliometric analysis shows six integrated clusters of competence domains, namely CPS, IoTs, operators 4.0 and 5.0, robotics, education, engineering, and science as the key drivers of success in I4 and I5, and other competences as follows: intelligent infrastructure and smart factories; intelligence systems and resilience; smart businesses; SCM, stakeholders and sustainable economies, big data analytics and digital technology; and sustainable development goals. The I4 and I5 competences' key features are seamless technology and people's interconnectedness, which are characteristics of cyber-physical systems (Smirnov and Shilov, 2015; Zhang and Ye, 2020). The study suggests that competence is a critical anchor that should be superimposed on the stability-flexibility value and self-organization instrumentality dimensions of career anchors. Graduating students and professionals should build know-why, know-what, and know-whom competences, together with a global mindset and the six competences for succeeding in I4 and I5, so they become globally competent, which can also support globally competent organizations. While core competence is shown necessary in the stability aspect of career anchors, dynamic capability should be developed for one who tends to skew towards flexibility as a career anchor. Furthermore, the instrumentality-value-competence anchors of career choice can also be perceived as the elements of employee values, namely the values an employee can contribute to an organization, as shown in Fig. 5. In this way, what one anchors in one's career is also the domain of employee value that organizations truly desire, leading easily to subjective career success, such as career satisfaction.

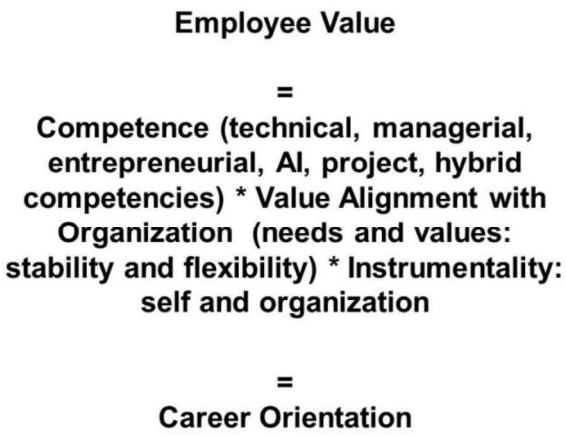

Fig. 5. Three Ingredients of Career Orientation and Employee Value

Like other research, there are limitations in this study, especially since the study has yet to investigate the knowledge structure between competences and career orientations in a systematic manner. As a result, additional research could explore in depth and scope the connections between competences and career orientations using a thorough literature review technique and mixed-methods empirical research.

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