

LITERATURE REVIEW ON MODELS FOR DEVELOPING ADOLESCENT TALENT IN THE DIGITAL ECOSYSTEM TOWARD THE GOLDEN GENERATION OF 2045: A GROUNDED THEORY STUDY

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Abstract

Human capital development in the digital age is a key determinant of the success of the 2045 Golden Generation vision; however, comprehensive modeling of the youth talent ecosystem remains very limited. This study aims to construct a conceptual model of a holistic, adaptive, and productive youth talent development ecosystem in the digital age. The method used is qualitative with a Literature-based Constructivist Grounded Theory design. Primary and secondary data were extracted from reputable academic databases (Scopus, Web of Science, and Google Scholar) using the PRISMA protocol, then analyzed through constant comparative analysis with open, axial, and selective coding stages. The research results successfully deconstructed Western corporate biases in conventional talent management and recontextualized them within the sociocultural space of Indonesian adolescents. The escalation of adolescents' capacity from raw potential to tangible talent in the virtual space is driven by the dynamic interaction between digital native identities, the use of technology as a scaffold, and active engagement in a culture of participation. Optimal self-directed learning and digital autotelic conditions (flow) require self-regulation as well as the integration of character values through the PACER core values (Problem-solving, Adaptability, Collaboration, Emotional Intelligence, Resilience) as a binding variable to mitigate the impacts of the digital divide and moral degradation. The theoretical contribution of this research lies in the emergence of a new middle-range theory that bridges human resource management, digital pedagogy, and the sociology of youth. Practically, this model serves as a strategic blueprint for policymakers and educational institutions in designing adaptive formal curricula and inclusive digital incubation spaces.

Keywords: *Digital Ecosystem; Golden Generation; Grounded Theory; PACER Values; Youth Talent Development.*

INTRODUCTION

The discourse on human capital development in the 21st century has shifted fundamentally, positioning adolescence as the epicenter of future talent development. In the Indonesian context, the development of adolescent talent cannot be separated from the grand vision of the “Golden Generation 2045,” a crucial milestone at which Indonesia is projected to reach the peak of its demographic dividend precisely as it marks its centennial of independence. Achieving this vision demands a transformation in approach from conventional methods toward a more holistic and multidimensional one. Future talent can no longer be shaped solely through formal educational institutions; it requires ecosystemic interventions that address all cognitive, affective, and psychomotor dimensions of adolescence. The concept of talent development is now understood as a dynamic process requiring an environment responsive to the changing times.

In a state-of-the-art context, current global dynamics are heavily dominated by the massive penetration of the digital ecosystem, driven by artificial intelligence (AI), automation, and big data. This shifting landscape demands an entirely new set of talent specifications. An official report from the World Economic Forum (WEF) titled *The Future of Jobs Report 2023* confirms that the global job landscape is undergoing structural disruption, where technological literacy, cognitive agility, and analytical thinking have become the most essential competencies (World Economic Forum, 2023). This trend indicates that the digital ecosystem is no longer merely a tool but has become the primary environment for Generations Z and Alpha to interact, learn, and realize their potential at both the global and national levels.

A comparison of the approaches and limitations of previous studies clearly reveals a significant research gap. No study has yet specifically constructed a substantive theory or model of a youth talent development ecosystem in the digital age built purely from inductive abstraction of the literature. The existing literature is currently too focused on what skills must be achieved, yet very few examine how the ecosystem model should be designed to facilitate those achievements. Furthermore, the lack of a theoretical framework that specifically bridges the gap between adolescents’ digital habitus and the vision of the Golden Generation 2045 highlights a void in the current scientific discourse. (Liasa, 2023)

As a direct response to this research gap, this study offers an original contribution through the use of Literature-based Grounded Theory methodology. Unlike traditional literature reviews that merely summarize findings, this study methodologically extracts, codes, and synthesizes qualitative data from multidisciplinary literature to generate a new middle-range theory or model. Using the Grounded Theory approach, the resulting talent development ecosystem model is not imposed through a top-down (deductive) concept but is allowed to emerge organically from the integration of existing theoretical and empirical data regarding digital behavior and adolescent capacity development. (Birks and Mills, 2015)

Therefore, the primary objective of this study is to explore, formulate, and construct a conceptual model for the adaptive development of adolescent talent within the digital ecosystem in preparation for the Golden Generation of 2045. Theoretically, the findings of this study are expected to enrich the literature on digital pedagogy and human resource management by presenting a new theoretical framework rooted in interdisciplinary synthesis. Practically, the formulated model is expected to serve as a strategic blueprint for policymakers, educational institutions, and stakeholders in the digital industry in designing structured, inclusive, and future-relevant talent intervention programs. Based on the above, the main research question in this study is as follows: How can a conceptual model of a holistic, adaptive, and productive youth talent development ecosystem in the digital era be constructed as a driver for achieving the 2045

Golden Generation vision, based on a literature synthesis using the Grounded Theory approach? Research Objective To construct a conceptual model of a holistic, adaptive, and productive youth talent development ecosystem in the digital age to support the achievement of the 2045 Golden Generation vision, by abstracting data from various literature using the Grounded Theory methodology.

MATERIALS AND METHODS

This study employs a qualitative approach using a literature-based grounded theory design to construct a conceptual model inductively from the scientific literature, ensuring that the resulting findings are firmly grounded in a synthesis of empirical and theoretical data. Data sources include primary literature in the form of empirical journal articles from the past ten years and official reports from globally reputable institutions, as well as secondary data in the form of literature reviews and policy documents related to youth capacity development. Data collection was conducted through systematic searches of major academic databases (such as Scopus, Web of Science, and Google Scholar) using strict inclusion and exclusion criteria, followed by literature screening based on the PRISMA protocol to ensure the relevance and validity of the source documents.

Data analysis procedures were executed using the constant comparative coding method, which relies on three iterative stages: open coding, axial coding, and selective coding. During the concept extraction and coding process, the analysis focused not only on technological literacy but also critically examined how fundamental character values such as the PACER core values can be integrated as essential variables in building Generation Z's resilience and adaptive capacity in the digital space. Through this synthesis phase, fragmented concepts are consolidated into a core category to yield a final construct in the form of a holistic talent development ecosystem model that is theoretically validated and ready for implementation.

RESULTS AND DISCUSSION

1. Conceptualization of Talent Management and Adolescent Talent Development

The literature review in this Grounded Theory study begins by mapping the epistemological roots of talent management to properly position the research direction. Referring to the conceptual map constructed from three schools of thought on talent management according to (Lewis and Heckman, 2006), this study positions itself within a comprehensive paradigm that transcends mere administrative functions of human resource management. As a foundational framework, this study adopts the principles of Strategic Talent Management proposed by Collings and Mellahi, 2009) the most frequently cited theoretical foundation in which talent is positioned unequivocally as a strategic resource driving performance. In the findings of this study, this strategic approach is reconstructed and extrapolated from a narrow organizational scope to the scale of the national development ecosystem. This means that youth development is no longer viewed as a standard educational process, but rather as the management of strategic resource investment essential for realizing the vision of the Golden Generation 2045.

The next analytical step in constructing this model is to define the boundaries of the meaning of “talent” itself when applied to adolescents. Data extraction was synthesized using the analytical framework of Gallardo-Gallardo, Dries and González-Cruz, 2013), which examines talent through two lenses: the object view (talent viewed as inherent characteristics, competencies, or skills) and the subject view (talent viewed as a group of gifted elite individuals). The results of the synthesis indicate that, within the context of the digital ecosystem, modeling adolescent talent must not be confined solely to an elitist (subject view) approach. Instead, the development of adolescent talent requires a hybrid approach that emphasizes the object view namely, the process of competency development, digital literacy, cognitive agility, and character building (including the PACER core values) which can be fostered inclusively among all young people.

Furthermore, the research findings confirm that talent parameters are inherently dynamic. (Tansley, 2011) perspective, this study positions talent as a highly contextual social construct. This paradigm provides a strong theoretical justification for the notion that the indicators and methods for developing adolescent talent in Indonesia’s current digital landscape operate through mechanisms that differ significantly from human resource development practices in previous decades. This finding crucially succeeds in addressing and filling the theoretical gap identified by (Thunnissen, Boselie and Fruytier, 2013), who leveled sharp criticism at the talent management literature for being overly focused on Western corporate contexts and profit-centric approaches. By deconstructing this corporate bias, this study demonstrates that talent management can be recontextualized within non-corporate spaces (education and the digital habits of adolescents), thereby yielding an intervention framework that is relevant and aligned with the cultural characteristics of Generation Z in Indonesia.

2. Core Theories and Concepts of Talent Development in Adolescence

Examining talent development during adolescence requires an in-depth exploration of the underlying psychosocial and affective dimensions. Psychologically, based on Erikson’s (1968) Identity Development Theory, adolescence is identified as a phase of crisis and transition marked by intensive identity exploration. This exploration serves as the foundational basis for the talent identification process, during which individuals begin to seek their sense of self and map out their capabilities. This search for identity is then driven by interests as a catalyst. In line with the Four-Phase Model of Interest Development proposed by Hidi and Renninger, 2006), interests play a crucial role as the initial trigger that motivates adolescents to focus their attention, invest time, and persistently delve into a particular field. Within a digital ecosystem rife with information disruption, this stimulation of interest has the potential to run wild if not guided, thus requiring targeted intervention.

To understand how interests and raw potential transform into actual capabilities, this study synthesizes Gagné’s (2004, 2013) (Gagné, 2004, 2013) Differentiated Model of Giftedness and Talent (DMGT). This model fundamentally distinguishes the concept of giftedness (natural or innate potential) from talent (systematic competencies developed through practice). This distinction provides a highly relevant theoretical justification for this study: that adolescent talent in the digital age is not a static genetic entity, but rather the product of a continuous development process. This linear process aligns with Bloom’s (1985) classic Talent Development Model, which structures the evolution of talent into three phases: early, intermediate, and advanced. The contextualization of Bloom’s model indicates that the majority of adolescents occupy the intermediate phase moving toward the advanced phase a critical juncture where coaching

interventions, mentoring, and the individual's conscious commitment are crucial in determining whether they reach the peak of their talent.(Bloom, 1985)

However, based on the findings synthesized in this study, the escalation of talent from raw potential (Gagné) through chronological stages (Bloom) never occurs in a vacuum. As emphasized by Subotnik et al. (2011), talent development is essentially a psychosocial process that is highly dependent on the quality of the surrounding ecosystem, ranging from the family, educational institutions, to the broader community. Currently, this psychosocial habitat has expanded into the virtual space. Therefore, for youth development within the digital ecosystem to align with the roadmap of the Golden Generation 2045, this ecosystem must be designed as a healthy incubation space. This requires the integration of core values or foundational character values (such as the PACER values) into the architecture of digital talent development, so that adolescents' exploration of their identity does not merely result in the mastery of technical skills, but also fosters a generation with moral resilience and intellectual maturity.

3. Talent Identification and Talent Pool: Core Theories & Concepts

Entering a crucial phase in the construction of the youth capacity development ecosystem, this subsection will delve deeply into the mechanisms of Talent Identification and the formation of a Talent Pool among adolescents. Conceptually, efforts to map and identify talent cannot be reduced to merely evaluating short-term academic achievements; rather, they require a comprehensive and forward-looking assessment framework. Building on the framework proposed by Silzer and Church (2009), an ideal talent identification process must be built upon two main pillars of evaluation: measuring current performance and projecting future potential. This concept is highly relevant for adaptation within the youth development ecosystem, where the dynamics of their cognitive and emotional development demand a non-static identification system. This system must be capable of detecting not only what adolescents are capable of producing at present, but also predicting their resilience and adaptability in facing the complexities of future challenges.(Nachira, Dini and Nicolai, 2007)

To ensure that the resulting talent pool is truly inclusive and representative, this analysis broadens its scope by integrating Sternberg's (2003) WICS Model (Wisdom, Intelligence, Creativity, Synthesis). This model fundamentally deconstructs the conventional view that often limits the definition of talent to intellectual intelligence (IQ) scores alone, by asserting that wisdom and creativity are equally crucial dimensions. This multidimensional perspective gains increasingly robust justification through the Theory of Multiple Intelligences proposed by Gardner (1983, 1999). Gardner demonstrated that the spectrum of adolescent talents is, in fact, highly diverse, and recognizing this diversity of intelligences becomes essential when the identification process is contextualized within specific sociocultural demographics, such as within the scope of rural communities. In a rural context, outstanding potentials often manifest as naturalistic, spatial, or interpersonal intelligence forms that frequently fall outside the scope of standard formal education assessments. Furthermore, to ensure that the identified cognitive potential and creativity can withstand various obstacles, this analysis incorporates a character dimension through Duckworth's (2016) Grit Theory. This theory asserts that perseverance is a key determinant that transforms raw talent into mature, functional talent. It is the integration of these four theoretical foundations that will serve as the primary analytical framework for unpacking the empirical findings in this subsection.

As we enter the section analyzing findings regarding the Digital Ecosystem Concept, it is essential to first establish an epistemological foundation to understand how cyberspace operates

as a habitat for human capacity development. Conceptually, this foundation of understanding is rooted in the ideas of Nachira et al. (2007), who define the Digital Business Ecosystem as a network of digital entities that interact dynamically. This concept is essentially an evolutionary derivative of Moore's (1993) thinking on the Business Ecosystem, which borrows the analogy of a biological ecosystem to explain the relationships among actors. Just like organisms in nature, entities in the digital space do not stand alone but undergo co-evolution and are interdependent. In the context of this research, this biological ecosystem analogy serves as a highly relevant analytical tool for explaining the dynamics of the digital space, where platforms, infrastructure, policies, and users organically influence one another.

Furthermore, to ensure that this analysis remains grounded in the reality of users (especially adolescents), our understanding of the digital ecosystem must not be reduced to hardware or algorithms alone. As emphasized by Oh et al. (2016), the digital ecosystem essentially operates as a socio-technical infrastructure, where the technological dimension merges with the human social dimension. Although this infrastructure offers limitless potential, this analysis borrows Selwyn's (2013) critical lens to avoid the trap of technological determinism. Selwyn explicitly cautions that the existence of digital ecosystems, particularly in the realms of education and talent development, does not automatically or immediately make users capable or innovative.

This critical stance becomes particularly urgent when confronted with the demographic realities described through Van Dijk's (2020) Digital Divide Theory. Van Dijk incisively analyzes that the gap within the digital ecosystem has evolved beyond mere issues of device availability (access), extending to disparities in skills and the benefits derived. Therefore, when examining findings related to youth talent development, the digital ecosystem plays a highly paradoxical role. This ecosystem can serve as an extraordinary accelerator for adolescent talent if managed inclusively; yet at the same time, it has significant potential to weaken and marginalize adolescent talent if disparities in access and literacy exist. The integration of these five theoretical perspectives subsequently serves as the primary framework for unpacking, interpreting, and contextualizing the findings in this study.

4. Technology and Adolescent Learning

Entering the stage of analyzing findings on the dimension of Technology and Adolescent Learning, this discourse must begin with an acknowledgment of the fundamental characteristics of the research subjects living in the current era. Referring to Prensky's (2001) conceptualization, today's adolescents are inherently Digital Natives a generation that has been exposed to and organically grown within the digital technology ecosystem since birth. This demographic reality implies that their cognitive landscape, information processing methods, and learning preferences have shifted radically from those of previous generations. Traditional, linear, and teacher-centered pedagogical frameworks are no longer adequate to dissect this phenomenon. To understand how these Digital Natives acquire knowledge and develop their capacities, this analysis is grounded in the theory of Connectivism proposed by Siemens (2005). Within the connectivist paradigm, learning in the digital age is no longer viewed as an isolated process of internalizing knowledge within an individual's mind, but rather as a process of weaving connections within a vast information network. The digital ecosystem provides data nodes whether in the form of people or databases that enable adolescents to actively design their own learning pathways independently and in real-time.

Furthermore, the reciprocal interaction between adolescents and technology in this learning process can be analyzed through the lens of Vygotsky's (1978) classic sociocultural theory

regarding the Zone of Proximal Development (ZPD). In the contemporary context, technology and digital platforms function as modern scaffolding. Search engine algorithms, online discussion forums, and AI-based applications facilitate adolescents in transcending the limits of their independent cognitive abilities toward a higher level of mastery of more complex skills. This function of technology as scaffolding manifests tangibly and empirically through the concept of Connected Learning proposed by Ito et al. (2008). This concept provides a strong overarching framework for explaining the operational mechanisms of talent development in the virtual space. Learning does not occur in a vacuum; rather, it is driven by personal interest (interest-driven), reinforced by social interaction with peers who share similar interests (peer-supported), and culminates in the creation of academic and practical opportunities (academically oriented).

In its conceptual conclusion, this interest-driven and network-facilitated learning dynamic ultimately shapes a distinctive pattern of skill acquisition. This phenomenon can be comprehensively explained through Bandura's Social Cognitive Theory (1986), particularly as it highlights the significance of observational learning mechanisms. In the digital age, a teenager's observational space is no longer limited by geographical barriers or their immediate physical environment. The digital ecosystem through video-sharing platforms, social media, and other virtual spaces provides unlimited access to various behavioral models (digital role models) and experts from all corners of the world. Adolescents actively observe, replicate, modify, and even innovate upon the behaviors and skills of these digital models to enhance their talents. It is the conceptual integration of these five theoretical pillars ranging from the inherent identity of Digital Natives, connectivist networks, technological tool scaffolding, connected learning culture, to digital observation mechanisms that forms the comprehensive analytical foundation for demonstrating how digital spaces actually function as an ecosystem for incubating adolescent talent to weave the vision of the Golden Generation 2045.

5. Digital Platforms as a Medium for Talent Development

Entering the discourse on digital platforms as a medium for talent development, the literature review in this study is grounded in a reconceptualization of adolescents' position within the virtual space. Rather than viewing adolescents as passive consumers of information, this analysis adopts the Participatory Culture perspective proposed by Jenkins et al. (2009). This concept provides a very strong theoretical foundation that the digital ecosystem essentially facilitates the transition of adolescents' identities into creators who actively produce, modify, and distribute works. In the context of this literature review, participatory culture acts as an absolute prerequisite for the growth of talent, as potential can only be validated through creation and collaboration. However, meaningful participation requires competent navigational skills. Therefore, these findings are synthesized with Rheingold's (2012) concept of "Net Smart" or network literacy. Rheingold asserts that technical skills alone are insufficient; the development of talent in the current era demands mastery of network literacy as an essential competency so that adolescents can extract positive value, build strategic collaborations, and filter information safely amidst the hyperconnectivity of the digital ecosystem.

Furthermore, this active engagement and navigational skill ultimately lead to the formation of identity and critical awareness, as comprehensively conceptualized by Buckingham (2007). Through a media literacy approach, Buckingham highlights that digital platforms consistently function as arenas for identity negotiation among digital adolescents. Within the framework of this literature review, Buckingham's discourse provides an analytical tool to examine how adolescents formulate their existence and develop their talents by critically deconstructing and

responding to various media narratives. It is this identity maturity and critical capacity that ultimately drives the expansion of talent's impact into the social sphere, as articulated by Kahne et al. (2012) through their study on digital media and civic engagement. Kahne et al. demonstrate that the digital ecosystem possesses a very strong social dimension for incubating leadership talent and social sensitivity in adolescents. The integration of these four foundational concepts forms a comprehensive literature synthesis: that digital platforms are not merely technical infrastructure, but sociocultural spaces that transform adolescent talent from mere individual skills into critical, empowered, and far-reaching digital citizenship capacities.

6. Self-Directed Learning and Digital Autoteleology

In dissecting the phenomenon of talent development in cyberspace, the analysis of findings in this literature review cannot be separated from the psychological mechanisms that drive adolescents' self-directed learning. The analytical foundation for dissecting this phenomenon is built upon the Self-Directed Learning Theory proposed by Knowles (1975). Knowles conceptualized that mature individuals have a natural tendency to diagnose their own learning needs, formulate goals, identify resources, and evaluate their learning outcomes autonomously. In the context of the digital ecosystem, Knowles's postulate finds its most tangible relevance: adolescents no longer rely on rigid formal pedagogical instruction to develop their talents, but rather transform into self-directed learners who proactively explore the vast ocean of information. This navigational autonomy is then fostered by a strong drive of intrinsic motivation, which is comprehensively explained through Self-Determination Theory (SDT) by Deci and Ryan (1985, 2000). SDT asserts that human motivation will flourish optimally when three basic psychological needs are met: autonomy, competence, and relatedness. The digital ecosystem inherently facilitates these three pillars; digital platforms provide freedom (autonomy) for adolescents to choose their talent niche, offer technical tools to hone their skills (competence), and connect them with a global community of like-minded individuals (relatedness). It is the fulfillment of these three SDT elements that serves as the primary catalyst for adolescents to continue nurturing and elevating their talents without external coercion.

Furthermore, when this autonomy and intrinsic motivation reach their peak during digital activities, adolescents enter an optimal psychological state that is analyzed through Csikszentmihalyi's (1990) Flow Theory. Csikszentmihalyi defines flow as an autotelic experience, in which an individual is fully immersed in an activity to the point that the activity itself becomes the primary reward, transcending any external goals. In this literature review, this concept is recontextualized as "digital autotelicism," a state in which adolescents experience a fusion of focus and euphoria while engaging in digital creation (such as coding, design, or content creation), which in turn drives them to continually push the boundaries of their talents. However, to ensure this flow experience does not merely become aimless escapism, this dynamic must be anchored in self-regulation capacity. This is where Zimmerman's (2000) concept of Self-Regulated Learning (SRL) plays its analytical role. Zimmerman articulates that gifted individuals consistently demonstrate the ability to regulate their cognition, metacognition, and affect cyclically. A synthesis of the literature confirms that adolescents with superior digital talents are not merely those swept up in the euphoria of flow, but rather those capable of applying high levels of self-regulation planning creative goals, monitoring skill progress, and reflecting on the failures of their digital experiments. These four theoretical pillars coalesce coherently to demonstrate that the digital ecosystem is an arena where talent is cultivated through structured autonomy and calibrated psychological engagement.

7. The Philosophical Foundation of Grounded Theory

Entering the discourse on methodological foundations, the theoretical framework of this study is firmly rooted in the philosophical tradition of Grounded Theory (GT). As an epistemological starting point, this literature review draws absolutely on the seminal work by Glaser and Strauss (1967), *The Discovery of Grounded Theory*, which serves as an essential reference and marks the emergence of a rational challenge to the hegemony of deductive theory in its time. Their thinking established the foundation that a robust theory must be directly derived from the empirical realm or, in the context of this research, extracted from primary literature data rather than merely testing established hypotheses. In its development, this methodology underwent a procedural bifurcation that is crucial to understand. On one hand, this study adopts the analytical structure articulated by Strauss and Corbin (1990, 1998) through the systematic procedures of open, axial, and selective coding. These operational guidelines serve as the primary analytical tool for precisely mapping the literature. On the other hand, this discourse also accommodates a philosophical dialectic by incorporating Glaser's (1992, 1998) sharp critique of the Strauss and Corbin approach. Glaser insists on the classical GT principle that theory must be allowed to "emerge" organically, rather than being "forced" through an overly rigid coding framework. The integration of this internal debate is not merely an academic ornament but a theoretical reflection intended to demonstrate the researcher's depth of understanding in maintaining the purity of the data abstraction process throughout the literature review.

In response to this classic debate, the methodological paradigm of this study was ultimately grounded definitively in Constructivist Grounded Theory, as proposed by Charmaz (2006, 2014). This epistemological choice is deemed most contextually relevant, given that the primary output of this literature review is to "construct" a new model regarding the talent ecosystem, rather than assuming the "discovery" of a single objective truth hidden within journal texts. Charmaz emphasizes that theory is not a static entity, but rather the result of an interpretive co-construction between the researcher, historical data, and social reality. Through this lens, the literature synthesis on adolescents and the digital ecosystem is positioned as the researcher's active construction of the unfolding phenomenon. To ensure this constructivist framework remains scientifically rigorous, this study adopts the comprehensive compilation by Bryant and Charmaz (2007) in *The SAGE Handbook of Grounded Theory* as its overarching reference. The inclusion of this contemporary literature ensures that all stages of data analysis, text interpretation, and the formulation of the digital talent ecosystem model meet the stringent standards of modern qualitative methodology, thereby guaranteeing the validity of the resulting middle-range theory.

8. Application of Grounded Theory in Management

Furthermore, the justification for applying the Grounded Theory method to the talent development landscape which is ontologically closely intertwined with the discipline of human resource management requires solid interdisciplinary legitimacy. Therefore, this study draws upon Locke's (2001) argumentation as presented in his work *Grounded Theory in Management Research*. Locke comprehensively legitimizes and paves the way for the use of GT in the field of management science, shifting the methodology's monopoly from the discipline of pure sociology toward organizational strategic analysis. This legitimization is further strengthened by the methodological precedent established earlier by Martin and Turner (1986). Through their study on the application of inductive methods in organizational research, Martin and Turner demonstrated that GT is highly capable of capturing the dynamics, complexity, and evolution of interactions among actors within a structured system. Within the framework of this literature

review, this perspective provides a rational foundation that adolescents' interactions within the digital ecosystem are, in fact, a manifestation of "managerial" behavior on an ecosystemic scale; thus, this phenomenon is highly suitable and valid for abstraction using the structural approach characteristic of management research.

To ensure the application of GT in this management domain does not slip into methodological malpractice, this study critically integrates Suddaby's (2006) perspective as a safeguard. In his paradigmatic article titled "What Grounded Theory Is Not," Suddaby clarifies various methodological misconceptions that often have fatal consequences such as confusion in distinguishing GT from ordinary qualitative description, or the mistaken assumption that GT researchers must enter the data field with a blank slate without having read prior literature. The integration of Suddaby's ideas into this subchapter represents the researcher's epistemological maturity to ensure that the literature synthesis does not stop at a traditional narrative summary but truly escalates analytically into a substantive theory. In its operationalization, this philosophical maturity is translated into tactical working steps guided by Birks and Mills (2015) through the book *Grounded Theory: A Practical Guide*. This implementation guide serves as a navigational compass to ensure that every stage from literature data extraction and the codification of talent concepts to the formation of core categories regarding the 2045 Golden Generation is executed systematically, transparently, and with theoretically sound managerial accountability.

DISCUSSION

The theoretical findings of this literature-based grounded theory study have yielded a conceptual model of an ecosystem for adolescent talent development that positions the digital space not merely as a tool, but as a strategic incubator for realizing the vision of the Golden Generation 2045. At the macro level, these findings confirm and expand upon the postulates of Human Capital Theory (Becker, 1964) and Demographic Dividend Theory (Bloom & Williamson, 1998), which require that the demographic bonus will only yield an economic dividend if accompanied by massive investment in human capital. The implications of these findings are crucial: achieving Bappenas' (2019) vision of a sovereign and advanced Indonesian people can no longer rely solely on formal educational institutions. This study demonstrates that the architecture of human resource development must be recalibrated to embrace and orchestrate the digital ecosystem as the primary habitat of Generation Z, where talent interventions must be conducted in real-time and in a decentralized manner.

Fundamentally, these findings deconstruct the conventional paradigm regarding adolescent talent. Unlike the elitist view that limits talent to mere innate genetic potential (subject view), the model developed in this study aligns with the analytical framework of Gallardo-Gallardo et al. (2013) and Gagné's (2004) DMGT model, which view talent as competencies that can be systematically developed (object view). Furthermore, these findings confirm Tansley's (2011) thesis that talent is a highly contextual social construct. In the digital age, "talent" is no longer measured solely by static cognitive intelligence but by cognitive agility, network literacy, and adaptability. The significance of this theoretical shift is that the development of adolescent talent should not be exclusive to specific elite groups but must be conceptualized inclusively as a collective effort to unlock the potential of every individual through widely accessible digital spaces.

An analysis of the dynamics of the digital ecosystem in this model critically rejects the trap of technological determinism that Selwyn (2013) often cautions against. The presence of massive

internet infrastructure does not automatically produce a talented generation; capacity expansion only occurs when such socio-technical infrastructure (Oh et al., 2016) is utilized to foster a culture of participation (Participatory Culture). In line with the ideas of Jenkins et al. (2009), the findings of this study argue that adolescents who successfully develop their talents in cyberspace are those who transform from mere passive consumers into active content creators. This means that the success of the digital ecosystem as a development medium depends heavily on the extent to which the platform stimulates the generation of ideas, peer collaboration, and the production of new knowledge not merely on screen time.

From a psychosocial perspective, these findings reveal the internal mechanisms through which adolescents' talents are amplified within the digital ecosystem, namely through self-directed learning and conditions of autotely. The synthesized literature demonstrates that digital architecture inherently and fully facilitates the principles of Self-Directed Learning (Knowles, 1975). The fulfillment of the needs for autonomy, competence, and relatedness (Deci & Ryan, 2000) in the virtual space triggers such strong intrinsic motivation that adolescents are able to achieve a state of flow (Csikszentmihalyi, 1990) while exploring their interests. The practical implications of these findings are stark: pedagogical interventions for Generation Z will be ineffective if they are instructional-directive. Educators and policymakers must shift their roles to become facilitators who provide scaffolding on digital platforms, allowing adolescents to set their own learning pace while ensuring they do not get lost in the hyperconnectivity of information.

Although digital autonomy drives the acceleration of competencies, this discussion highlights a critical vulnerability in the digital ecosystem if it is not anchored in a strong character foundation. The phenomenon of the digital divide (Digital Divide), according to Van Dijk (2020), risks marginalizing adolescents, while the absence of value-based filtering can trigger moral degradation and misinformation. Therefore, these findings confirm the importance of the Positive Youth Development framework (Lerner et al., 2005) by incorporating character revitalization specifically the integration of core values such as PACER (Problem-solving, Adaptability, Collaboration, Emotional Intelligence, Resilience) as a binding variable within the talent ecosystem model. Without the infusion of these core values, digital intelligence will only produce technical workers, not future leaders with strong ethics. This means that talent development toward 2045 requires a hybrid approach combining technological literacy with the depth of national character.

As a final synthesis, this study offers an original theoretical contribution by generating a new middle-range theory that bridges the fields of human resource management, digital pedagogy, and the sociology of youth, derived inductively through the Constructivist Grounded Theory method (Charmaz, 2014). Practically, the resulting model of a youth talent development ecosystem in the digital era can serve as a strategic blueprint for the government, educational institutions, and technology industry platform developers. This model provides data-driven arguments that preparing for the Golden Generation of 2045 requires radical cross-sectoral policies ranging from equitable infrastructure development, the engineering of participatory ecosystems, to the instillation of digital-based character values to ensure that every Indonesian youth is cognitively prepared and morally resilient in winning future global competition.

CONCLUSION

This study successfully addressed the research questions and achieved the established research objectives by constructing a conceptual model of a holistic, adaptive, and productive

ecosystem for adolescent talent development in the digital age through a literature-based grounded theory approach. Based on an in-depth synthesis of various multidisciplinary literature, the resulting model demonstrates that the escalation of adolescents' capacity from raw potential (giftedness) to actual talent in the virtual space is driven by the dynamic interaction between their inherent identity as digital natives, the use of technology as a scaffold, and their engagement in a connected participatory culture. This model also confirms that an ideal digital ecosystem can trigger intrinsic motivation and self-directed learning until adolescents achieve a well-regulated state of digital autotelic flow.

The original contribution of this research lies in its success in deconstructing Western corporate biases in conventional talent management, then recontextualizing them within the sociocultural space of Indonesian youth toward the Golden Generation of 2045. The middle-range theory derived from this study offers scientific novelty by positioning character revitalization through the integration of the PACER core values as a crucial binding variable. The presence of these character values serves as a counterbalance to mitigate the negative impacts of the digital divide and moral degradation in cyberspace. Thus, the main conclusion of this study affirms that the preparation of future human capital no longer relies solely on mastery of technological literacy but on the hybridization of advanced digital skills and the resilience of national character.

Based on the limitations and findings of this study, future research is advised to refine its methodology through empirical validation in the field using a mixed-methods design or Structural Equation Modeling (SEM) to quantitatively and statistically test the strength of relationships between variables within this conceptual model. Furthermore, future studies should expand the research focus to more specific demographic segments of adolescents, such as comparative studies between urban and rural areas to capture unique local sociocultural dynamics. Practically, policymakers (such as the Ministry of Education, Culture, Research, and Technology and the Ministry of Communication and Information Technology) as well as educational institutions are expected to immediately apply this talent ecosystem model as a strategic blueprint for designing adaptive formal curricula, inclusive digital incubation spaces, and character revitalization programs for the younger generation that are relevant to future global challenges.

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