

THE EFFECT OF STRUCTURED MENTORING AND KNOWLEDGE TRANSFER ON MENTORING PROGRAM SUSTAINABILITY THROUGH COMPETITIVENESS TRANSFORMATION

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ABSTRACT

This study analyzes the effects of Structured Mentoring and Knowledge Transfer on Mentoring Program Sustainability, with Competitiveness Transformation as a mediating variable, in the context of preparing participants for national-scale contact center competitions. A quantitative cross-sectional survey was conducted among 50 mentees at PT Fit Kreasi Indo, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The measurement-model results support convergent validity and internal consistency reliability for the constructs. Structural-model testing shows that Structured Mentoring and Knowledge Transfer have positive and significant effects on Competitiveness Transformation, while their direct effects on Mentoring Program Sustainability are not statistically significant. Competitiveness Transformation has a positive and significant effect on Mentoring Program Sustainability. Descriptive indirect-effect estimates indicate potential mediation; however, the statistical significance of the specific indirect effects cannot be confirmed because bootstrapped indirect-effect statistics were not available in the output used for this manuscript. These findings highlight the importance of translating structured mentoring and knowledge-transfer practices into measurable competitive capabilities to support mentoring program sustainability.

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A. INTRODUCTION

1. Background

National-scale competitions in the contact center sector have become a strategic instrument for organizations across sectors—including government institutions, banks, state-owned enterprises (SOEs), and private banks—to demonstrate their human resource capabilities while strengthening corporate image and competitiveness amid a continuously changing business environment. Participation in such competitions constitutes a form of human resource development that is aligned with organizational efforts to improve productivity and service quality in order to remain competitive in the face of globalization (Martoredjo, 2015; Yuntina et al., 2025).

Participation data for national-scale competitions during the 2021–2025 period (ICCA, 2026) as presented in Table 1, show a substantial growth trend in both the number of participants and corporate representation.

Table 1 Participation in National-Scale Competitions

Year	Number of Individual/Team Participants	Corporate Representation
2021	444 Participants	40 Companies
2022	517 Participants	43 Companies
2023	1,098 Participants	66 Companies
2024	1,114 Participants	68 Companies
2025	416 Participants	57 Companies

The data in Table 1 show rapid growth in participation between 2021 and 2024, both in the number of individual/team participants (from 444 to 1,114 participants) and the number of participating corporations (from 40 to 68 companies), before declining sharply in 2025 to 416 participants from 57 companies (ICCA, 2026). This phenomenon indicates that although organizational enthusiasm for national-scale competitions has continued to increase, there are signs of instability in the most recent period, consistent with findings that the sustainability of a development program depends heavily on structural consistency rather than merely on momentary participation (Afrina et al., 2026; Yuntina et al., 2025).

The phenomenon of growing participation without corresponding performance stability becomes clearer at the institutional level. An initial review of the profiles of several institutions participating in competitions during 2021–2025 reveals diverse patterns and, in some cases, extreme fluctuations (internal institutional documentation, 2026; ICCA, 2026). Government Institution A (public service sector) displayed a highly inconsistent performance pattern: ranking 4th in 2021, falling out of the top 10 in 2022, rising to 2nd place with 19 platinum medals in 2023, declining to 3rd place with the number of platinum medals decreasing to 13 in 2024, and again falling out of the top 10 in 2025.

A similar pattern occurred among banking institutions. State-Owned Bank B showed high volatility, ranking 5th in 2023, dropping to 9th in 2024, and then rising sharply to 2nd in 2025. Meanwhile, State-Owned Bank C experienced a loss-of-momentum pattern, ranking 8th in 2022 and 9th in 2023, dropping out of the top 10 in 2024, and returning to 5th place in 2025. Such volatility is consistent with findings that team success in competitive environments is strongly influenced by the extent to which mentoring models are implemented in a structured and sustainable manner rather than incidentally (Afrina et al., 2026; Martoredjo, 2015).

A markedly contrasting pattern was demonstrated by Private Bank D, which successfully maintained the 1st position for five consecutive years (2021–2025) (internal institutional documentation, 2026). This consistency warrants further examination because it differs from other institutions that experienced sharp fluctuations. These differences in inter-institutional performance patterns raise the preliminary assumption that performance sustainability is not determined solely by participants' individual resources, but is closely related to the extent to which mentoring practices are structured, documented, and institutionalized within the organization (Afrina et al., 2026; Nonaka & Takeuchi, 1995) so that they do not depend on a particular mentor or on temporary good fortune.

Theoretically, the consistency of organizational performance over time is closely related to the extent to which knowledge and experience gained in one period can be transferred and replicated in subsequent periods. Knowledge transfer is viewed as an important basis for a firm's competitive advantage because organizations that are able to disseminate best practices internally are better positioned to maintain performance consistency than organizations that rely solely on individuals' tacit knowledge (Argote & Ingram, 2000; Farnese et al., 2019). The conversion of tacit knowledge into explicit knowledge through socialization, externalization, combination, and internalization, as proposed in the SECI model, is a key mechanism that enables organizations to transform individual experience—such

as the experience of mentors and competition participants—into collective knowledge assets that can be transferred across periods (Farnese et al., 2019; Nonaka & Takeuchi, 1995).

To deepen the understanding of this gap in performance patterns, the researcher conducted preliminary exploratory interviews (primary data, 2026) with several parties directly involved in competition preparation, namely former participants, mentors, and evaluators. The interview results strengthened the assumption that inconsistent performance is related to weak mentoring structures and knowledge-transfer processes in several organizations, in line with findings that unstructured mentoring tends to produce unstable participant performance from one period to the next (Afrina et al., 2026; Martoredjo, 2015).

One talent from a banking company (Participant A, 28 years old) described the experience as follows:

“During competition preparation, we sometimes did not know where to begin. The company simply registered us without a mentoring and coaching process that would help us compete with participants from other companies. As the competition date approached, we were busy memorizing materials and presentation scripts every night and studying for the written test, but after the competition ended, the exhaustion was overwhelming. After competing, I really felt that I needed rest and several weeks before my daily work performance returned to normal because I had experienced burnout.”

This statement provides an initial indication of three fundamental issues: unclear development direction from the beginning of preparation, preparation intensity that accumulates near the competition date without gradual guidance, and post-competition fatigue that affects participants’ daily work performance for a certain period. Participant A’s experience is consistent with the concept of burnout as a prolonged response to chronic emotional and interpersonal stressors at work, characterized by exhaustion, cynicism, and reduced self-efficacy (Maslach et al., 2001) and reinforces the argument that intensive competition preparation without structured guidance can negatively affect participants’ psychological well-being (Afrina et al., 2026; Maslach et al., 2001). These findings cannot yet be treated as evidence of a causal relationship, but they provide an initial empirical basis for further exploration of how mentoring practices and capability management operate in the context of contact center competitions.

A complementary perspective was obtained from an interview with a mentor (Mentor A, 42 years old) who was directly involved in participant development (primary data, 2026). Mentor A explained that the main challenge in the development process was differences in participants’ needs and readiness levels, meaning that the same approach could not always be applied uniformly. This is consistent with findings that mentoring effectiveness is strongly influenced by the appropriateness of mentor–mentee matching and by adjustment of mentoring intensity to individual characteristics (Afrina et al., 2026; Martoredjo, 2015).

Although the stages of development generally follow a relatively similar pattern—from understanding competition categories, preparing materials, and practicing to coaching—the intensity and focus of guidance often differ depending on participant characteristics and the amount of preparation time available. More importantly, Mentor A revealed that the experience and knowledge gained during the development process were not always documented and systematically transferred to participants or teams in subsequent periods. This indicates a dual problem: weak standardization of the development process and discontinuity in knowledge transfer across generations of participants. As emphasized in the literature, knowledge that is not systematically codified and disseminated tends to disappear when the individuals who hold that knowledge move to another position or leave the organization (Argote & Ingram, 2000; Farnese et al., 2019).

The mentor’s perspective was reinforced by an interview with an evaluator (Evaluator A, 44 years old) experienced in assessing contact center competition participants (primary data, 2026). Evaluator A observed variations in participant readiness, including mastery of material, the ability to articulate experience and achievements, and the ability to respond to questions during evaluation. Furthermore, Evaluator A stated that participant performance did not always show the same level of consistency at every competition stage—some participants performed strongly at one

stage but experienced a decline when facing subsequent stages or evaluation demands. This pattern has also been identified as a common challenge in implementing mentorship in competitive environments, namely weak continuous monitoring and evaluation of participant development (Afrina et al., 2026).

The three interview sources above—participants, mentors, and evaluators—consistently point to a common issue: mentoring practices in contact center competitions are not yet fully structured, documented, and sustainable, resulting in interruptions in knowledge transfer across periods and across generations of participants (primary data, 2026; Afrina et al., 2026). This condition is consistent with the pattern of extreme fluctuations shown in the institutional profile data (Government Institution A, State-Owned Bank B, and State-Owned Bank C), in contrast to the consistent performance of Private Bank D, which remained ranked 1st for five consecutive years (internal institutional documentation, 2026; ICCA, 2026).

The consistency demonstrated by Private Bank D can also be explained from the perspectives of talent management and work engagement, whereby organizations that consistently provide perceived organizational support to employees tend to generate higher levels of work engagement, which in turn contribute to sustainable organizational performance (Aina & Atan, 2020; Al Karim et al., 2025). Conversely, discretionary effort that is not supported by an institutionalized development system is unlikely to produce long-term organizational performance sustainability (Malarvizhi & Vijayarani, 2024; Yuntina et al., 2025).

This phenomenon gives rise to the assumption that effective structured mentoring and knowledge transfer play important roles in shaping mentoring program sustainability—that is, the continuity of the development program itself from one period to the next—which can subsequently be transformed into more stable and sustainable organizational competitiveness (Afrina et al., 2026; Argote & Ingram, 2000). Competitiveness Transformation is therefore assumed to serve as a mediating variable that bridges development practices at the individual level and program sustainability at the organizational level, as productivity and individual capabilities have been shown to be important pathways linking human resource development practices with organizational sustainability (Al Karim et al., 2025; Yuntina et al., 2025).

Based on the discussion above, this study aims to analyze the effect of Structured Mentoring (X1) and Knowledge Transfer (X2) on Mentoring Program Sustainability (Y), with Competitiveness Transformation (Z) as a mediating variable. The study is expected to provide a more comprehensive understanding of why some organizations are able to maintain consistent performance over time while others experience sharp fluctuations, in line with the urgency of building structured and sustainable mentoring frameworks in competitive environments as recommended by recent literature (Afrina et al., 2026; Martoredjo, 2015). It also seeks to formulate managerial implications for organizations in designing sustainable mentoring programs oriented toward long-term competitiveness (Al Karim et al., 2025; Yuntina et al., 2025).

Based on the identified problems, the research questions in this study are as follows:

Theoretical Benefits. This study is expected to enrich the human resource management literature, particularly regarding the concepts of structured mentoring, knowledge transfer, Competitiveness Transformation, and mentoring program sustainability, by strengthening the theoretical foundation of knowledge transfer as a basis for organizational competitive advantage. For organizations participating in competitions, this study is also expected to serve as a reference for designing mentoring systems that are more structured, documented, and less dependent on particular individuals, thereby supporting long-term performance consistency as demonstrated by institutions with stable performance.

B. LITERATURE REVIEW

1. Theoretical Foundation

1.1 Resource-Based View (RBV)

The grand theory underlying this study is the Resource-Based View (RBV) proposed by Barney (1991), which states that an organization's sustainable competitive advantage originates from internal resources that are valuable, rare, inimitable, and non-substitutable, commonly known as the VRIN framework (Barney, 1991). RBV differs from the industrial organization approach, which emphasizes external factors, because RBV focuses on how organizations identify, develop, and manage internal resources to generate superior performance that is difficult for competitors to imitate (Barney, 1991).

In the context of this study, structured mentoring and knowledge transfer practices are viewed as strategic human-based resources that satisfy the VRIN criteria because they are organization-specific, formed through long internal learning processes, and difficult for competitors to replicate instantly (Argote & Ingram, 2000; Barney, 1991). RBV provides a conceptual foundation for explaining why organizations that are able to manage development resources in a structured and institutionalized manner, as demonstrated by institutions with stable performance, tend to achieve more consistent competitive advantage than organizations that rely solely on individual resources (Afrina et al., 2026).

1.2 Knowledge-Based View and the SECI Model

As an extension of RBV, the Knowledge-Based View positions organizational knowledge as the most important strategic resource for competitive advantage because knowledge—particularly tacit knowledge—is considerably more difficult to transfer, imitate, and replicate than other tangible resources. Argote and Ingram (2000) emphasize that knowledge transfer across individuals, teams, and periods is an important basis for firms' competitive advantage because it enables organizations to disseminate best practices internally without having to repeat the learning process from the beginning in every period.

The knowledge-conversion mechanism is comprehensively explained through the Socialization, Externalization, Combination, and Internalization (SECI) model developed by Nonaka and Takeuchi (1995). Through these four stages, tacit knowledge held by individuals, such as the experience of mentors and competition participants, is converted into explicit knowledge that can be documented, shared, and re-internalized by organizational members in subsequent periods. Farnese et al. (2019) operationalized the SECI model in the context of modern organizations and found that the four knowledge-conversion processes contribute significantly to the effectiveness of organizational knowledge management, particularly when supported by systematic documentation mechanisms and an open knowledge-sharing culture.

1.3 Mentoring Theory

The concept of mentoring in this study refers to the classical mentoring theory developed by Kram (1985), who identified through qualitative research two primary mentoring functions: career functions, which include coaching, sponsorship, exposure, protection, and challenging assignments, and psychosocial functions, which include role modeling, counseling, acceptance, and emotional support (Kram, 1985). These two functions provide the conceptual basis for developing the structured mentoring construct, which emphasizes clear development objectives, appropriate mentor–mentee matching mechanisms, staged guidance, and documentation of the mentoring process as elements that distinguish structured mentoring from incidental and undocumented mentoring (Afrina et al., 2026; Kram, 1985).

1.4 Organizational Sustainability Theory

The final relevant theoretical foundation is the concept of organizational sustainability, which emphasizes that superior organizational performance should not merely be achieved in a single period, but should be replicable and

maintained consistently over time (Al Aina & Atan, 2020). Al Aina and Atan (2020) found that consistently implemented talent-management practices contribute significantly to long-term organizational performance sustainability. This concept is reinforced by Al Karim et al. (2025), who showed that organizational support consistently perceived by employees also mediates the creation of sustainable organizational performance. These findings are relevant for explaining why mentoring program sustainability cannot be separated from the extent to which development practices have become structured, documented, and institutionalized so that they do not depend on particular individuals or temporary momentum (Afrina et al., 2026; Al Karim et al., 2025).

2. Structured Mentoring (X1)

2.1 Definition of Structured Mentoring

Structured mentoring is defined as a development process that is systematically designed, has clear objectives, uses an appropriate mentor–mentee matching mechanism, follows scheduled stages of guidance, and is supported by documentation that allows the process to be replicated in subsequent periods (Afrina et al., 2026; Kram, 1985). This concept differs from informal or incidental mentoring, which tends to depend on individual initiative without a standardized framework (Martoredjo, 2015). Ogunsola et al. (2023) further state that structured mentorship programs need measurable objectives, clear implementation guidelines, and success metrics that can be evaluated periodically so that their benefits can be sustained by the organization.

2.2 Dimensions of Structured Mentoring

Based on a synthesis of Kram's mentoring theory (Kram, 1985) and the empirical findings of Afrina et al. (2026) and Martoredjo (2015), this study operationalizes Structured Mentoring into five main dimensions:

3. Knowledge Transfer (X2)

3.1 Definition of Knowledge Transfer

Knowledge transfer is defined as the process through which knowledge, experience, and best practices held by one unit or individual in an organization are disseminated to other units or individuals so that they can be reused to improve performance (Argote & Ingram, 2000). Farnese et al. (2019) explain that this process involves converting tacit knowledge—embedded in personal experience such as that of mentors and competition participants—into explicit knowledge that can be codified and transferred across periods through the stages of socialization, externalization, combination, and internalization (SECI) proposed by Nonaka and Takeuchi (1995). Bryant and Terborg (2008) further show that structured mentor training increases mentors' capacity to create and share organizational knowledge with mentees.

3.2 Dimensions of Knowledge Transfer

Referring to the SECI model (Nonaka & Takeuchi, 1995) as operationalized by Farnese et al. (2019), this study measures Knowledge Transfer through four dimensions:

4. Competitiveness Transformation (Z)

4.1 Definition of Competitiveness Transformation

Competitiveness Transformation in this study is defined as the process of converting individual and organizational capabilities—resulting from mentoring and knowledge-transfer practices—into competitive advantage manifested in consistent achievement and organizational reputation (Al Karim et al., 2025; Argote & Ingram, 2000). This variable is positioned as a mediator that bridges development practices at the individual level with program sustainability at the organizational level, consistent with findings that productivity and individual capabilities are important pathways

linking human resource development practices to organizational sustainability (Alkandari et al., 2021; Argote & Ingram, 2000).

4.2 Dimensions of Competitiveness Transformation

Referring to the VRIN framework of the Resource-Based View (Barney, 1991) and the findings of Yuntina et al. (2025) regarding the role of productivity as a mediator, this study measures Competitiveness Transformation through the following dimensions:

5. Mentoring Program Sustainability (Y)

5.1 Definition of Mentoring Program Sustainability

Mentoring program sustainability is defined as the continuity of the development program itself from one period to the next, reflected in the consistency of the development structure, the availability of transferable documentation, and the stability of outcomes or achievements across periods, without dependence on a particular mentor or temporary momentum (Afrina et al., 2026; Al Aina & Atan, 2020). Malarvizhi and Vijayarani (2024) emphasize that discretionary effort not supported by an institutionalized development system will struggle to generate long-term organizational performance sustainability. Accordingly, program sustainability requires institutionalization of practices rather than merely individual enthusiasm or initiative.

5.2 Dimensions of Mentoring Program Sustainability

Based on the concept of organizational sustainability (Al Aina & Atan, 2020) and the findings of Afrina et al. (2026), the dimensions of Mentoring Program Sustainability in this study include:

6. Interrelationships among Variables and Hypothesis Development

6.1 Effect of Structured Mentoring on Competitiveness Transformation

Mentoring that is designed in a structured manner, with clear objectives and staged guidance, enables participants to develop competitive capabilities more systematically than incidental development (Afrina et al., 2026; Kram, 1985). Ogunsola et al. (2023) found that structured mentorship programs integrated with organizational strategy can build a skilled, adaptive, and highly competitive workforce in dynamic industries. Therefore, the more structured the mentoring process, the greater the potential for transforming individual capabilities into organizational competitive advantage Ogunsola et al. (2023). Based on this argument, the first hypothesis is formulated as follows:

H1: Structured Mentoring has a positive and significant effect on Competitiveness Transformation.

6.2 Effect of Knowledge Transfer on Competitiveness Transformation

Effective knowledge transfer enables organizations to disseminate best practices internally, thereby creating sustainable competitive advantage (Argote & Ingram, 2000). The conversion of tacit knowledge into explicit knowledge through the SECI model is a key mechanism that allows organizations to transform individual experience into collective knowledge assets that support competitiveness (Farnese et al., 2019; Nonaka & Takeuchi, 1995). The more effective the knowledge-transfer process, the greater the opportunity for organizations to transform that knowledge into competitive capabilities that are difficult for competitors to imitate (Argote & Ingram, 2000; Farnese et al., 2019). Based on this argument, the second hypothesis is formulated as follows:

H2: Knowledge Transfer has a positive and significant effect on Competitiveness Transformation.

6.3 Effect of Structured Mentoring on Mentoring Program Sustainability

Structured, documented, and institutionalized mentoring practices have been shown to be important factors in sustaining development programs from one period to the next (Afrina et al., 2026). Bryant and Terborg (2008) show

that structured mentor training creates mechanisms for creating and sharing organizational knowledge that can be transferred, thereby preventing development programs from depending on a particular mentor. Thus, the more structured the mentoring process, the greater the likelihood that the program will be sustainable (Afrina et al., 2026; Bryant & Terborg, 2008). Based on this argument, the third hypothesis is formulated as follows:

H3: Structured Mentoring has a positive and significant effect on Mentoring Program Sustainability.

6.4 Effect of Knowledge Transfer on Mentoring Program Sustainability

Knowledge that is not systematically codified and disseminated tends to disappear when the individuals who hold it move to another position or leave the organization (Argote & Ingram, 2000; Farnese et al., 2019). Conversely, when knowledge transfer is conducted systematically through socialization, externalization, combination, and internalization, the organization develops a collective knowledge base that can support the sustainability of development programs across generations of participants (Farnese et al., 2019; Nonaka & Takeuchi, 1995). Based on this argument, the fourth hypothesis is formulated as follows:

H4: Knowledge Transfer has a positive and significant effect on Mentoring Program Sustainability.

6.5 Effect of Competitiveness Transformation on Mentoring Program Sustainability

Organizations that successfully transform individual capabilities into stable competitive advantage tend to have a stronger foundation for maintaining the sustainability of their development programs (Al Karim et al., 2025). Al Aina and Atan (2020) found that improvements in organizational competitive capability contribute significantly to long-term organizational performance sustainability. Therefore, the higher the level of Competitiveness Transformation achieved, the greater the likelihood that mentoring program sustainability can be maintained (Al Aina & Atan, 2020; Al Karim et al., 2025). Based on this argument, the fifth hypothesis is formulated as follows:

H5: Competitiveness Transformation has a positive and significant effect on Mentoring Program Sustainability.

6.6 Effect of Structured Mentoring on Mentoring Program Sustainability through Competitiveness Transformation

In addition to its direct effect, structured mentoring is expected to influence the sustainability of development programs indirectly through the resulting increase in Competitiveness Transformation. Productivity and individual capabilities developed through structured mentoring constitute important pathways linking human resource development practices with organizational sustainability (Al Karim et al., 2025; Yuntina et al., 2025). In other words, Competitiveness Transformation serves as a mechanism that bridges the benefits of mentoring at the individual level with program sustainability at the organizational level (Afrina et al., 2026; Yuntina et al., 2025). Based on this argument, the sixth hypothesis is formulated as follows:

H6: Structured Mentoring has a positive and significant effect on Mentoring Program Sustainability through Competitiveness Transformation.

6.7 Effect of Knowledge Transfer on Mentoring Program Sustainability through Competitiveness Transformation

Consistent with the preceding argument, Knowledge Transfer is also expected to influence the sustainability of development programs through Competitiveness Transformation as a mediating variable. Effective knowledge transfer improves organizational competitive capabilities (Argote & Ingram, 2000) and these enhanced capabilities subsequently support the long-term sustainability of organizational performance and programs (Al Aina & Atan, 2020; Al Karim et al., 2025). Based on this argument, the seventh hypothesis is formulated as follows:

H7: Knowledge Transfer has a positive and significant effect on Mentoring Program Sustainability through Competitiveness Transformation.

7. Previous Studies

To strengthen the position of this study in relation to previous research, Table 2 presents a summary of ten prior studies relevant to Structured Mentoring, Knowledge Transfer, Competitiveness Transformation, and Mentoring Program Sustainability.

Table 2 Summary of Previous Studies

No.	Researcher (Year)	Study Title	Method	Research Findings	Similarity/Relevance to This Study
1	Afrina, Iskandar, Kurniawan, & Mintawati (Afrina et al., 2026)	Bridging the Gap: Structured and Sustainable Mentorship Models for Enhancing Participant Performance in Competition Environments	Exploratory qualitative study in a competition environment	Structured and sustainable mentoring models were found to improve the consistency of participant performance from one period to the next.	Supports Structured Mentoring and Mentoring Program Sustainability as the main constructs of this study.
2	Yuntina, Saepudin, Perwitasari, Setiawan, & Suhendra (2025)	The Effect of Coaching, Mentoring, and Work Engagement on Organizational Sustainability through Employee Productivity	Quantitative, PLS-SEM among company employees	Coaching and mentoring have positive effects on organizational sustainability, with employee productivity serving as a mediator.	Strengthens the role of a mediating variable (productivity/transformation) in the mentoring–sustainability relationship.
3	Al Karim et al. (2025)	Linking Talent Management, Work Engagement and Sustainable Organizational Performance	Quantitative survey, mediation by perceived organizational support	Talent management increases work engagement, which subsequently contributes to sustainable organizational performance.	Provides a basis for positioning Competitiveness Transformation as a mediating variable toward program sustainability.
4	Al Aina and Atan (2020)	The Impact of Implementing Talent Management Practices on Sustainable Organizational Performance	Quantitative, multiple regression	Consistent talent-management practices have a significant effect on long-term organizational performance sustainability.	Strengthens the theoretical foundation of organizational sustainability used in this study.
5	Malarvizhi and Vijayarani (2024)	Effect of Discretionary Work Effort on Organisational Sustainability through Employee Engagement	Quantitative survey of Generation Z	Discretionary work effort without the support of an institutionalized development system is unlikely to generate long-term performance sustainability.	Supports the argument that program sustainability requires formal structures rather than merely individual initiative.
6	Argote and Ingram (2000)	Knowledge Transfer: A Basis for Competitive Advantage in Firms	Conceptual/theoretical review	Knowledge transfer across organizational units constitutes an important basis for firms' competitive advantage.	Serves as a theoretical foundation for the Knowledge Transfer construct and its relationship with Competitiveness Transformation.

7	Farnese et al. (2019)	Managing Knowledge in Organizations: A Nonaka's SECI Model Operationalization	Field study in a military organization	The processes of knowledge socialization, externalization, combination, and internalization (SECI) contribute significantly to knowledge-management effectiveness.	Provides the basis for operationalizing the Knowledge Transfer indicators/dimensions in this study.
8	Bryant and Terborg (2008)	Impact of Peer Mentor Training on Creating and Sharing Organizational Knowledge	Quasi-experiment in a peer-mentor training program	Structured mentor training increases the capacity to create and share organizational knowledge.	Supports the direct relationship between Structured Mentoring and Knowledge Transfer processes in organizations.
9	Ogunsola, Adebayo, Dienagha, Ninduwezuor-Ehiobu, & Nwokediegwu (2023)	Mentorship and Knowledge Transfer: Developing Conceptual Models for Enhancing Employee Performance in Financial and Energy Sectors	Conceptual study in the financial and energy sectors	Structured mentorship programs integrated with knowledge management create a sustainable framework for employee growth.	Strengthens the conceptual model linking Structured Mentoring, Knowledge Transfer, and organizational sustainability.
10	Martoredjo (2015)	The Role of Mentoring Dimensions in Improving Human Resource Quality	Descriptive qualitative study	Mentoring dimensions, including career-development and psychosocial functions, play important roles in improving human resource quality and organizational competitiveness.	Provides a conceptual reference for the dimensions of Structured Mentoring in the Indonesian organizational context.

Based on the ten previous studies, it can be concluded that most prior research discusses structured mentoring, knowledge transfer, and organizational sustainability separately or links only two variables at a time. Several studies, such as Yuntina et al. (2025) and Al Karim et al. (2025), have incorporated mediating variables such as productivity or work engagement, but have not specifically employed Competitiveness Transformation as a mediator in the context of contact center competitions. The novelty of this study lies in integrating four variables—Structured Mentoring, Knowledge Transfer, Competitiveness Transformation, and Mentoring Program Sustainability—into a single model empirically tested in the context of national-scale competitions in the contact center sector, a context that has received limited attention in previous studies (Afrina et al., 2026; Ogunsola et al., 2023).

8. Conceptual Framework

Based on the theoretical foundations, variable review, and previous research discussed above, the conceptual framework of this study illustrates the relationship between Structured Mentoring (X1) and Knowledge Transfer (X2) as exogenous variables, Competitiveness Transformation (Z) as a mediating variable, and Mentoring Program Sustainability (Y) as the endogenous variable. The conceptual framework is presented in Figure 1.

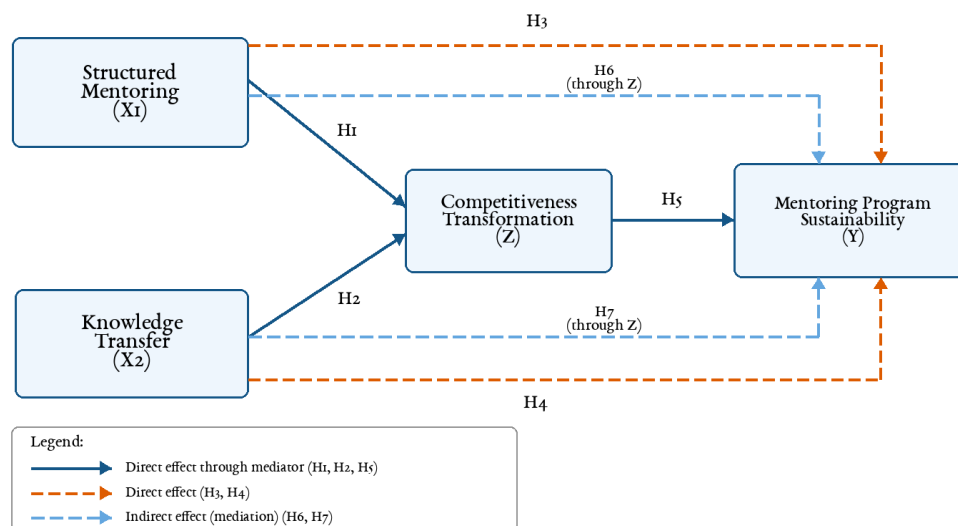


Figure 1 Research Conceptual Framework

The conceptual framework in Figure 1 shows that Structured Mentoring and Knowledge Transfer are hypothesized to have direct effects on Competitiveness Transformation and Mentoring Program Sustainability, as well as indirect effects on Mentoring Program Sustainability through Competitiveness Transformation as a mediating variable (dashed lines). This model is consistent with the Resource-Based View (Barney, 1991) and Knowledge-Based View (Argote & Ingram, 2000) which position human resources and knowledge as the basis for transformation toward competitive advantage and organizational sustainability.

9. Research Hypotheses

Based on the conceptual framework and hypothesis development described in the previous subsections, the research hypotheses are formulated as follows:

- H1: Structured Mentoring has a positive and significant effect on Competitiveness Transformation.
- H2: Knowledge Transfer has a positive and significant effect on Competitiveness Transformation.
- H3: Structured Mentoring has a positive and significant effect on Mentoring Program Sustainability.
- H4: Knowledge Transfer has a positive and significant effect on Mentoring Program Sustainability.
- H5: Competitiveness Transformation has a positive and significant effect on Mentoring Program Sustainability.
- H6: Structured Mentoring has a positive and significant effect on Mentoring Program Sustainability through Competitiveness Transformation.
- H7: Knowledge Transfer has a positive and significant effect on Mentoring Program Sustainability through Competitiveness Transformation.

C. RESEARCH METHOD

1. Research Design

This study employs a quantitative approach with an associative-causal design, aimed at testing the effects among variables formulated in the hypotheses (Sugiyono, 2019). It examines the effects of Structured Mentoring (X1) and Knowledge Transfer (X2) on Mentoring Program Sustainability (Y), with Competitiveness Transformation (Z) as a mediating variable. Primary data were collected through a cross-sectional questionnaire survey administered to mentees who had participated in a mentoring program for contact center competition preparation at PT Fit Kreasi Indo.

2. Population, Sample, and Sampling Technique

The population in this study consists of all mentees who had participated in the competition-preparation mentoring program at PT Fit Kreasi Indo, totaling 50 individuals. Given the relatively small population and the fact that all members were accessible, this study employed saturated sampling (a census), in which all population members were included as respondents (Sugiyono, 2019). Accordingly, the sample consisted of 50 respondents.

The adequacy of the sample size is also consistent with the minimum sample-size guideline for Partial Least Squares Structural Equation Modeling (PLS-SEM), namely ten times the maximum number of structural paths directed at any one latent variable (the ten-times rule) (Hair et al., 2021). In this research model, the maximum number of structural paths directed at a single variable (Mentoring Program Sustainability) is three; therefore, the minimum required sample size is 30 respondents. The actual sample of 50 respondents satisfies this minimum requirement (Hair et al., 2021).

3. Operational Definition of Variables

The research variables were operationalized based on the dimensions described in the literature review, as presented in Table 3. Each indicator was measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Sugiyono, 2019).

Table 3 Operational Definitions of Variables

Variable	Dimensions	Source
Structured Mentoring (X1)	Clarity of objectives & guidelines; Mentor–mentee matching; Career functions (coaching, exposure, sponsorship); Psychosocial functions; Documentation & evaluation	Afrina et al., 2026; Kram (1985)
Knowledge Transfer (X2)	Socialization; Externalization; Combination; Internalization	Nonaka and Takeuchi (1995); Farnese et al. (2019)
Competitiveness Transformation (Z)	Competitive capability; Uniqueness/difficulty of imitation; Work productivity & effectiveness; Competitive reputation	Barney (1991); Yuntina et al. (2025)
Mentoring Program Sustainability (Y)	Process consistency across periods; Institutionalization of practices; Documentation & knowledge transfer; Stability of outcomes/achievements	Afrina et al., 2026; Al Aina & Atan (2020)

4. Data Collection Technique

Primary data were collected using a closed-ended questionnaire developed from the indicators in Table 3 and distributed directly and online to the 50 mentees serving as respondents. Before data collection, the questionnaire instrument was evaluated for convergent validity by examining outer loadings and Average Variance Extracted (AVE), and for reliability using Cronbach's Alpha and Composite Reliability, with a recommended threshold of ≥ 0.70 (Hair et al., 2021).

5. Data Analysis Technique

Data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS. The reported analysis covers the measurement model through outer loadings, Average Variance Extracted (AVE), Cronbach's Alpha, and Composite Reliability; the structural model through R^2 and f^2 ; and bootstrapped direct-effect testing using 5,000 subsamples. Discriminant validity (Fornell–Larcker/HTMT), predictive relevance (Q^2), and bootstrapped specific indirect-effect statistics were not available in the output used to prepare this manuscript and therefore are not reported or inferred.

6. Research Location and Period

The study was conducted at PT Fit Kreasi Indo. Respondents were mentees who had participated in the contact center competition-preparation mentoring program organized by the company. Data collection was conducted in 2026 in accordance with the study period.

D. RESULTS AND DISCUSSION

1. Respondent Characteristics

This study involved the entire population of mentees who had participated in the contact center competition-preparation mentoring program at PT Fit Kreasi Indo, totaling 50 respondents, consistent with the saturated sampling technique described in the Research Method section. Respondent characteristics are presented by gender, age, length of service, competition experience, and frequency of participation in the mentoring program, as shown in Tables 4.1 through 4.5.

Table 4 Respondent Characteristics by Gender

Category	Frequency (n)	Percentage (%)
Male	28	56.0
Female	21	42.0
Not classifiable into a single category (selected more than one option)*	1	2.0
Total	50	100.0

Source: Primary data processed, 2026. *) One respondent selected more than one category for this item and therefore could not be classified into a single category; this note is presented exactly as recorded in the questionnaire data.

Table 5 Respondent Characteristics by Age

Category	Frequency (n)	Percentage (%)
< 25 years	6	12.0
25–34 years	37	74.0
35–44 years	6	12.0
Not classifiable into a single category (selected more than one option)*	1	2.0
Total	50	100.0

Source: Primary data processed, 2026. *) One respondent selected more than one category for this item and therefore could not be classified into a single category; this note is presented exactly as recorded in the questionnaire data.

Table 6 Respondent Characteristics by Length of Service in the Company

Category	Frequency (n)	Percentage (%)
< 1 year	6	12.0
1–3 years	15	30.0
> 3–5 years	9	18.0
> 5–10 years	16	32.0
> 10 years	3	6.0
Not classifiable into a single category (selected more than one option)*	1	2.0
Total	50	100.0

Source: Primary data processed, 2026. *) One respondent selected more than one category for this item and therefore could not be classified into a single category; this note is presented exactly as recorded in the questionnaire data.

Table 7 Respondent Characteristics by Contact Center Competition Experience

Category	Frequency (n)	Percentage (%)
First time	31	62.0
Participated previously	19	38.0
Total	50	100.0

Source: Primary data processed, 2026.

Table 8 Respondent Characteristics by Frequency of Participation in the Mentoring Program

Category	Frequency (n)	Percentage (%)
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1 time	8	16.0
2 times	5	10.0
3 times	6	12.0
≥ 4 times	30	60.0
Not classifiable into a single category (selected more than one option)*	1	2.0
Total	50	100.0

Source: Primary data processed, 2026. *) One respondent selected more than one category for this item and therefore could not be classified into a single category; this note is presented exactly as recorded in the questionnaire data.

Table 4 shows that the respondents were predominantly male mentees, totaling 28 people (56.0%), while female mentees totaled 21 people (42.0%). In terms of age (Table 5), most respondents were between 25 and 34 years old (74.0%), indicating that mentees in this program were generally in the early to mid-career stage.

Based on length of service (Table 6), respondents were fairly evenly distributed, with the largest proportions having more than 5–10 years of service (32.0%) and 1–3 years (30.0%). In terms of competition experience (Table 7), most respondents (62.0%) were participating in a contact center competition for the first time, while 38.0% had participated previously. Table 8 shows that most respondents (60.0%) had participated in the mentoring program four or more times, indicating that the mentoring program at PT Fit Kreasi Indo has been implemented repeatedly and involves mentees who are relatively experienced in the mentoring process itself.

Table 9 Forms of Mentoring Interaction Experienced by Respondents

Form of Interaction	Frequency (n)	Percentage (%)
Face-to-face	48	96.0
Online/video conference	36	72.0
Chat/written messages	32	64.0
Individual coaching	31	62.0
Simulation/practice	30	60.0
Performance review/evaluation	26	52.0
Group coaching	23	46.0

Source: Primary data processed, 2026. Percentages are calculated from the total of 50 respondents; each respondent could select more than one form of interaction, so the total percentage exceeds 100%.

The table above shows that face-to-face interaction remains the dominant form of mentoring (96.0%), followed by online/video-conference interaction (72.0%) and chat/written messages (64.0%). These findings indicate that the mentoring program at PT Fit Kreasi Indo is implemented in a blended format (face-to-face and online), with an emphasis on direct practice, as reflected in the relatively high proportions of individual coaching (62.0%) and simulation/practice (60.0%).

2. Measurement Model Evaluation Results (Outer Model)

The measurement model (outer model) was evaluated to assess the validity and reliability of indicators in reflecting their latent constructs. The evaluation included convergent validity (outer loading and Average Variance Extracted/AVE) and construct reliability (Cronbach's Alpha and Composite Reliability), in accordance with the criteria described in the Research Method section.

2.1 Convergent Validity Test (Outer Loading and AVE)

Outer loading values indicate the contribution of each indicator in reflecting its latent construct. An indicator is considered valid when its outer loading is ≥ 0.70 and statistically significant (t -statistic > 1.96 or p -value < 0.05) (Hair et al., 2021). The outer loading results and their significance based on a bootstrapping procedure with 5,000 subsamples are presented in Table 10.

Table 10 Outer Loading and Indicator Significance Test Results

Construct	Indicator	Outer Loading	T-Statistic	P-Values	Description
Structured Mentoring (X1)	SM1	0.837	17.242	< .001	Valid
	SM2	0.826	13.111	< .001	Valid
	SM3	0.895	27.066	< .001	Valid
	SM4	0.904	26.279	< .001	Valid
	SM5	0.748	8.643	< .001	Valid
	SM6	0.815	11.041	< .001	Valid
	SM7	0.843	17.082	< .001	Valid
	SM8	0.906	39.037	< .001	Valid
Knowledge Transfer (X2)	KT1	0.818	12.832	< .001	Valid
	KT2	0.927	40.143	< .001	Valid
	KT3	0.874	13.680	< .001	Valid
	KT4	0.932	39.935	< .001	Valid
	KT5	0.935	38.566	< .001	Valid
	KT6	0.886	15.810	< .001	Valid
Competitiveness Transformation (Z)	TDS1	0.940	46.045	< .001	Valid
	TDS2	0.859	16.859	< .001	Valid
	TDS3	0.963	66.873	< .001	Valid
	TDS5	0.836	12.528	< .001	Valid
	TDS6	0.943	38.694	< .001	Valid
	TDS7	0.895	30.162	< .001	Valid
	TDS8	0.958	60.872	< .001	Valid
	TDS9	0.948	47.757	< .001	Valid
	TDS10	0.964	74.669	< .001	Valid
	TDS11	0.925	23.053	< .001	Valid
Mentoring Program Sustainability (Y)	SUS1	0.856	17.754	< .001	Valid
	SUS2	0.955	55.440	< .001	Valid
	SUS3	0.951	39.619	< .001	Valid
	SUS4	0.979	109.850	< .001	Valid
	SUS5	0.940	32.877	< .001	Valid
	SUS6	0.919	29.146	< .001	Valid
	SUS7	0.958	49.396	< .001	Valid

Source: SmartPLS 4.1.1.8 output, bootstrapping results with 5,000 subsamples, 2026.

Table 10 shows that all indicators across the four constructs have outer loading values above 0.70, ranging from 0.748 (SM5) to 0.979 (SUS4), and all are statistically significant ($p < .001$). Therefore, all indicators are declared valid and appropriate for retention as measures of Structured Mentoring, Knowledge Transfer, Competitiveness Transformation, and Mentoring Program Sustainability.

In addition to outer loadings, convergent validity was evaluated using Average Variance Extracted (AVE), which represents the average proportion of variance explained by the indicators in their construct. A construct is considered to meet convergent validity when $AVE \geq 0.50$ (Hair et al., 2021). The AVE results are presented together with the reliability results in Table 11.

2.2 Construct Reliability Test

Construct reliability was assessed using Cronbach's Alpha and Composite Reliability (ρ_a and ρ_c), with a recommended threshold of ≥ 0.70 (Hair et al., 2021). The reliability and AVE results are presented in Table 11.

Table 11 Construct Reliability and Convergent Validity Test Results

Construct	Cronbach's Alpha	Composite Reliability (ρ_a)	Composite Reliability (ρ_c)	AVE
Structured Mentoring (X1)	0.944	0.947	0.953	0.720
Knowledge Transfer (X2)	0.951	0.955	0.961	0.804
Competitiveness Transformation (Z)	0.981	0.982	0.983	0.854
Mentoring Program Sustainability (Y)	0.977	0.978	0.981	0.879

Source: SmartPLS 4.1.1.8 output, 2026.

Table 11 shows that all four constructs have Cronbach's Alpha values (0.944–0.981), Composite Reliability ρ_a values (0.947–0.982), and ρ_c values (0.953–0.983), all well above the threshold of 0.70. Thus, all constructs in the research model are reliable and internally consistent. The AVE values of the four constructs range from 0.720 to 0.879, all exceeding the threshold of 0.50, thereby confirming that the measurement model satisfies convergent validity.

3. Structural Model Evaluation Results (Inner Model)

After convergent validity and internal consistency reliability were established, the evaluation proceeded to the structural model (inner model) to assess the strength of relationships among latent variables, including the coefficient of determination (R^2) and effect size (f^2).

3.1 Coefficient of Determination (R^2)

The R^2 value indicates the proportion of variance in an endogenous variable that can be explained by the exogenous variables in the model. Based on the guideline of Chin (1998), as cited in Hair et al. (2021), $R^2 \geq 0.75$ is categorized as strong (substantial), 0.50–0.75 as moderate, and 0.25–0.50 as weak. The R^2 test results are presented in Table 12.

Table 12 Coefficient of Determination (R^2) Test Results

Endogenous Variable	R-Square	Adjusted R-Square
Competitiveness Transformation (Z)	0.800	0.791
Mentoring Program Sustainability (Y)	0.815	0.803

Source: SmartPLS 4.1.1.8 output, 2026.

Table 12 shows that the R^2 value for Competitiveness Transformation is 0.800 (adjusted $R^2 = 0.791$), meaning that 80.0% of the variance in Competitiveness Transformation can be explained simultaneously by Structured Mentoring and Knowledge Transfer, while the remaining 20.0% is explained by variables outside the model. The R^2 value for Mentoring Program Sustainability is 0.815 (adjusted $R^2 = 0.803$), meaning that 81.5% of its variance can be explained simultaneously by Structured Mentoring, Knowledge Transfer, and Competitiveness Transformation. Both values are categorized as strong/substantial, indicating that the research model has high explanatory power for both endogenous variables.

3.2 Effect Size (f^2)

The f^2 value is used to determine the magnitude of the contribution of an exogenous variable to an endogenous variable when the exogenous variable is removed from the model. Based on Cohen's (1988) guidelines, as cited in Hair et al. (2021), f^2 values of 0.02, 0.15, and 0.35 are categorized as small, medium, and large, respectively. The f^2 test results are presented in Table 13.

Table 13 Effect Size (f^2) Test Results

Effect Path	f-Square	Category
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Structured Mentoring (X1) → Competitiveness Transformation (Z)	0.477	Large
Structured Mentoring (X1) → Mentoring Program Sustainability (Y)	0.106	Small
Knowledge Transfer (X2) → Competitiveness Transformation (Z)	0.480	Large
Knowledge Transfer (X2) → Mentoring Program Sustainability (Y)	0.058	Small
Competitiveness Transformation (Z) → Mentoring Program Sustainability (Y)	0.272	Medium

Source: SmartPLS 4.1.1.8 output, 2026.

Table 13 shows that Structured Mentoring ($f^2 = 0.477$) and Knowledge Transfer ($f^2 = 0.480$) both make large contributions to Competitiveness Transformation. In contrast, the direct contributions of Structured Mentoring ($f^2 = 0.106$) and Knowledge Transfer ($f^2 = 0.058$) to Mentoring Program Sustainability are small, while the contribution of Competitiveness Transformation to Mentoring Program Sustainability is medium ($f^2 = 0.272$), approaching the large category. This pattern is consistent with the path-testing results in Section 4.4, indicating that the effects of Structured Mentoring and Knowledge Transfer on Mentoring Program Sustainability are transmitted more strongly through Competitiveness Transformation as a mediator than through direct paths.

4. Hypothesis Testing

Direct effects (H1–H5) were tested using bootstrapping with 5,000 subsamples and a significance criterion of $p < .05$. For H6–H7, only descriptive indirect-effect estimates and VAF values can be calculated from the reported path coefficients. Because bootstrapped specific indirect-effect statistics (t-values, p-values, or confidence intervals) are not available in the output used for this manuscript, the statistical significance of H6 and H7 cannot be confirmed.

4.1 Direct Effect Testing (H1–H5)

Table 14 Direct Effect Test Results (Path Coefficients)

Hypothesis	Effect Path	Path Coefficient (β)	P-Values	Decision
H1	Structured Mentoring (X1) → Competitiveness Transformation (Z)	0.476	0.004	Supported
H2	Knowledge Transfer (X2) → Competitiveness Transformation (Z)	0.477	0.001	Supported
H3	Structured Mentoring (X1) → Mentoring Program Sustainability (Y)	0.261	0.118	Not Supported
H4	Knowledge Transfer (X2) → Mentoring Program Sustainability (Y)	0.193	0.214	Not Supported
H5	Competitiveness Transformation (Z) → Mentoring Program Sustainability (Y)	0.501	0.017	Supported

Source: SmartPLS 4.1.1.8 output, bootstrapping results with 5,000 subsamples, 2026. Criterion: significant if $p\text{-value} < 0.05$.

Table 14 shows that of the five direct-effect paths tested, three are significant and two are not significant. Structured Mentoring has a positive and significant effect on Competitiveness Transformation ($\beta = 0.476$; $p = 0.004 < 0.05$), so H1 is supported. Likewise, Knowledge Transfer has a positive and significant effect on Competitiveness Transformation ($\beta = 0.477$; $p = 0.001 < 0.05$), so H2 is supported. These findings are consistent with the argument that structured mentoring processes and effective knowledge transfer are important foundations for developing organizational competitive capabilities (Afrina et al., 2026; Argote & Ingram, 2000; Ogunsola et al., 2023).

In contrast, the direct effect of Structured Mentoring on Mentoring Program Sustainability is not significant ($\beta = 0.261$; $p = 0.118 > 0.05$), so H3 is not supported. The direct effect of Knowledge Transfer on Mentoring Program Sustainability is also not significant ($\beta = 0.193$; $p = 0.214 > 0.05$), so H4 is not supported. These findings indicate that Structured Mentoring and Knowledge Transfer do not directly guarantee mentoring program sustainability; rather, they first require a linking mechanism in the form of enhanced organizational competitive capabilities—a pattern examined further through H6 and H7 in Section 4.2.

Competitiveness Transformation has a positive and significant effect on Mentoring Program Sustainability ($\beta = 0.501$; $p = 0.017 < 0.05$), so H5 is supported. This finding is consistent with the argument that organizations that successfully transform individual capabilities into stable competitive advantage have a stronger foundation for sustaining their development programs (Al Aina & Atan, 2020; Al Karim et al., 2025).

4.2 Mediation Assessment (H6–H7)

The direct effects of Structured Mentoring and Knowledge Transfer on Mentoring Program Sustainability (H3 and H4) are not significant, whereas both predictor-to-mediator paths and the mediator-to-outcome path are significant. Descriptive indirect effects and VAF values were therefore calculated to show the magnitude of the potential mediated pathways. These values are presented in Table 15; however, they are not used to make an inferential decision on H6 or H7 because bootstrapped specific indirect-effect statistics are unavailable.

Table 15 Descriptive Indirect-Effect and VAF Estimates

Hypothesis	Effect Path	Indirect Effect	VAF	Type of Mediation	Decision
H6	Structured Mentoring (X1) → Competitiveness Transformation (Z) → Mentoring Program Sustainability (Y)	0.238	47.7%	Not classified (inferential output unavailable)	Undetermined
H7	Knowledge Transfer (X2) → Competitiveness Transformation (Z) → Mentoring Program Sustainability (Y)	0.239	55.3%	Not classified (inferential output unavailable)	Undetermined

Source: Calculated descriptively from the reported path coefficients in Table 14 (indirect effect = product of the two constituent path coefficients; VAF = indirect effect ÷ total effect). VAF is reported as descriptive information only. Inferential mediation classification requires the significance and confidence interval of the bootstrapped specific indirect effect.

Table 15 shows descriptive indirect-effect estimates of 0.238 for Structured Mentoring → Competitiveness Transformation → Mentoring Program Sustainability and 0.239 for Knowledge Transfer → Competitiveness Transformation → Mentoring Program Sustainability, with VAF values of 47.7% and 55.3%, respectively. These values suggest potentially meaningful mediated pathways, but H6 and H7 cannot be classified as supported or not supported without bootstrapped specific indirect-effect significance statistics and confidence intervals.

The significance of an indirect effect cannot be inferred solely from the significance of its constituent paths. Therefore, the manuscript does not classify the mediation as partial, full, or indirect-only on the basis of the currently available output. The required next step is to report SmartPLS Specific Indirect Effects with the indirect coefficient, t-statistic, p-value, and confidence interval.

5. Discussion

A summary of the results of testing the seven research hypotheses is presented in Table 16.

Table 16 Summary of Hypothesis Testing Results

Hypothesis	Hypothesis Statement	Decision
H1	Structured Mentoring has a positive and significant effect on Competitiveness Transformation.	Supported
H2	Knowledge Transfer has a positive and significant effect on Competitiveness Transformation.	Supported
H3	Structured Mentoring has a positive and significant effect on Mentoring Program Sustainability.	Not Supported
H4	Knowledge Transfer has a positive and significant effect on Mentoring Program Sustainability.	Not Supported
H5	Competitiveness Transformation has a positive and significant effect on Mentoring Program Sustainability.	Supported
H6	Structured Mentoring has a positive and significant effect on Mentoring Program Sustainability through Competitiveness Transformation.	Undetermined

H7	Knowledge Transfer has a positive and significant effect on Mentoring Program Sustainability through Competitiveness Transformation.	Undetermined
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Source: Compiled from Tables 14 and 15, 2026. H6 and H7 remain undetermined because bootstrapped specific indirect-effect statistics are unavailable.

Overall, the research model shows high explanatory power for both endogenous variables. Competitiveness Transformation has a significant direct association with Mentoring Program Sustainability and provides a plausible intermediate pathway linking Structured Mentoring and Knowledge Transfer with program sustainability. However, the mediation effects proposed in H6 and H7 remain to be confirmed using bootstrapped specific indirect-effect statistics. This interpretation is consistent with the premise developed in the Introduction that sustained institutional performance may depend on the successful transformation of individual capabilities into organizational competitiveness rather than on mentoring or knowledge transfer in isolation.

The support for H1 and H2 confirms that both structured mentoring processes—characterized by clear objectives, staged guidance, and well-functioning psychosocial and career functions—and knowledge-transfer processes through socialization, externalization, combination, and internalization (the SECI model) are important pathways for developing organizational competitive capabilities. This is consistent with the Resource-Based View and Knowledge-Based View, which position internal resources and knowledge as the basis of competitive advantage that is difficult for competitors to imitate (Argote & Ingram, 2000; Barney, 1991; Nonaka & Takeuchi, 1995).

The lack of support for H3 and H4 is an important finding. Structured Mentoring and Knowledge Transfer are not sufficient to ensure mentoring program sustainability unless they are accompanied by the transformation of individual capabilities into measurable organizational competitiveness. In other words, simply implementing mentoring in a structured manner or transferring knowledge systematically does not necessarily ensure that a development program will persist from one period to the next unless the outcomes of these processes are first realized as tangible and documented improvements in competitive capability.

The support for H5 reinforces the central role of Competitiveness Transformation in Mentoring Program Sustainability. The descriptive indirect-effect estimates for H6 and H7 are consistent with a possible mediating pathway, but the inferential status of these two hypotheses remains undetermined because bootstrapped specific indirect-effect statistics are not available. This interpretation is consistent with the study's finding that competitive capability is an important mechanism linking mentoring and knowledge-transfer practices with program sustainability.

The practical implication of these findings is that PT Fit Kreasi Indo and similar institutions need to ensure that structured mentoring and knowledge-transfer programs actually generate measurable improvements in competitive capability—for example, through periodic performance evaluation, documentation of best practices, and consistent competition simulations—rather than merely conducting mentoring as an administrative routine, so that the long-term sustainability of development programs can be better ensured.

E. CONCLUSION

1. Conclusion

Based on the data analysis and hypothesis-testing results reported in the Results and Discussion section, this study draws the following conclusions in accordance with the sequence of research questions stated in the Introduction:

- 1) Structured Mentoring has a positive and significant effect on Competitiveness Transformation ($\beta = 0.476$; $p = 0.004$). The more structured the mentoring implementation, the greater the resulting improvement in competitive capability.
- 2) Knowledge Transfer has a positive and significant effect on Competitiveness Transformation ($\beta = 0.477$; $p = 0.001$). The more effective the knowledge-transfer process, the greater the improvement in organizational competitive capability.

- 3) Structured Mentoring does not have a significant direct effect on Mentoring Program Sustainability ($\beta = 0.261$; $p = 0.118$).
- 4) Knowledge Transfer does not have a significant direct effect on Mentoring Program Sustainability ($\beta = 0.193$; $p = 0.214$).
- 5) Competitiveness Transformation has a positive and significant effect on Mentoring Program Sustainability ($\beta = 0.501$; $p = 0.017$).
- 6) The descriptive indirect-effect estimate for Structured Mentoring $\rightarrow$ Competitiveness Transformation $\rightarrow$ Mentoring Program Sustainability is 0.238 (VAF = 47.7%). The inferential status of H6 remains undetermined because bootstrapped specific indirect-effect significance statistics are not available.
- 7) The descriptive indirect-effect estimate for Knowledge Transfer $\rightarrow$ Competitiveness Transformation $\rightarrow$ Mentoring Program Sustainability is 0.239 (VAF = 55.3%). The inferential status of H7 remains undetermined because bootstrapped specific indirect-effect significance statistics are not available.

Overall, Competitiveness Transformation is a key variable associated with Mentoring Program Sustainability and provides a plausible pathway through which Structured Mentoring and Knowledge Transfer may contribute to program sustainability. The direct effects of Structured Mentoring and Knowledge Transfer on Mentoring Program Sustainability are not significant, while the proposed indirect pathways require confirmation using bootstrapped specific indirect-effect statistics.

2. Research Implications

2.1 Theoretical Implications

This study strengthens the Resource-Based View and Knowledge-Based View by showing that Structured Mentoring and Knowledge Transfer are significant antecedents of organizational competitive capability (Competitiveness Transformation), and that Competitiveness Transformation is significantly associated with Mentoring Program Sustainability. The descriptive indirect-effect estimates also suggest a possible linking mechanism between human resource development practices at the individual level and program sustainability at the organizational level; however, this mediating mechanism requires confirmation through bootstrapped specific indirect-effect testing. The study therefore provides empirical evidence from the contact center competition context while maintaining appropriate caution regarding the unconfirmed mediation effects.

2.2 Practical Implications

For PT Fit Kreasi Indo and similar organizations that conduct mentoring programs for contact center competition preparation, this study suggests that Structured Mentoring and Knowledge Transfer should not stop at mentoring activities alone, but should be explicitly directed toward producing measurable improvements in competitive capability, for example through periodic performance evaluations, documentation of best practices, and consistent competition simulations. In this way, organizations can design mentoring systems that are more structured, documented, and less dependent on a particular mentor, thereby supporting long-term performance consistency as demonstrated by the stable-performing institution discussed in the Introduction.

3. Research Limitations

- 1) This study uses a cross-sectional design at a single point in time; therefore, it cannot yet explain the dynamics of relationships among variables longitudinally over time.
- 2) The number of respondents in this study is relatively limited, namely 50 individuals, all from a single company (PT Fit Kreasi Indo). Therefore, the findings should be interpreted cautiously before being generalized to other organizational or sectoral contexts.
- 3) Discriminant validity tests (Fornell–Larcker/HTMT) and predictive relevance (Q^2) were not fully reported in this study because of limitations in the output data available during preparation; consequently, the evaluation of the measurement and structural models is not yet fully complete according to PLS-SEM reporting standards.

- 4) The research data are based on mentees' perceptions collected through a self-report questionnaire, which may be subject to perceptual bias and social desirability bias.

4. Recommendations

4.1 Recommendations for Future Research

- 1) Complete the model evaluation by fully reporting discriminant validity tests (Fornell–Larcker and HTMT) and predictive relevance (Q^2) so that PLS-SEM reporting standards are comprehensively met (Hair et al., 2021).
- 2) Use a longitudinal research design to confirm causal relationships among variables over time, considering that sustainability is inherently dynamic.
- 3) Expand the population and sample to several other organizations participating in contact center competitions to improve the generalizability of the findings.
- 4) Explore other mediating or moderating variables, such as top-management support or organizational culture, that may strengthen or weaken the effects of Structured Mentoring and Knowledge Transfer on Mentoring Program Sustainability.

4.2 Recommendations for PT Fit Kreasi Indo

- 1) Develop written mentoring guidelines that include clear objectives, stages, and success indicators so that mentoring practices do not depend on a particular mentor.
- 2) Systematically document best practices from each competition period as a collective knowledge base for mentees and mentors in subsequent periods.
- 3) Use improvements in competitive capability for example, through performance evaluation and periodic competition simulations as an intermediate outcome indicator of the mentoring program, given its significant role in supporting program sustainability.

REFERENCES

- Afrina, F., Iskandar, Y., Kurniawan, H., & Mintawati, H. (2026). Bridging the Gap: Structured and Sustainable Mentorship Models for Enhancing Participant Performance in Competition Environments. *International Journal of Social Science, Educational, Economics, Agriculture Research and Technology (IJSET)*, 5(9). <https://doi.org/10.5281/zenodo.21640256>
- Aina, R. Al, & Atan, T. (2020). The impact of implementing talent management practices on sustainable organizational performance. *Sustainability (Switzerland)*, 12(20), 1–21. <https://doi.org/10.3390/su12208372>
- Al Aina, R., & Atan, T. (2020). The Impact of Implementing Talent Management Practices on Sustainable Organizational Performance. *Sustainability*, 12(20). <https://doi.org/10.3390/su12208372>
- Al Karim, R., Jebunnesa, U., & Rabiul, M. K. (2025). Linking Talent Management, Work Engagement and Sustainable Organizational Performance: The Mediating Role of Perceived Supervisor Support and Perceived Organizational Support. *Global Knowledge, Memory and Communication*, 75(7–8), 4196–4215. <https://doi.org/10.1108/GKMC-06-2024-0383>
- Alkandari, A., Abuzaraida, M. A., & Alfoudery, A. (2021). Light Mobile Application for Roads Accident Report. *International Journal of Mechanical Engineering*, 6(3), 198–206.
- Argote, L., & Ingram, P. (2000). Knowledge Transfer: A Basis for Competitive Advantage in Firms. *Organizational Behavior and Human Decision Processes*, 82(1), 150–169. <https://doi.org/10.1006/obhd.2000.2893>
- Barney, J. B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Bryant, S. E., & Terborg, J. R. (2008). Impact of Peer Mentor Training on Creating and Sharing Organizational Knowledge. *Journal of Managerial Issues*, 20(1), 11–29.
- Farnese, M. L., Barbieri, B., Chirumbolo, A., & Patriotta, G. (2019). Managing Knowledge in Organizations: A Nonaka's SECI Model Operationalization. *Frontiers in Psychology*, 10, 2730. <https://doi.org/10.3389/fpsyg.2019.02730>

- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- ICCA. (2026). *Data Partisipasi Kompetisi Skala Nasional 2021–2025*. ICCA.
- Kram, K. E. (1985). *Mentoring at Work: Developmental Relationships in Organizational Life*. Scott, Foresman.
- Malarvizhi, S. J. R., & Vijayarani, S. (2024). Effect of Discretionary Work Effort on Organisational Sustainability through Employee Engagement - Perspective of Z Gen. *International Journal of Business and Systems Research*, 18(2), 129–144. <https://doi.org/10.1504/IJBSR.2024.137066>
- Martoredjo, N. T. (2015). Peran Dimensi Mentoring dalam Upaya Peningkatan Kualitas Sumber Daya Manusia. *Humaniora: Journal of Indonesia Culture and Society*, 6(4), 444–452. <https://doi.org/10.21512/humaniora.v6i4.3373>
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job Burnout. *Annual Review of Psychology*, 52(1), 397–422. <https://doi.org/10.1146/annurev.psych.52.1.397>
- Nonaka, I., & Takeuchi, H. (1995). *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation*. Oxford University Press. <https://doi.org/10.1093/oso/9780195092691.001.0001>
- Ogunsola, O. Y., Adebayo, Y. A., Dienagha, I. N., Ninduwezuor-Ehiobu, N., & Nwokediegwu, Z. S. (2023). Mentorship and Knowledge Transfer: Developing Conceptual Models for Enhancing Employee Performance in Financial and Energy Sectors. *Iconic Research and Engineering Journals*, 7(1), 669–678. <https://www.irejournals.com/paper-details/1704848>
- Sugiyono. (2019). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta.
- Yuntina, L., Saepudin, T. H., Perwitasari, E. P., Setiawan, A., & Suhendra, A. (2025). Pengaruh Coaching, Mentoring dan Keterlibatan Kerja terhadap Keberlanjutan Organisasi melalui Produktivitas Karyawan dalam Lingkungan Kerja yang Dinamis. *Jurnal Publikasi Sistem Informasi Dan Manajemen Bisnis*, 4(3), 329–349. <https://doi.org/10.55606/jupsim.v4i3.5345>