

A Collaborative Model of K-Pop Generation Z Communities and Regional Creative Talent for Strengthening Local Cultural Identity: A PLS-SEM Approach

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Abstract

This study examines a collaborative model linking Generation Z K-Pop fan communities with regional creative economy talents to strengthen local cultural identity in North Sulawesi, Indonesia. Framed by participatory-culture and co-creation perspectives, the study specifies four latent constructs: K-Pop Generation Z Community, Regional Creative Economy Talent, Strengthening of Local Cultural Identity, and Collaborative Model. Data were collected from 300 K-Pop fans through a purposive-sampling survey and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) in SmartPLS. The measurement model met the criteria for convergent validity, reliability, and discriminant validity across sixty-four indicators. Structural analysis shows that the K-Pop community influences the collaborative model both directly and indirectly, whereas regional creative talent affects the model only indirectly, fully mediated by strengthened local cultural identity. The model explains 69.5% of the variance in the collaborative model and 73.5% in cultural-identity strengthening. These findings indicate that local cultural identity, rather than talent availability alone, is the mechanism that converts fan-community energy and creative talent into concrete cross-sector collaboration, offering practical direction for local governments and creative-economy stakeholders. Because the sample was concentrated in Manado and predominantly female, these findings are context-specific and should be generalized with caution—a limitation that also situates the study within broader debates on glocalization and creative-economy development in Southeast Asia.

Keywords:

K-Pop fan community; Generation Z; Regional creative economy talent; Local cultural identity; Collaborative model; PLS-SEM.

1. INTRODUCTION

The development of global popular culture, particularly K-Pop, has significantly shaped the interests, expressions, and creative practices of Generation Z in Indonesia over the past decade. K-Pop communities are no longer merely spaces for entertainment; they have evolved into creative production ecosystems encompassing digital content, fashion, performing arts, and social-media-based entrepreneurship (Jenkins, 2012; K. Yoon, 2021). At the same time, regions across Indonesia possess strong local-culture-based creative economy talent, yet often struggle to reach younger generations and expand market access (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2021). This shift is also consistent with the direction of contemporary marketing, which positions digital technology as a means of connecting human values with consumer behavior (Kotler et al., 2021). This gap is the starting point for the present study: collaboration between the K-Pop Generation Z community and regional creative economy talent has not yet been systematically established, so the opportunity to strengthen local cultural identity through an approach aligned with young people's tastes has not been optimally utilized.

Previous studies have shown that K-Pop communities influence Generation Z's cultural preferences and consumption behavior (Rahmawati & Nugroho, 2024), while also holding collaborative potential in social activities, the creative economy, and digital content production (Baym, 2015). Recent research even reveals that global K-Pop communities have evolved into creative ecosystems that actively produce content and mobilize culture-based economic value (K. Yoon, 2021; T. Yoon, 2022). Meanwhile, studies on regional creative economy talent underscore the importance of local innovation in strengthening cultural image and increasing youth participation (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2021), while the dynamics of the Korean Wave in Indonesia open opportunities for hybridization between global popular aesthetics and local identity expression that regional creative economy actors have not yet fully exploited (Rachmawati & Santoso, 2023; Putrianti & Fadilah, 2023). Unfortunately, these findings remain fragmented and have not yet integrated the K-Pop community, regional creative economy talent, and cross-community collaboration dynamics into a single, coherent analytical framework; studies on cross-community collaboration variables and their mediating mechanisms also remain limited (Rahmawati & Nugroho, 2024; Javed et al., 2023).

Based on this background, the present study was designed to answer four main questions: (1) how does the K-Pop Generation Z community contribute to local-based creative collaboration; (2) what role does regional creative economy talent play in strengthening local cultural identity; (3) how does the mechanism of strengthening local cultural identity operate in the relationship between these two actors and the formation of collaboration; and (4) how can a collaborative model empirically explain the strengthening of Generation Z's local cultural identity. To answer these questions, this study identifies the characteristics of the K-Pop Generation Z community and its potential synergy with regional creative economy talent, examines the factors influencing cross-community collaboration, and formulates and tests an integrated collaborative model that explains the strengthening of local cultural identity through a multivariate approach.

Studies on K-Pop fandom confirm that fan communities now operate as a participatory culture: they produce content, build social networks, and drive digital-based creative consumption practices, and can thus be understood not merely as consumers but also as marketing actors who shape meaning and collective identity in digital spaces (Jenkins, 2006, 2012; K. Yoon, 2021). The Hallyu, or Korean Wave, literature further affirms the role of digital platforms in the transnational spread of Korean popular culture, while also giving rise to cultural hybridization practices and the formation of youth identity across countries (Jin, 2016, 2022; Oh, 2022). In line with this, the co-creation approach positions fans as active partners who, through interaction with local creative actors, have the potential to strengthen—rather than erode—regional cultural identity (Lee & Lim, 2023; Kurniasih & Pratama, 2023). Building on this framework, the present study develops a model with four latent constructs: K-Pop Generation Z Community (KP) and Regional Creative Economy Talent (TEKD) as exogenous variables, Strengthening of Local Cultural Identity (PIBL) as a mediating variable, and Collaborative Model (MK) as an endogenous variable. Seven hypotheses were formulated to test the relationships among these constructs. The present model focuses on direct and mediating relationships; potential moderating variables—such as length of fan-community involvement, gender, or domicile—fall outside its scope and are flagged for future testing.

- H1: The K-Pop Generation Z Community has a positive effect on the Collaborative Model. The community's everyday activities—organizing gatherings, cover dance competitions, and fan bazaars—require role division and coordination that essentially train networking skills, the core of collaborative capacity (Jenkins, 2012; T. Yoon, 2022).
- H2: Regional Creative Economy Talent has a positive effect on the Collaborative Model. The availability of creative actors is presumed to directly contribute to the formation of cross-party cooperation, as emphasized in studies on local-culture-based creative economy (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2021).
- H3: The K-Pop Generation Z Community has a positive effect on the Strengthening of Local Cultural Identity. Fans' familiarity with South Korea's strategy for packaging and exporting its culture is presumed to spark reflection on the potential of their own regional culture, in line with the idea of glocalization (K. Yoon, 2021; Jin, 2022).
- H4: Regional Creative Economy Talent has a positive effect on the Strengthening of Local Cultural Identity. Creative works grounded in local cultural wealth are presumed to strengthen pride in and attachment to regional cultural identity (Rachmawati & Santoso, 2023; Kurniasih & Pratama, 2023).
- H5: The Strengthening of Local Cultural Identity has a positive effect on the Collaborative Model. Cultural pride and attachment are presumed to serve as the basis of legitimacy that allows both the community and creative actors to be accepted as partners by formal stakeholders (Setiyadi & Lestari, 2023).
- H6: The Strengthening of Local Cultural Identity mediates the effect of the K-Pop Generation Z Community on the Collaborative Model.
- H7: The Strengthening of Local Cultural Identity mediates the effect of Regional Creative Economy Talent on the Collaborative Model.

These seven hypotheses were tested empirically through a quantitative approach using multivariate analysis. This article reports the Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis stage of a broader, integrated multivariate research series, which in its earlier stage had identified the loyalty of Generation Z K-Pop fans in supporting regional culture (Canon & Wua, 2025), and which in its subsequent stage is planned to be enriched with segmentation analysis (cluster analysis) and cultural product attribute preferences (conjoint analysis), in line with the research roadmap that has been developed.

1.1. Background and Problem Formulation

Building on the context set out above, this section formalizes the research problem rather than restating it. The core tension is that Generation Z's rising consumption of global culture has not been matched by systematic collaboration between the K-Pop community and regional creative economy talent, so the opportunity to strengthen local cultural identity through youth-oriented approaches remains underexploited.

This situation reveals a gap between rising consumption of global culture and the need to preserve local culture. Although cross-cultural collaboration practices are beginning to appear through festivals, creative content, and community agendas, no empirical model yet explains, in a structured way, how such collaboration contributes to strengthening Generation Z's local cultural identity.

More recent work reveals that global K-Pop communities have evolved into creative ecosystems that actively produce content and mobilize culture-based economic value (K. Yoon, 2021; T. Yoon, 2022). Meanwhile, research on regional creative economy talent underscores the importance of local innovation for strengthening cultural image and increasing youth participation (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2021); in Indonesia, the dynamics of the Korean Wave create opportunities for hybridization between global popular aesthetics and local identity expression that regional creative-economy actors have not yet fully exploited (Rachmawati & Santoso, 2023; Putrianti & Fadilah, 2023). These findings nonetheless remain fragmented and have not integrated the K-Pop community, regional creative economy talent, and cross-community collaboration dynamics into a single analytical framework; research on cross-community collaboration variables and their mediating mechanisms also remains limited (Rahmawati & Nugroho, 2024; Javed et al., 2023).

This study therefore aims to analyze the role of the K-Pop Generation Z community, examine the contribution of regional creative talent, identify the mediating mechanism between creative collaboration and the strengthening of local identity, and formulate an integrated multivariate collaborative model for policy recommendations. Accordingly, the research questions are: (1) how does the K-Pop Generation Z community contribute to local-based creative collaboration; (2) what role does regional creative economy talent play in strengthening local cultural identity; (3) how does this mechanism operate in the relationship between the two actors and the formation of collaboration; and (4) how can a collaborative model explain the strengthening of Generation Z's local cultural identity.

1.2. Problem-Solving Approach

To address this problem, the study adopts a descriptive-explanatory quantitative approach combined with an integrated multivariate analysis to examine the collaborative model linking the K-Pop Generation Z community and regional creative economy talent to the strengthening of local cultural identity. The approach proceeds by mapping community characteristics, Generation Z preferences, and the perceptions of creative economy actors toward culture-based collaboration; data are collected through a structured questionnaire supported by interviews and analyzed to identify the relationships and influences among the social, creative, and marketing variables involved.

The problem-solving strategy centers on formulating a conceptual collaborative-model framework grounded in co-creation (Lee & Lim, 2023), identifying the key success factors of collaboration, and developing strategic recommendations for strengthening local cultural identity and regional creative-economy development. This co-creation approach is consistent with the view that digital cultural-community collaboration depends on fans' active role as both content producers and agents that reinforce local identity (Setiyadi & Lestari, 2023). The use of multivariate methods, particularly SEM and cluster analysis, in socio-cultural research has likewise been validated by several methodological studies in cultural-marketing and communication contexts (Leguina, 2021; Alwi & Rahayu, 2023).

1.3. State of the Art and Novelty

Research on K-Pop fandom shows that fan communities now function as a participatory culture: they produce content, build social networks, and drive digital-based creative-consumption practices, so that the K-Pop Generation Z community can be understood not merely as consumers but as marketing actors capable of shaping meaning and collective identity in digital spaces (Jenkins, 2012; K. Yoon, 2021). The Hallyu, or Korean Wave, literature further affirms the role of digital platforms in the transnational diffusion of Korean popular culture, while also giving rise to cultural-hybridization practices and cross-national youth-identity formation (Jin, 2016, 2022; Oh, 2022). Creative-economy scholarship, meanwhile, emphasizes that strengthening local culture requires marketing innovation, a strong identity narrative, and youth involvement

if culture is to remain relevant and competitive (Ministry of Tourism and Creative Economy of the Republic of Indonesia, 2021; T. Yoon, 2022; Putrianti & Fadilah, 2023).

In Indonesia, preliminary findings indicate that some K-Pop fans already show interest in regional cultural elements and even expect idol-style products or attributes with local nuances. However, the involvement of regional creative-economy talent in producing and marketing such hybrid forms remains limited, so the opportunity to increase interest in local culture has not been fully realized (Canon & Wua, 2025; Rachmawati & Santoso, 2023). Recent local studies also confirm that collaboration between the K-Pop community and regional creative actors has the potential to strengthen young people's cultural identity while opening new, inclusive economic opportunities (Setiyadi & Lestari, 2023; Kurniasih & Pratama, 2023). To date, however, research that integrates K-Pop Gen-Z fandom with regional creative-economy talent for the purpose of strengthening local cultural identity remains scarce, particularly research that tests the social and marketing factors involved through a multivariate approach in the Indonesian context. To keep the review current, this study foregrounds recent Indonesian and Southeast Asian evidence on digital fandom and local-wisdom-based creative economies, including the platformization of K-Pop fandom (James, 2025), fandom activism as organized public participation (Saka et al., 2024; Andini & Akhni, 2021), and local-wisdom-driven MSME and craft performance (Baktiono, 2024; Irijayanti & Lord, 2024; Tuthaes et al., 2024).

This study addresses that gap by formulating a cross-cultural collaborative model that positions the K-Pop Gen-Z community as both a creative partner and an agent for strengthening local identity. The analysis draws on an integrated multivariate approach: Structural Equation Modeling to test relationships among constructs such as digital engagement, perceived authenticity, cultural pride, and intention to support local products (Hair et al., 2021; Leguina, 2021); cluster analysis to map Generation Z segments based on patterns of preference and engagement (Everitt et al., 2011); and conjoint analysis to identify the most preferred attributes of local cultural products or packaging (Orme, 2010). Generation Z's cultural-consumption behavior within the digital ecosystem is likewise treated as a key variable in mapping this collaborative segmentation (Javed et al., 2023). This adaptive policy direction toward global-digital change is also consistent with UNESCO's recommendations on creativity and culture as a global public good (UNESCO, 2022).

2. RESEARCH METHOD

This study employs a quantitative approach with a descriptive-explanatory design to analyze the collaborative model between the K-Pop Generation Z community and regional creative economy talent in strengthening local cultural identity. The research object comprises members of the K-Pop Generation Z community residing in Manado City and its surrounding areas in North Sulawesi Province, some of whom also act as regional creative economy actors involved in local-culture-based promotion and production activities.

Data were collected through a structured questionnaire survey distributed both online and offline to K-Pop fans in North Sulawesi. The sampling technique used purposive sampling, with criteria for respondents who are active in the K-Pop community, including those who act as creative economy actors developing products or works based on local culture. A total of 300 fully completed and analyzable questionnaires were obtained, a number that meets the minimum sample size requirement for Partial Least Squares Structural Equation Modeling analysis (Hair et al., 2021). Because purposive sampling drew mainly on active community members in and around Manado, the sample is geographically concentrated and female-dominated, which is acknowledged as a boundary condition on generalizability; the design is also purely quantitative and is not complemented by qualitative data (see the Limitations discussion).

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the assistance of SmartPLS software. This approach was chosen because the study is predictive-exploratory in nature, examining a model that has not been widely tested empirically in the context of cross-cultural collaboration in Indonesia, involves latent constructs with a relatively large number of indicators, and does not require strict multivariate normality assumptions (Hair et al., 2021; Leguina, 2021). The tested model consists of four reflective constructs: K-Pop Generation Z Community (KP) and Regional Creative Economy Talent (TEKD) as exogenous variables, Strengthening of Local Cultural Identity (PIBL) as a mediating variable, and Collaborative Model (MK) as an endogenous variable. The model design positions the Strengthening of Local Cultural Identity as a theoretical bridge: fan community activity and the availability of regional creative talent are presumed not to automatically produce cross-party collaboration, but must first be translated into attachment and pride toward local culture. The configuration of the relationships among the constructs, along with the seven tested paths—five direct relationships (H1-H5) and two indirect relationships through the mediating variable (H6-H7)—is shown in Figure 1.

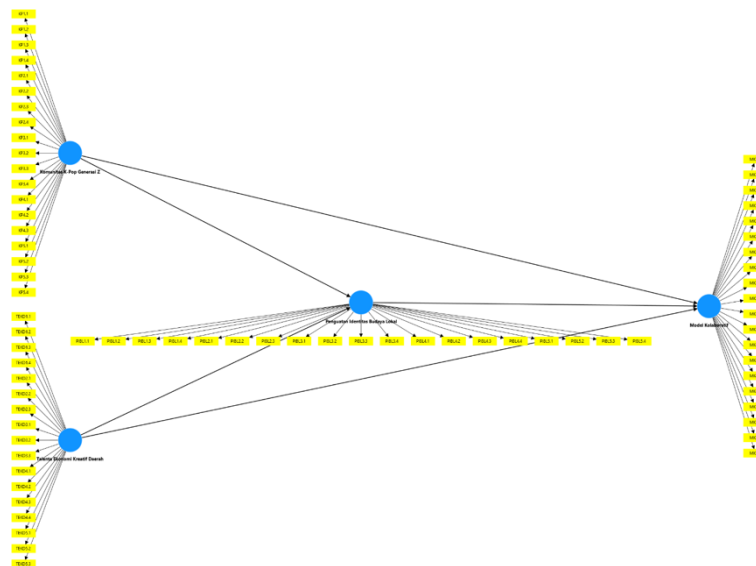


Figure 1. Research Structural Model (Source: developed by the researchers, 2026)

The analysis was carried out through the two stages commonly used in PLS-SEM. The first stage is the evaluation of the measurement model (outer model) to ensure that each indicator genuinely measures its intended construct, covering convergent validity through outer loading and Average Variance Extracted (AVE), reliability through Cronbach's alpha and composite reliability, and discriminant validity through the Heterotrait-Monotrait ratio (HTMT) criterion. The second stage is the evaluation of the structural model (inner model) to assess the strength and direction of the relationships among constructs, covering a collinearity check through the Variance Inflation Factor (VIF), the coefficient of determination (R-square), effect size (f-square), and predictive relevance (Q-square) through the blindfolding procedure. Path significance testing was performed through a bootstrapping procedure with 5,000 subsamples at a two-tailed 5% significance level; a hypothesis was considered supported if the t-statistic exceeded 1.96 and the p-value was below 0.05.

3. RESULTS AND DISCUSSION

3.1. Results

This section presents the study's empirical findings in sequence, beginning with respondent characteristics, evaluation of the measurement model (outer model), evaluation of the structural model (inner model), hypothesis testing, and concluding with a discussion that links the findings to the theoretical framework and hypotheses formulated in the Introduction.

3.1.1. Respondent Characteristics

This section presents the profile of the 300 respondents involved in the study, all of whom are K-Pop fans residing in the North Sulawesi region. The profile mapping covers six characteristics: age, gender, domicile, highest education level, occupation or status, and length of time as a K-Pop fan. These six characteristics were selected because they relate directly to the study's target group, namely Generation Z members who are active in fan communities and have the potential to be involved in regional creative economy activities. The distribution of respondents is presented in Table 1.

Table 1. Respondent Characteristics

Characteristic	Group	Number (n)	Number (%)
Age	12–17 years	16	5.3%
	18–22 years	193	64.3%
	23–27 years	91	30.3%
Gender	Male	35	11.7%
	Female	264	88.0%
Domicile	Manado	266	88.7%
	Bitung	2	0.7%
	Tomohon	9	3.0%
	Minahasa	12	4.0%
	North Minahasa	10	3.3%
	South Minahasa	1	0.3%
Highest Education	Junior High School/Equivalent	17	5.7%

	Senior High School/Equivalent	196	65.3%
	D3	8	2.7%
	S1	69	23.0%
	S2/S3	10	3.3%
Occupation/Status	School Student	20	6.7%
	University Student	137	45.7%
	Creative Worker	10	3.3%
	Entrepreneur	26	8.7%
	Other	107	35.7%
Length of Time as a K-Pop Fan	1–3 years	52	17.3%
	4–6 years	124	41.3%
	> 6 years	124	41.3%

Source: primary data processing results, 2026.

The age distribution of respondents is concentrated in the 18–22-year range, with 193 people (64.3%), and the 23–27-year range, with 91 people (30.3%), so that nearly 95% of respondents fall within the age group commonly categorized as young-adult Generation Z. This composition is consistent with the education and employment status data, where senior-high-school/equivalent graduates dominate with 196 people (65.3%) and university students form the largest group with 137 people (45.7%). In other words, the K-Pop community base in North Sulawesi is supported by a productive-age group currently in the process of identity formation and career exploration, making it a relevant target for creative economy talent development.

In terms of gender, female respondents numbered 264 (88.0%) and male respondents 35 (11.7%). This female dominance is a pattern consistently found in studies on K-Pop fan culture, and also serves as a note that the study's findings more strongly represent the experiences of female fans. The distribution of domicile is also concentrated in Manado City with 266 people (88.7%), followed by Minahasa with 12 people (4.0%), North Minahasa with 10 people (3.3%), and Tomohon with 9 people (3.0%). This concentration is reasonable given that Manado is the center of community activity, where most cover dance events, gatherings, and fan bazaars are held.

The most prominent characteristic, however, lies in the length of involvement. A total of 124 respondents (41.3%) has been fans for 4–6 years, and another 124 respondents (41.3%) for more than 6 years, meaning that 82.6% of respondents have been involved for more than three years. Such a long duration indicates that community membership is not seasonal involvement but a sustained social practice that has shaped networks, skills, and organizational habits. This condition is what makes the fan community worth reading as social capital that can be directed toward strengthening local cultural identity and developing a collaborative model.

3.1.2. Measurement Model Evaluation (Outer Model)

The outer model evaluation aims to assess the adequacy of the instrument before the relationships between variables are interpreted. Because all constructs are reflective, the assessment covers convergent validity through outer loading and Average Variance Extracted (AVE), reliability through Cronbach's alpha and composite reliability, and discriminant validity through the Heterotrait-Monotrait ratio (HTMT) criterion. Indicators that did not meet the threshold were removed in stages, after which the model was re-estimated. The final measurement model estimation results, complete with loading values and path coefficients, are presented in Figure 2.

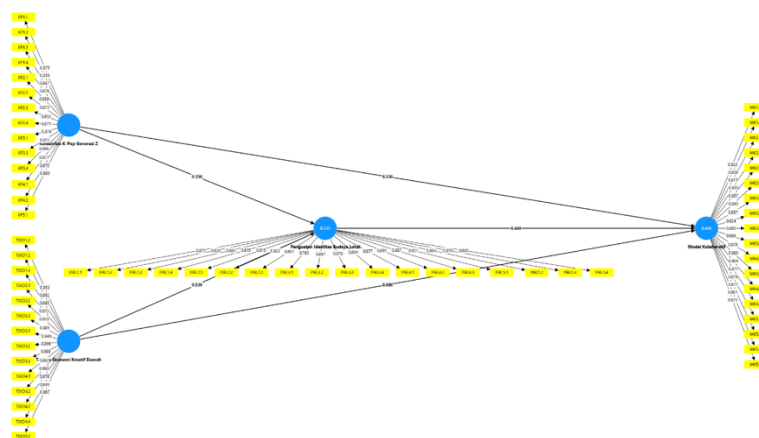


Figure 2. Outer Model and Path Coefficients (Source: data processing results using SmartPLS, 2026)

After the purification process, the final measurement model comprised 64 indicators distributed across the four constructs: 14 indicators for the K-Pop Generation Z Community, 14 indicators for Regional Creative Economy Talent, 18

indicators for the Strengthening of Local Cultural Identity, and 18 indicators for the Collaborative Model. The non-sequential item numbering in the following tables indicates that a number of indicators were eliminated for having loading values below the established criteria. This elimination did not change the conceptual meaning of the constructs, as each dimension remained represented by at least two indicators. The loading values for each item are detailed in Table 2.

Table 2. Outer Loading

Item	Outer Loading	Item	Outer Loading	Item	Outer Loading	Item	Outer Loading
KP1.1	0.875	TEKD1.4	0.865	MK2.3	0.857	PIBL1.3	0.864
KP1.2	0.819	TEKD2.1	0.872	MK2.4	0.845	PIBL1.4	0.815
KP1.3	0.867	TEKD2.2	0.853	MK3.1	0.857	PIBL2.1	0.815
KP1.4	0.876	TEKD2.3	0.885	MK3.2	0.834	PIBL2.2	0.822
KP2.1	0.856	TEKD3.1	0.840	MK3.3	0.865	PIBL2.3	0.867
KP2.2	0.873	TEKD3.2	0.866	MK3.4	0.866	PIBL3.1	0.793
KP2.3	0.833	TEKD3.3	0.888	MK4.1	0.828	PIBL3.2	0.887
KP2.4	0.871	TEKD4.1	0.862	MK4.2	0.880	PIBL3.3	0.870
KP3.1	0.876	TEKD4.2	0.860	MK4.3	0.864	PIBL3.4	0.804
KP3.3	0.872	TEKD4.3	0.876	MK4.4	0.871	PIBL4.1	0.877
KP3.4	0.896	TEKD4.4	0.849	MK5.1	0.876	PIBL4.2	0.891
KP4.1	0.877	TEKD5.3	0.867	MK5.2	0.877	PIBL4.3	0.887
KP4.2	0.875	MK1.3	0.822	MK5.3	0.861	PIBL5.1	0.851
KP5.1	0.890	MK1.4	0.826	MK5.4	0.875	PIBL5.2	0.864
TEKD1.2	0.853	MK2.1	0.811	PIBL1.1	0.873	PIBL5.3	0.870
TEKD1.3	0.852	MK2.2	0.830	PIBL1.2	0.826	PIBL5.4	0.863

Source: data processing results using SmartPLS, 2026.

All 64 indicators had outer loadings above 0.70, with the lowest value of 0.793 for item PIBL3.1 and the highest of 0.896 for item KP3.4. Since the commonly used minimum threshold for reflective indicators is 0.70, no further items needed to be removed at this stage. Loading values of this magnitude mean that each indicator shares more than 60% of its variance with its parent construct, so the items can be regarded as valid representations of the concept being measured. The distribution of loading values was also fairly tight across all four constructs: for the K-Pop Generation Z Community, values ranged from 0.819 to 0.896; for Regional Creative Economy Talent, from 0.840 to 0.888; for the Collaborative Model, from 0.811 to 0.880; and for the Strengthening of Local Cultural Identity, from 0.793 to 0.891. No indicator stood out on its own or lagged far behind, indicating that no single item dominated the formation of the construct score. An instrument with this pattern is relatively stable and not prone to changes in results if one indicator is removed.

The items with the highest loadings on each construct provide clues about the aspects that most strongly represent the concept in the field. For the K-Pop Generation Z Community construct, items KP3.4 (0.896) and KP5.1 (0.890) rank highest, while for the Strengthening of Local Cultural Identity, items PIBL4.2 (0.891) and PIBL3.2 (0.887) are the most dominant. These findings can serve as a basis for setting program priorities at the implementation stage.

Table 3. Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE)

Variable	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
K-Pop Generation Z Community	0.975	0.975	0.977	0.754
Collaborative Model	0.978	0.978	0.980	0.727
Strengthening of Local Cultural Identity	0.978	0.978	0.980	0.727
Regional Creative Economy Talent	0.974	0.974	0.976	0.746

Source: data processing results using SmartPLS, 2026.

The Cronbach's alpha values for the four constructs ranged from 0.974 to 0.978, while composite reliability rho_A ranged from 0.974–0.978 and rho_C from 0.976–0.980, as shown in Table 3. All values exceeded the minimum threshold of 0.70, and even far exceeded the 0.80 criterion typically used for advanced-stage research. The internal consistency of the instrument is therefore very high: respondents answered the items within a given construct consistently, making the resulting composite scores reliable. Nevertheless, reliability values exceeding 0.95 should be interpreted with caution, as such high figures often indicate redundancy, that is, several indicators that are semantically too similar and therefore measure nearly the same thing. For future research, simplifying the instrument by trimming closely related items could be considered without compromising measurement quality.

In the AVE column of Table 3, all four constructs obtained values above 0.50: the K-Pop Generation Z Community at 0.754, Regional Creative Economy Talent at 0.746, and the Collaborative Model and Strengthening of Local Cultural Identity each at 0.727. In other words, between 72.7% and 75.4% of indicator variance originates from the construct being measured, with the remainder representing measurement error. Convergent validity is therefore established for all four constructs. The resulting square roots of AVE range from 0.853 to 0.868, serving as the reference point for the subsequent discriminant validity check.

Table 4. Discriminant Validity Test (HTMT)

Relationship Between Variables	Heterotrait-Monotrait Ratio (HTMT)
Collaborative Model <-> K-Pop Generation Z Community	0.796
Strengthening of Local Cultural Identity <-> K-Pop Generation Z Community	0.829
Strengthening of Local Cultural Identity <-> Collaborative Model	0.821
Regional Creative Economy Talent <-> K-Pop Generation Z Community	0.877
Regional Creative Economy Talent <-> Collaborative Model	0.773
Regional Creative Economy Talent <-> Strengthening of Local Cultural Identity	0.858

Source: data processing results using SmartPLS, 2026.

The discriminant validity check uses the HTMT criterion, which is currently regarded as more sensitive than the Fornell-Larcker criterion or cross loading. As shown in Table 4, the six construct pairs produced HTMT values ranging from 0.773 to 0.877, all of which fall below the 0.90 threshold applicable to conceptually related constructs. Based on this criterion, all four constructs can be considered empirically distinct and non-overlapping.

The highest value was recorded for the pair Regional Creative Economy Talent and K-Pop Generation Z Community at 0.877, followed by Regional Creative Economy Talent and Strengthening of Local Cultural Identity at 0.858, and Strengthening of Local Cultural Identity and K-Pop Generation Z Community at 0.829. The closeness of the first two pairs exceeds the conservative threshold of 0.85 sometimes recommended for constructs that are theoretically clearly distinct. This finding makes substantive sense, as respondents perceive involvement in the fan community, possession of creative talent, and pride in regional culture as intertwined experiences in daily practice. Nevertheless, this close relationship should be noted as a measurement limitation and provides a reason to sharpen the item formulation in future research. The pair with the lowest value was Regional Creative Economy Talent and the Collaborative Model at 0.773—the widest gap occurring precisely between talent availability and the formation of collaboration, an early indication that was later reinforced by the hypothesis testing results.

3.1.3. Structural Model Evaluation (Inner Model)

Once the measurement model was confirmed to meet the required criteria, the analysis proceeded to the evaluation of the structural model. This stage assesses whether the hypothesized relationships among constructs are supported by the data and how strongly the model explains the endogenous variables. The assessment covers a collinearity check through the Variance Inflation Factor (VIF), the coefficient of determination (R-square), effect size (f-square), and predictive relevance (Q-square). Path significance was estimated through a bootstrapping procedure with 5,000 subsamples at a 5% significance level.

Table 5. Multicollinearity Test (VIF)

Item	VIF	Item	VIF	Item	VIF	Item	VIF
KP1.1	4.296	TEKD1.4	3.728	MK2.3	4.447	PIBL1.3	4.184
KP1.2	3.257	TEKD2.1	4.186	MK2.4	4.092	PIBL1.4	3.280
KP1.3	3.771	TEKD2.2	3.759	MK3.1	4.133	PIBL2.1	3.386
KP1.4	4.328	TEKD2.3	4.291	MK3.2	3.312	PIBL2.2	3.702
KP2.1	3.857	TEKD3.1	3.443	MK3.3	4.089	PIBL2.3	4.291
KP2.2	4.011	TEKD3.2	3.818	MK3.4	4.154	PIBL3.1	2.871
KP2.3	3.316	TEKD3.3	4.452	MK4.1	3.584	PIBL3.2	4.541
KP2.4	4.306	TEKD4.1	4.211	MK4.2	4.685	PIBL3.3	4.472
KP3.1	4.360	TEKD4.2	3.586	MK4.3	3.964	PIBL3.4	2.905
KP3.3	4.073	TEKD4.3	4.317	MK4.4	4.231	PIBL4.1	4.252
KP3.4	4.851	TEKD4.4	3.521	MK5.1	4.831	PIBL4.2	4.749
KP4.1	4.056	TEKD5.3	4.221	MK5.2	4.587	PIBL4.3	4.667
KP4.2	4.228	MK1.3	3.356	MK5.3	4.191	PIBL5.1	3.976
KP5.1	4.958	MK1.4	3.501	MK5.4	4.514	PIBL5.2	3.936

TEKD1.2	3.508	MK2.1	3.304	PIBL1.1	4.385	PIBL5.3	4.273
TEKD1.3	3.703	MK2.2	3.310	PIBL1.2	3.327	PIBL5.4	4.427

Source: data processing results using SmartPLS, 2026.

The VIF values for all indicators ranged from 2.871 to 4.958 (Table 5), meaning that none exceeded the critical threshold of 5.00. No serious collinearity problem was therefore found, and the resulting path coefficients can be interpreted without concern that their estimates are distorted by overlap among indicators. Nevertheless, most VIF values fell in the range of 3 to nearly 5, with the highest values found for items KP5.1 (4.958), MK5.1 (4.831), and KP3.4 (4.851). These figures reinforce the earlier note regarding possible redundancy among indicators within a single construct, a pattern commonly found in instruments with many items drawn from closely related dimensions.

Table 6. Coefficient of Determination (R-Square)

Variable	R-Square	R-Square Adjusted
Collaborative Model	0.695	0.692
Strengthening of Local Cultural Identity	0.735	0.733

Source: data processing results using SmartPLS, 2026.

The Collaborative Model obtained an R-square value of 0.695, with an adjusted R-square of 0.692, while the Strengthening of Local Cultural Identity obtained 0.735, with an adjusted value of 0.733 (Table 6). This means that 69.5% of the variance in the formation of the collaborative model can be jointly explained by the K-Pop Generation Z Community, Regional Creative Economy Talent, and the Strengthening of Local Cultural Identity, while 73.5% of the variance in the strengthening of local cultural identity is explained by the fan community and regional creative talent. Referring to the commonly used classification, both values are classified as strong, as they exceed 0.67. The very small difference between R-square and adjusted R-square indicates that the model's explanatory power is not due to the number of predictors included, but genuinely stems from the real contribution of these variables.

Table 7. Effect Size (F-Square)

Path	F-Square
K-Pop Generation Z Community -> Collaborative Model	0.085
K-Pop Generation Z Community -> Strengthening of Local Cultural Identity	0.124
Strengthening of Local Cultural Identity -> Collaborative Model	0.191
Regional Creative Economy Talent -> Collaborative Model	0.004
Regional Creative Economy Talent -> Strengthening of Local Cultural Identity	0.294

Source: data processing results using SmartPLS, 2026.

The f-square values reveal the individual contribution of each predictor to the endogenous variables, something not visible from the combined R-square value (Table 7). The largest contribution was given by Regional Creative Economy Talent to the Strengthening of Local Cultural Identity at 0.294, classified as medium and approaching the large category, followed by the Strengthening of Local Cultural Identity to the Collaborative Model at 0.191, then the K-Pop Generation Z Community to the Strengthening of Local Cultural Identity at 0.124 and to the Collaborative Model at 0.085, both classified as small. The most interesting finding lies in the path from Regional Creative Economy Talent to the Collaborative Model, with an f-square value of only 0.004, far below the 0.02 threshold, meaning it contributes practically nothing. This result is consistent with the hypothesis testing and confirms that the presence of creative talent in a region does not by itself produce collaboration, but requires an intermediary in the form of strengthened local cultural identity.

Table 8. Estimation Accuracy (Q-Square)

Variable	SSO	SSE	Q ² (=1-SSE/SSO)
K-Pop Generation Z Community	4200.000	4200.000	0.000
Collaborative Model	5400.000	2709.962	0.498
Strengthening of Local Cultural Identity	5400.000	2541.666	0.529
Regional Creative Economy Talent	4200.000	4200.000	0.000

Source: data processing results using SmartPLS, 2026.

The predictive relevance test through the blindfolding procedure produced Q-square values of 0.498 for the Collaborative Model and 0.529 for the Strengthening of Local Cultural Identity (Table 8). Both values are well above zero, indicating that the model is not only able to explain the data that has been collected, but also has the ability to predict observed values not used in the estimation. Referring to the criteria of 0.02, 0.15, and 0.35 for small, medium, and large predictive relevance, both endogenous constructs fall into the large category. The Q-square value of 0.000 for the K-Pop Generation Z Community and Regional Creative Economy Talent

is not an indication of model weakness, but a logical consequence of their position as exogenous variables that are not predicted by other variables in the model.

3.1.4. Hypothesis Testing

Hypothesis testing was conducted using the bootstrapping procedure to obtain the t-statistic and p-value for each path coefficient. A hypothesis was considered supported if the t-statistic exceeded 1.96 and the p-value was below 0.05 in a two-tailed test. Seven hypotheses were tested, consisting of five direct relationships (H1 through H5) and two indirect relationships through the mediating variable (H6 and H7). A summary of the test results is presented in Table 9.

Table 9. Hypothesis Testing Based on Path Coefficients

Hypothesis	Path	Original Sample (O)	Sample Mean (M)	STDEV	T Statistics	P Values
H1	KP -> MK	0.330	0.311	0.116	2.846	0.004
H2	TEKD -> MK	0.080	0.087	0.120	0.668	0.504
H3	KP -> PIBL	0.350	0.345	0.104	3.366	0.001
H4	TEKD -> PIBL	0.539	0.544	0.103	5.246	0.000
H5	PIBL -> MK	0.469	0.480	0.114	4.123	0.000
H6	KP -> PIBL -> MK	0.164	0.168	0.071	2.309	0.021
H7	TEKD -> PIBL -> MK	0.253	0.259	0.074	3.402	0.001

Source: data processing results using SmartPLS, 2026.

Note: KP = K-Pop Generation Z Community; TEKD = Regional Creative Economy Talent; PIBL = Strengthening of Local Cultural Identity; MK = Collaborative Model.

Six of the seven hypotheses received empirical support, while one hypothesis was rejected. The K-Pop Generation Z Community has a positive and significant effect on the Collaborative Model, with a coefficient of 0.330 ($t = 2.846$; $p = 0.004$), so H1 is accepted. In contrast, Regional Creative Economy Talent was not shown to have a direct effect on the Collaborative Model, with a coefficient of 0.080 ($t = 0.668$; $p = 0.504$), so H2 is rejected. The p-value, far exceeding 0.05, and the f-square value of only 0.004 confirm that this path is genuinely weak, not merely statistically underpowered.

In the second equation, both exogenous variables have a significant effect on the Strengthening of Local Cultural Identity. The K-Pop Generation Z Community produced a coefficient of 0.350 ($t = 3.366$; $p = 0.001$), so H3 is accepted, while Regional Creative Economy Talent produced a coefficient of 0.539 ($t = 5.246$; $p = 0.000$), so H4 is accepted. Regional creative talent stands out as the strongest predictor in the overall model. The Strengthening of Local Cultural Identity itself has a positive and significant effect on the Collaborative Model, with a coefficient of 0.469 ($t = 4.123$; $p = 0.000$), so H5 is accepted.

Both indirect paths also proved significant. The effect of the K-Pop Generation Z Community on the Collaborative Model through the Strengthening of Local Cultural Identity was 0.164 ($t = 2.309$; $p = 0.021$), supporting H6, while the effect of Regional Creative Economy Talent through the same path was 0.253 ($t = 3.402$; $p = 0.001$), supporting H7. The mediation pattern formed differs between the two paths. For the K-Pop Generation Z Community, both the direct and indirect effects are significant and point in the same direction, resulting in complementary partial mediation with a total effect of 0.494, of which about 33% flows through local cultural identity. For Regional Creative Economy Talent, the direct effect is not significant while the indirect effect is significant, resulting in full mediation with a total effect of 0.333 that comes almost entirely from the mediating path.

3.2. Discussion

The study's results position the Strengthening of Local Cultural Identity as the key node in the formation of the collaborative model. This variable is not merely an intervening variable that completes the model, but a mechanism that determines whether a region's potential can be converted into genuine cooperation among stakeholders. This finding also answers the study's fundamental question: how the energy of the K-Pop fan community, long viewed as the consumption of foreign culture, can be directed toward strengthening one's own culture. This positioning of cultural identity as an intervening mechanism is consistent with a number of recent studies that treat identity and cultural knowledge not as an end result, but as an intermediary that converts available resources into collective behavior (Zhang & Li, 2022; Permatasari et al., 2023; Irjayanti & Lord, 2024).

The acceptance of H1 shows that Generation Z's involvement in the K-Pop community contributes directly to the formation of the collaborative model. The most plausible explanation lies in the community's everyday practices themselves. Organizing cover dance competitions, cup-holder events, idol birthday gatherings, and fan bazaars requires role division, budget management, negotiation with venue owners, and coordination with sponsors and local government. This series of activities inadvertently trains the networking skills that lie at the core of collaboration. The respondent characteristics data reinforce this explanation, since 82.6% of respondents have been in the community for more than three years, a time span sufficient to build

organizational habits. This explanation is in line with the findings of Saka et al. (2024), which show that K-Pop fandom activism is not merely slacktivism but real action in the form of fundraising, petition signing, and joint actions that all require coordination among members. Andini and Akhni (2021) found a similar pattern among K-Pop fans in Indonesia and Thailand, namely the ability to organize public participation trained through everyday fandom practice. Chang et al. (2023) even showed that K-Pop fan networks can significantly amplify the reach of public health messages, evidence that fan community mobilization capacity is measurable and can be leveraged by partners outside the fandom.

The rejection of H2 is in fact the finding most worth examining closely. Regional Creative Economy Talent has no direct effect on the Collaborative Model, with a coefficient of 0.080, p of 0.504, and an f -square of only 0.004. The availability of dancers, singers, designers, videographers, and other creative actors in North Sulawesi apparently does not automatically produce collaboration. Talent that stands alone tends to work within small circles and is oriented toward completing individual work rather than building cross-party partnerships. This finding corrects an assumption often found in regional creative economy development planning, namely that simply increasing the number of talents will by itself produce an interconnected ecosystem. This finding resonates with Tuthaes et al. (2024), who found that local-wisdom-based creative economy development in Kupang City remained stalled despite the availability of artisan skills, because the core problem lay in weak collaboration mechanisms among actors rather than a scarcity of creative actors. Permatasari et al. (2023) also showed that traditional knowledge held by craft practitioners in Indonesia only improves competitive advantage after passing through dynamic capabilities as an intervening variable. Both studies reinforce the notion that skill-based capital requires a translating mechanism before it can turn into cooperation.

The answer to this puzzle is found in H4 and H7. Regional Creative Economy Talent proves to be the strongest predictor of the Strengthening of Local Cultural Identity, with a coefficient of 0.539, and its effect on the Collaborative Model flows entirely through this path, with an indirect coefficient of 0.253. This full mediation pattern carries a fairly clear message: creative talent only produces collaboration when the resulting work is grounded in local cultural wealth. When a cover dance performer begins blending K-Pop movements with Maengket or Kabasaran, or when a designer incorporates Minahasan motifs into fan merchandise, that work gains value that appeals to local government, cultural agencies, business actors, and traditional arts communities. Local cultural identity thus functions as a shared language that brings together parties who initially had no reason to cooperate. Irjayanti and Lord (2024) found that women in the creative industry in several regions of Indonesia adapt modernization to their local wisdom, and it is precisely the traditional value embedded in their products that opens up access to financing support, marketing, and buyer interest from outside the community. Baktiono (2024) obtained consistent results, namely that local wisdom values have a direct and significant effect on the competitiveness and performance of MSMEs in East Java's tourism areas. This series of findings supports the reading that local cultural content functions as a value-adding element that makes creative actors' work worthy of becoming an object of cooperation.

The acceptance of H3 and H6 reveals a somewhat different pattern within the fan community. The K-Pop Generation Z Community affects the Strengthening of Local Cultural Identity with a coefficient of 0.350, and part of its effect on the Collaborative Model flows through the mediating path at 0.164, forming complementary partial mediation. The community operates on two levels at once: directly, it provides a ready-made organizational structure and network; indirectly, it fosters cultural awareness through encounters with foreign culture. Familiarity with the way South Korea packages and exports its culture appears to spark reflection on the similar potential possessed by one's own region. This finding challenges the common concern that fans of foreign popular culture will become uprooted from their own cultural origins, and aligns with the idea of glocalization, which positions global culture as a mirror for re-reading local culture. This reading is supported by James (2025), who shows that K-Pop fans do not remain mere consumers but build their own channels, networks, and economic practices beyond those provided by the industry, so that encounters with global culture in fact give rise to cultural production capacity at the local level. Andini and Akhni (2021) also noted that K-Pop fans in Indonesia redirect fandom repertoires toward social issues in their own country, an indication that attachment to foreign culture does not negate attachment to local concerns.

Support for H5, with a coefficient of 0.469 and an f -square of 0.191, completes this line of explanation. Among all the predictors of the Collaborative Model, the Strengthening of Local Cultural Identity provides the largest contribution. Pride in and attachment to regional culture provide the legitimacy the community needs to be accepted by formal stakeholders, while also giving direction to activities that were originally purely for entertainment. Overall, the model is able to explain 69.5% of the variance in the formation of the collaborative model and 73.5% of the variance in the strengthening of local cultural identity, with Q -square values of 0.498 and 0.529 indicating large predictive relevance. Zhang and Li (2022) found that social identity developed within virtual communities has a significant effect on knowledge-sharing behavior, participation, and members' influence on cultural and creative products, proving that identity is a driver of engagement and not merely an accompaniment to it. At the policy level, Febrianty et al. (2023) affirm that a positive response from society and local government toward globalization in fact strengthens cultural identity, and that this strengthening becomes the basis of legitimacy for the emergence of regulations and local-wisdom protection programs. It is this kind of legitimacy that allows fan communities to be accepted as partners by formal stakeholders.

Compared with previous research, this study occupies a space that has not been widely filled. Studies on K-Pop fandom in Indonesia have thus far been dominated by qualitative approaches focusing on activism, identity, or consumption practices (Andini & Akhni, 2021; Saka et al., 2024; James, 2025), while studies on local-wisdom-based creative economy generally stop at mapping the roles of collaborative actors without testing the magnitude of the relationships among variables (Tuthaes et al., 2024; Baktiono, 2024). This study links these two streams of research and tests them quantitatively through PLS-SEM. Its contribution lies in the empirical demonstration that the relationship between regional creative talent and the collaborative model is fully mediated by the strengthening of local cultural identity, a mechanism that has long been widely assumed but rarely tested in terms of its magnitude.

The practical implications of these findings are fairly clear for local government and creative economy stakeholders in North Sulawesi. Development programs should not stop at skills training or talent mapping, as neither has been shown to directly produce collaboration. Interventions need to be directed toward creating spaces of encounter between the fan community and traditional culture practitioners, organizing festivals that deliberately bring together K-Pop formats with Minahasan, Sangihe, Talaud, and Bolaang Mongondow art forms, and providing funding support for works that highlight local cultural wealth. The fan community, with its loyal member base and years of organizational experience, can be positioned as an implementing partner rather than merely a program target. This direction for intervention is in line with the recommendations of Tuthaes et al. (2024) regarding the need for deliberately designed and sustainable multi-actor collaboration, as well as with Febrianty et al. (2023), who position regional regulation as both a protective instrument and a driver of local wisdom. In concrete terms, these interventions could take the form of an annual hybrid festival co-curated with the North Sulawesi Culture Office that pairs K-Pop formats with Minahasan, Sangihe, Talaud, and Bolaang Mongondow art; a small-grants scheme for choreography and merchandise that visibly integrate local motifs; and a partnership agreement (MoU) that formally designates fan-community organizers as co-implementers, with measurable targets such as the number of collaborative works produced and creative actors engaged each year.

This study has a number of limitations that should be noted. Respondents were concentrated in Manado City at 88.7% and dominated by women at 88.0%, so generalization to the entire North Sulawesi region and to male fans should be made with caution. The HTMT value for the pair Regional Creative Economy Talent and K-Pop Generation Z Community at 0.877, and with the Strengthening of Local Cultural Identity at 0.858, also indicates a fairly close conceptual relationship, meaning that item formulation in future research needs to be sharpened to establish clearer boundaries between constructs. In addition, the cross-sectional research design limits the drawing of causal conclusions. Further research using a longitudinal design or a mixed-methods approach accompanied by in-depth interviews with community leaders and regional stakeholders would provide a fuller understanding of the process by which collaboration is formed. Two measurement caveats further temper the findings. The elevated HTMT values (0.877 for Regional Creative Economy Talent with the K-Pop Generation Z Community and 0.858 with the Strengthening of Local Cultural Identity), together with construct reliabilities above 0.95, point to conceptual and semantic overlap: respondents may not sharply separate community involvement, creative talent, and cultural pride, so the discriminant-validity evidence should be read as adequate rather than strong. Because the data are single-source and self-reported, common-method and social-desirability biases cannot be ruled out and may inflate the observed path coefficients.

4. CONCLUSION

This study concludes that the strengthening of local cultural identity is the key mechanism that converts the energy of the K-Pop Generation Z community and regional creative economy talent into a genuine collaborative model. Of the seven hypotheses tested, six were found to be significant. The K-Pop Generation Z Community was shown to affect the Collaborative Model both directly (H1) and through the partial mediation of the Strengthening of Local Cultural Identity (H3, H6), while Regional Creative Economy Talent only affects the Collaborative Model indirectly, through the full mediation of the Strengthening of Local Cultural Identity (H4, H7), without a significant direct effect (H2 rejected). The tested model was able to explain 69.5% of the variance in the Collaborative Model and 73.5% of the variance in the Strengthening of Local Cultural Identity, with predictive relevance classified as large.

Theoretically, these findings enrich the cultural co-creation perspective by showing that cultural identity is not merely the end result of cross-community interaction, but a translating mechanism that determines whether social capital (the fan community) and creative capital (regional talent) can be converted into genuine collaboration. This study also links two streams of research that have thus far run separately, namely K-Pop fandom studies dominated by qualitative approaches and local-wisdom-based creative economy studies that rarely test the magnitude of relationships among variables, through a quantitative approach based on PLS-SEM. This finding is consistent with UNESCO's (2022) view that creativity and culture are a global public interest that must continue to be strengthened across sectors, including through cross-community collaboration of this kind.

Several practical recommendations can be formulated based on these findings. First, local governments and cultural agencies are advised to shift the focus of their programs from merely skills training or creative talent mapping toward creating spaces of encounter that deliberately bring together the K-Pop fan community with traditional culture practitioners, for example through hybrid festivals that combine K-Pop formats with Minahasan, Sangihe, Talaud, and Bolaang Mongondow art forms. Second, the fan community needs to be positioned as an implementing partner in programs, not merely a target, given the organizational experience and networks they already possess. Third, regional creative economy actors are advised to encourage their work to explicitly highlight local cultural content, as talent grounded in local cultural wealth has been shown to have a greater chance of attracting collaboration than talent that stands alone.

For future research, it is recommended to broaden the geographic scope and increase the proportion of male respondents to strengthen the generalizability of the findings, to sharpen item formulation for constructs showing high HTMT values so that boundaries between constructs are clearer, and to use a longitudinal design or a mixed-methods approach accompanied by in-depth interviews to strengthen causal conclusions. In line with the research roadmap that has been developed, the next stage is planned to enrich this model with cluster analysis (Everitt et al., 2011) to map Generation Z segmentation based on engagement patterns and cultural preferences, as well as conjoint analysis (Orme, 2010) to identify the most preferred attributes of local cultural products. This segmentation is expected to form the basis for more precisely targeted creative economy marketing strategies (Alwi & Rahayu, 2023), enabling strategic recommendations for local government, creative actors, and the community to be formulated with greater precision. Future studies should additionally test moderating variables (for example, length of fandom, gender, and domicile) and remain attentive to the cultural and contextual biases specific to the North Sulawesi setting that may limit transferability to other regions.

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