

THE INFLUENCE OF CULTURE ON THE IMPLEMENTATION OF COLLABORATIVE GOVERNANCE: THE STUDY OF FOREST AND LAND FIRES CONTROL ORGANIZATION

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Abstract

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Since 1997, forest and land fires have occurred in the province of Riau (Handoko et al., 2021). Despite the government's numerous efforts, forest and land fire suppression remains ineffective. This study aims to determine the influence of culture on the implementation of collaborative governance in controlling forest and land fires in Riau Province. The Ansell and Gash (2008) collaborative governance model was modified by including cultural and output variables. This quantitative study employs structural equation modelling (SEM) techniques and SmartPLS to assess hypotheses and analyze data. Data were gathered by distributing 150 questionnaires to multi-actors from five organizations active in controlling forest and land fires in Riau Province. The results showed that culture significantly influences the implementation of collaborative governance in controlling forest and land fires in Riau Province. Culture has a significant influence on building trust in collaboration. Furthermore, trust positively affects the output of collaboration, and output also influences the outcome of collaboration. However, facilitating leadership and institutional design do not significantly affect trust in collaboration in controlling forest and land fires in Riau Province.

Keywords: Culture, Adoption of Collaborative Governance, Control, Forest and Land Fires

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1. INTRODUCTION

Forest and land fires can be either natural or caused by humans. Only 20% of forest and land fires occur naturally, with most other fires caused by human activity (Khan & Khan, 2022). Human activities that

cause forest and land fires include the community's propensity to clear land by burning, which is even worse; plantation companies engage in forest and land clearing activities (Sarmiasih & Pratama, 2019). Riau Province, along with Jambi, South Sumatra, West Kalimantan, Central Kalimantan, and South

Kalimantan, was one of six provinces in Indonesia most severely hit by fires in 2016 (Ekawati et al., 2019). These provinces have extensive forests and land fires and are located in peatland areas prone to fire (Saputra, 2019). Because of the nature of peatlands, which are difficult to extinguish when burned, peat ecosystems can cause fires to become more severe. The peat depth under the earth can reach 10 meters. According to Miettinen (2012, as cited in Mishra et al., 2021) the total area of fires in Riau Province was reported to be around 90,709 km², which is approximately 19.02% of the total area of fires on Sumatra Island. In this province, forests have been degraded not only because of forest fires but also because of the conversion of forests into monoculture cash crop plantations, such as oil palm and pulpwood plantations (Adrianto et al., 2019).

Forest and land fires cause several adverse effects: 1) haze, leading to acute respiratory infections and increased CO₂ emissions that impact global climate change; 2) the large area affected by forest fires also results in the destruction of plant vegetation and natural resources; 3) closure of offices and schools, harm to human health, reduces working hours, and significant firefighting and rebuilding costs (Edwards et al., 2020; Purnomo, Ramdani, et al., 2021). Moreover, despite numerous regulations and laws related to forest and land fires, the incident continues to recur (Putra et al., 2019). Therefore, a systematic and well-organized approach to forest and land fire control is needed for the success of fire control (Maylani & Mashur, 2019).

Controlling forest and land fires is a challenge that requires cooperation or collaboration from multiple stakeholders at the national, provincial, and district/city levels to overcome. To be effective and efficient, these parties must be involved in an organizational system that functions integratively and harmoniously (Suri et al., 2021). The control of forest and land fires in Riau Province certainly involves many parties, such as the central government, local government, non-governmental organizations, and other professionals. These institutions include the Riau Provincial Environment and Forestry Agency, the Riau Provincial Disaster Management Agency, the Regional Police, Korem 031 Wira Bima, and Wahana Lingkungan Hidup. This shows that the involvement of many human resources is essential and must be well-coordinated so that sectoral differences and egos in the institutions mentioned above do not become obstacles in controlling forest and land fires (Hakim et al., 2021).

Despite collaboration between the government and other actors, controlling forest and land fires in Riau Province remains a difficult task, as evidenced by the yearly cases in this province. The suboptimal relationship between the involved organizations and inefficiency also indicates that collaboration between the associated parties is inhibited. (Purnomo, Zahra, et al., 2021). In addition, there is a lack of trust between forest and land fire control institutions. At the same time, trust is an important part of how groups in Riau Province work together to stop forest and land fires. The absence of trust between institutions allows for poor coordination, resulting in several institutions not working in the same coordination line (Purnomo et al., 2020).

So far, many studies have analyzed forest and land fire cases, including their relation to the government's response. However, there is still a lack of specific and simultaneous results discussing these two topics, especially in studying cultural aspects and building trust in implementing collaborative governance to overcome existing problems. Nevertheless, there are still some trends from the results of previous studies that can be mapped. First, collaborative governance plays a vital role in overcoming the problem of forest fires (McIntyre & Schultz, 2020; Roengtam & Agustiyara, 2022). Moreover, secondly, culture plays a vital role in increasing trust in collaborative governance (Lou et al., 2022; Vihma & Toikka, 2021).

This study aims to examine the influence of culture on the implementation of collaborative governance on forest and land fire control in Riau Province; consequently, the following research question is posed:

RQ: Does culture influence the implementation of collaborative governance on forest and land fire control in Riau Province?

This research develops the collaborative governance model from Ansell and Gash (2008) by adding two new variable indicators, namely culture and output. This study distributed questionnaires to the samples, and their hypotheses were tested using SEM-PLS. This research is significant and urgent because forest and land fires are disasters that impact many sectors, so the research results can be used as input for those responsible for controlling forest and land fires. This research contributes to the formation of culture, be it positive habits or attitudes, which is an essential variable in implementing collaborative governance, especially in controlling forest and land fires in Riau Province.

The rest of the paper is structured as follows. Section 2 reviews the literature on forest and land fires in Riau Province and the use of collaborative governance in controlling them. In addition, it explains several hypotheses used to answer this research. Section 3 describes the methodology used in this study. Section 4 presents research findings that explain the results of structural model validity tests, reliability tests, regression analysis, and research implications. Section 5 discusses all the hypotheses, whether accepted or rejected. Finally, Section 6 concludes the research stating that culture is very influential in implementing collaborative governance on forest and land fire control in Riau Province.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Collaboration in controlling forest and land fires

Forest and land fires are natural disasters that severely impact humans, the environment, and the economy (Abatzoglou et al., 2021). Collaboration between the government and various stakeholders is essential to address this challenge. As an institution that has a crucial role in disaster management, the government cooperates with non-governmental organizations, communities, and the private sector to mitigate forest fires (Ghorbanzadeh et al., 2019). Government collaboration in forest fire disaster mitigation involves a series of steps and efforts that

engage various actors. This effort aims to prevent forest fires, increase coping capacity, and restore ecosystems affected by fires. Understanding the importance of government collaboration in forest fire disaster mitigation and how this effort can provide significant benefits is essential (Fasona et al., 2019).

Effective collaboration can improve efficiency in handling forest fires, strengthen shared understanding of risks and prevention measures, and increase rapid and responsive response to fires (Schultz et al., 2019). Collaboration strengthens the capacity and resources required to safeguard the environment, society, and the economy from the threat of forest fires by involving multiple parties. This collaboration brings together the government, non-governmental organizations, communities, and the private sector to prevent, mitigate, and recover from forest fires. Collaboration can safeguard the environment and society from the threat of forest and land fires by involving multiple parties and overcoming existing obstacles (Purnomo, Agustiyara, et al., 2021).

Interdepartmental and inter-governmental coordination is one of the main challenges in collaboration (Getha-Taylor et al., 2019). Each government department or unit has different responsibilities, powers, and possibly competing interests. Effective coordination requires transparent communication, a clear understanding of each party's duties and responsibilities, and an appropriate coordination mechanism. Moreover, coordination between governments, such as central and local governments, can be complex due to policy differences, local requirements, and limited resources. Strong commitment, active cooperation, and efforts to create a compelling and integrated coordination structure are required to overcome this obstacle (Waardenburg et al., 2020).

2.2. Collaborative governance adaptation theory

Scholars and practitioners in numerous fields, particularly public administration, have been drawn to collaborative governance for more than two decades (Amsler & Vieilledent, 2021; Yoon et al., 2022). Definitions of collaborative governance vary. According to Ansell and Gash (2008), "collaborative governance" is a system in which "one or more public agencies directly engage non-state" stakeholders in a formal, consensus-driven, and deliberative policy-making process to create public policy, carry it out, or oversee the management of public programs or assets. Public-private-social collaboration is just one example of a "hybrid" strategy that Agrawal and Lemos (2007, as cited in Mikwamba et al., 2021), claim is part of collaborative governance's "multi-partner governance", which also incorporates the private sector, society, and civil society.

According to Klijn and Koppenjan (2012, as cited in Bianchi et al., 2021), the implementation of collaborative governance necessitates complex interactions among a large number of interdependent parties. However, these relationships are not simple or spontaneous, necessitating management and network structure to attain a certain level of success. In complex shared power arrangements, policymakers, administrators, and multiple decision-makers must

engage in collaborative governance to address difficult public problems that cannot be effectively addressed by a single public organization or even a single sector (Kern & Murphy, 2022). Well-designed collaborative governance can fail, according to Klijn (2008), this is typically due to the diversity of stakeholders engaged and the lack of adequate models or methodologies to encourage collaboration to enhance strategic learning among involved actors, manage conflict, create trust, share viewpoints, and discover and assess results. As a result, a fresh strategy and direction are required (Malekpour et al., 2021).

2.3. Culture in collaborative governance

A cultural tendency to rely on process and a reluctance to take risks and embrace breakthroughs can cause collaboration to fail (Tuurnas et al., 2019). In addition, according to Djumara (2008), to maximize collaboration results, collaborators, i.e., actors who participate in collaboration, must pay attention to several components used and institutional structures. One of the main components of collaboration is collaborative culture. The collaborative culture in question embodies fundamental values that influence behaviour and attitudes. This primarily relates to the culture of the people who form collaborations (Muhammad et al., 2017). According to some literature (Galvin et al., 2021; Molenveld et al., 2020; Sepriandi & Hussein, 2019) culture is one of the influential factors in collaboration implemented by cross-sector organizations. Cultural considerations play an essential role in shaping and affecting the dynamics of this relationship in this context. An inclusive culture, mutual understanding, and firm trust between parties contribute to the success of government collaboration. This culture encourages active participation from all parties, promotes dialogue and exchange of information, and creates space for creativity and innovation in problem-solving (Kiss et al., 2022; Stott & Murphy, 2020). Therefore, the first hypothesis is:

H1: Culture affects the collaborative process, which is focused on trust.

2.4. Trust in collaborative governance

Trust is also an essential element in collaboration. The trust between the government and other stakeholders becomes a solid foundation for successful cooperation (Wong & Jensen, 2020). Trust allows parties to share information honestly and openly, respect differences, and commit to achieving common goals (Baharuddin et al., 2022). With trust, collaboration can run smoothly and produce better results. Several challenges arise in building trust in the context of governance. Factors such as uncertainty, differing interests, and cultural and social barriers can influence collaboration and trust between government and stakeholders (Fisher et al., 2020). Although Ansell and Gash (2008) do not define trust, they consider trust building an essential feature of collaboration. They put forward the statement that "to trust someone is to be confident in a situation where you have expectations of that person's behaviour, and that person will tend to act in accordance with your wishes" (p. 558).

Comparatively, trust is often associated with its positive influence on collaboration (Qi & Ran, 2023). Therefore, the second hypothesis is:

H2: Trust affects the output of the collaboration that occurs.

2.5. Facilitate leadership in collaborative governance

According to the findings of Ansell and Gash (2008), leadership is critical in attracting stakeholders into a forum and encouraging them to engage with each other in a collaborative atmosphere with leaders in order to produce consensus. The literature suggests that facilitative leadership is essential for bringing stakeholders together and encouraging them to interact with one another (Ansell et al., 2020). Additionally, leadership is necessary to empower and represent vulnerable stakeholders. Ozawa exemplifies the “transformative” technique, in which mediation procedures assist in establishing a “balance of power” between the parties involved. This facilitative leadership style also encourages stakeholders to explore opportunities for mutual benefit (Sørensen & Torfing, 2021). Facilitators should “give participants a meaningful voice” and encourage participants to listen to one another, according to Lasker and Weiss (2003). Leaders should stimulate creativity by “synthesizing the diverse knowledge of participants to generate new ideas and understandings” (Mosley & Jarpe, 2019, p. 3).

H3: Facilitated leadership has a significant influence on trust.

2.6. Institutional design in collaborative governance

Institutional design refers to the fundamental norms and procedures of the collaboration process and its openness (Gordon et al., 2020). Institutional design refers to the norms that stakeholders agree to apply based on consensus (Latif & Febrian, 2022). The term “consensus-oriented” has been used to describe collaborative governance, although it has been noted that consensus is not always reached. The matter is whether formal consensus should be required for all collaborative decisions. In collaborative governance, consensus is viewed as a means of promoting the expression of diverse perspectives and fostering greater cooperation (Scott & Carter, 2019). Nevertheless, consensus standards are frequently criticized for producing “least equal” results (Breaugh et al., 2023). They can also lead to decision deadlock, although collaborative processes can start with a consensus procedure and then revert to another procedure if deadlock occurs (Hofstad et al., 2022). Therefore, our fourth hypothesis is:

H4: Institutional design has a significant influence on trust.

2.7. Outputs and outcomes in collaborative governance

One of the most important questions about how well collaborative governance works is how well it produces outputs and outcomes. Do they help society in any way? (Robinson et al., 2020). The outputs and outcomes of collaborative governance span a wide range of dimensions, from major policies or plans and their implementation to

social implications such as conflict resolution, social learning, capacity, or increasing legitimacy (Koontz et al., 2020). Collaboration contributes to outcomes through various means, such as facilitating policy planning and development to improve effectiveness and efficacy, fostering innovation and originality, and increasing efficiency in service delivery (Ulibarri, 2019; Berardo et al., 2020). Therefore, the fifth hypothesis is:

H5: The output of collaboration has a significant influence on outcomes.

3. RESEARCH METHODOLOGY

The study was carried out in Riau Province selected as the research location because it was one of the five Indonesian provinces with the most severe forest and land fires between 2015 and 2019. Data were collected by distributing questionnaires to actors in local government institutions, including the Riau Provincial Environment Agency, the Riau Provincial Disaster Management Agency, the Riau Regional Police, the 031 Wira Bima Military Resort Command and non-governmental organizations, Wahana Lingkungan Hidup. The population sample consisted of 150 individuals, determined using the Slovin formula.

Table 1. Population and sample

<i>Organizations</i>	<i>Population</i>	<i>Sample</i>
The Riau Province Environment and Forestry Service	45	40
The Riau Province Disaster Management Agency	35	33
The Riau Regional Police	32	30
The Military Resort Command 031 Wira Bima	30	28
Wahana Lingkungan Hidup (WALHI)	20	19
Total	162	150

Using structural equation modelling (SEM) methods, the collected data were examined and measurement models through statistical tools, namely SmartPLS, to analyze data and test hypotheses. Validity and reliability were assessed using measurement models, whereas quality and hypothesis were tested using structural models. We also propose alternate research approaches for this subject. The content analysis method is utilized to acquire data about forest fires by examining credible electronic mass media. The keyword used is “collaborative governance in controlling forest and land fires in Riau Province”. The capture tools of NVivo 12 Plus software can assist in this research. The narrative of cultural influences in the collaborative governance of forest and land fires in the province of Riau is then organized into research indicators after being individually coded.

4. RESULTS

4.1. Structural model validity test

The score values of the outer model, notably the Average Variance Extracted (AVE), reveal the first and second criteria: convergent validity and discriminant validity. There is a validity threshold for data observed through AVE that can be considered valid. If the AVE is more significant than 0.50, the data is deemed valid; otherwise, the data is

declared invalid. Cross loading reveals that a minimum value threshold must be met for data to be considered valid. For the cross-loading value to be considered valid, the cross-loading score must be greater than 0.50; otherwise, the data cannot be considered valid.

All questions in each research variable (*Culture, Trust, Facilitate leadership, Institutional design, Output, and Outcome*) have a loading factor value greater than 0.500, and all research variables have an AVE greater than 0.500; thus, all questions in all research variables are valid or have achieved convergent validity.

Table 2. Validity test

Variables	Indicators (Questionnaire question)	Loading factor	AVE	Description
Culture	Cul 1	0.844	0.688	Valid
	Cul 2	0.864		Valid
	Cul 3	0.874		Valid
	Cul 4	0.899		Valid
	Cul 5	0.849		Valid
	Cul 6	0.833		Valid
	Cul 7	0.746		Valid
	Cul 8	0.711		Valid
Trust	Tr 1	0.863	0.686	Valid
	Tr 2	0.804		Valid
	Tr 3	0.875		Valid
	Tr 4	0.836		Valid
	Tr 5	0.855		Valid
	Tr 6	0.819		Valid
	Tr 7	0.789		Valid
	Tr 8	0.779		Valid
Facilitate leadership	FL 1	0.759	0.637	Valid
	FL 2	0.749		Valid
	FL 3	0.830		Valid
	FL 4	0.737		Valid
	FL 5	0.790		Valid
	FL 6	0.830		Valid
	FL 7	0.831		Valid
	FL 8	0.848		Valid
Institutional design	ID 1	0.557	0.534	Valid
	ID 2	0.909		Valid
	ID 3	0.807		Valid
	ID 4	0.579		Valid
	ID 5	0.597		Valid
	ID 6	0.905		Valid
	ID 7	0.597		Valid
	ID 8	0.787		Valid
Output	OP 1	0.804	0.525	Valid
	OP 2	0.811		Valid
	OP 3	0.798		Valid
	OP 4	0.823		Valid
	OP 5	0.714		Valid
	OP 6	0.563		Valid
	OP 7	0.672		Valid
	OP 8	0.549		Valid
Outcome	OC 1	0.835	0.605	Valid
	OC 2	0.821		Valid
	OC 3	0.819		Valid
	OC 4	0.837		Valid
	OC 5	0.819		Valid
	OC 6	0.818		Valid
	OC 7	0.651		Valid
	OC 8	0.573		Valid

Source: Processed from primary data in 2021.

4.2. Reliability test

Subsequently, a reliability test is conducted using the composite reliability and Cronbach's alpha of the indicator block that assesses the construct. If

both the composite reliability and Cronbach alpha are above 0.70, the construct is considered reliable. However, a value of 0.6 is still acceptable. The following are the composite reliability and Cronbach alpha.

Table 3. Composite reliability and Cronbach's Alpha

Variables	Cronbach's alpha	rho_A	Composite reliability	AVE	Description
Culture	0.935	0.939	0.946	0.688	Reliable
Facilitate leadership	0.934	0.737	0.933	0.637	Reliable
Institutional design	0.932	0.925	0.898	0.534	Reliable
Outcome	0.944	0.909	0.923	0.605	Reliable
Output	0.866	0.868	0.896	0.525	Reliable
Trust	0.903	0.937	0.946	0.686	Reliable

Source: Processed from primary data in 2021.

In the Table 3, the composite reliability and Cronbach's alpha outputs reveal that each construct has a value of more than 0.70. The composite reliability and Cronbach's alpha for the culture variable are 0.935 and 0.946, respectively. Meanwhile, the composite reliability and Cronbach's alpha for the trust variable are 0.934 and 0.946, respectively. Additionally, *Facilitate leadership* has composite reliability and Cronbach's alpha of 0.930 and 0.936, respectively. Furthermore, the composite reliability and Cronbach's alpha for the institutional design variable are 0.944 and 0.898, respectively. The composite reliability and Cronbach's alpha for *Output* are 0.866 and 0.896, respectively. Finally, *Outcome* has composite reliability of 0.903 and Cronbach's alpha of 0.923. Based on the description above, the composite reliability and Cronbach's alpha in the Table 3 indicates that each construct has a value greater than 0.70. As a result, each construct in the predicted model is considered reliable.

4.3. Regression analysis

To determine the relationship between research model constructs, significance values, and R-squared, regression tests were conducted.

Table 4 shows that the *Trust* is obtained at 0.688, explaining that the influence of the *Culture*,

Institutional design, and *Facilitate leadership* on the *Trust* is 68.8%. The *Output* is obtained at 0.638, which can be explained that the influence of the *Trust* in the context of the collaborative process on the *Output* is 63.8%. The *Outcome* is obtained at 0.696, suggesting that the effect of the *Output* on the *Outcome* is 69.6%.

Table 4. Regression results

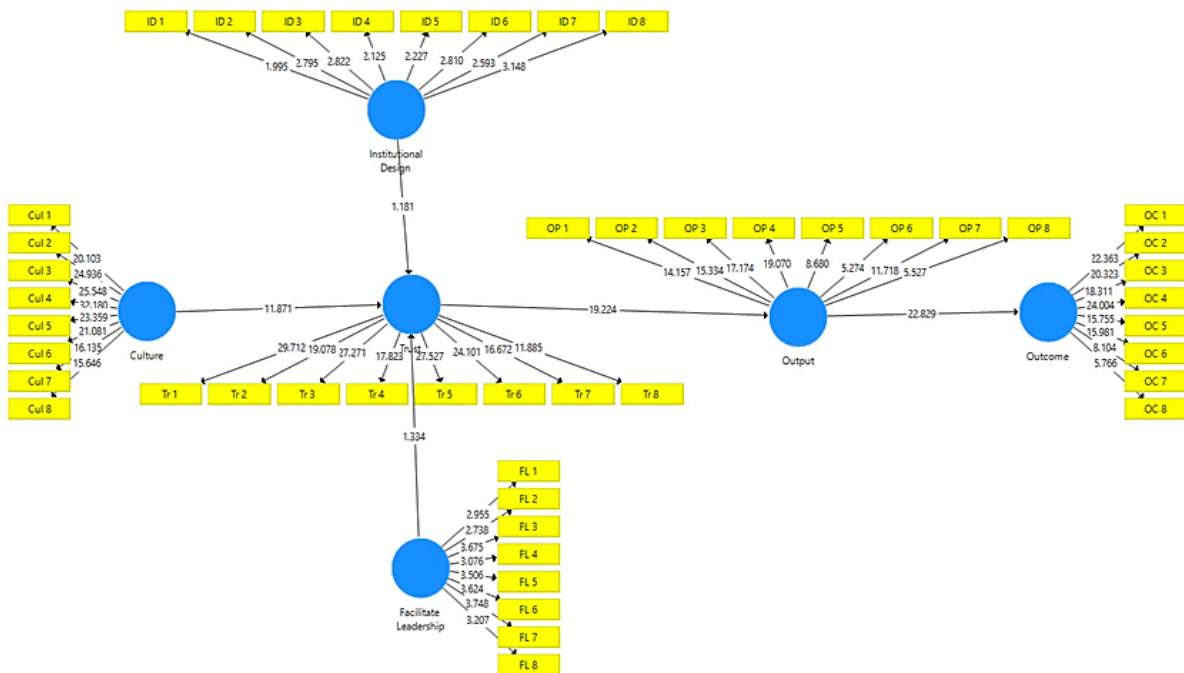
Variables	R-squared	R-squared adjusted
Outcome	0.696	0.691
Output	0.638	0.632
Trust	0.688	0.672

Source: Processed from primary data in 2021.

4.4. Research implication

Based on model testing on aggregate and comparative research results, this study proposes a theory about the influence of culture on the implementation of collaborative governance in controlling forest and land fires in Riau Province. Therefore, regression weighting, path coefficients, and hypothesis testing on cultural variables are determinants that complement Ansell and Gash's (2008) collaborative governance theory. This relationship is shown in the Figure 1 and Table 5.

Figure 1. Bootstrapping output



Source: Processed from primary data in 2021.

Using the bootstrap resampling method, conduct hypothesis testing between exogenous variables on endogenous variables and endogenous variables on exogenous variables after determining the validity and reliability of the data. The t-statistic or t-test is the test statistic used to determine. This study's comparative t-value was derived from

the t-table. The test is deemed significant if the t-statistic is greater than 1.96 and the p-value is less than 0.005. The researchers tested their hypothesis by examining the path coefficient output from the bootstrap resampling results presented in the Table 5.

Table 5. Hypothesis test results

Variables	Original sample	Sample mean	Standard deviation	t-statistics	p-values	Hypothesis assessment
Culture → Trust	0.735	0.761	0.062	11.871	0.000	Accepted
Facilitate leadership → Trust	0.210	0.035	0.157	1.334	0.183	Rejected
Institutional design → Trust	-0.263	-0.028	0.223	1.181	0.238	Rejected
Output → Outcome	0.834	0.840	0.037	22.829	0.000	Accepted
Trust → Output	0.799	0.805	0.042	19.224	0.000	Accepted

Source: Processed from primary data in 2021.

According to the Figure 1 and Table 5, the influence of culture on the implementation of collaborative governance on forest and land fire control in the province of Riau is not significantly impacted by the facilitate leadership variable. This hypothesis has a t-statistic of 1.334, which is less than the > 1.96 threshold for t-statistics. In addition, collaborative governance has a p-values value of 0.183, which exceeds the conventional p-values criteria of 0.05.

The influence of culture in the implementation of collaborative governance on forest and land fire control in Riau Province is not found to have a significant effect on the outcome of collaborative governance implementation, according to the Figure 1 and Table 5. This hypothesis has a t-statistic of 1.181, which is below the t-statistic threshold of > 1.96. Moreover, the value of p-values in collaborative governance is 0.23, which is greater than the conventional p-values criterion of 0.05.

5. DISCUSSION

Figure 1 and Table 5 display the results of the study's hypothesis testing. In hypothesis testing, the path or inner model coefficient value indicates the significance level. The path or inner model coefficient score is indicated by the t-statistic value, which must be greater than 1.96 for a two-tailed hypothesis and greater than 1.64 for a one-tailed hypothesis when testing hypotheses with 5% alpha and 80% power.

According to the figure and table above, the influence of culture on the implementation of collaborative governance in controlling forest and land fires in Riau Province is found that the facilitate leadership variable has no significant influence on trust in collaborative governance implementation. This hypothesis has a t-statistic of 1.334, which is less than the t-statistic threshold of 1.96. Furthermore, the p-value result for collaborative governance is 0.183, which is greater than the normal p-value criteria of 0.05.

From the figure and table above, it is also shown that the influence of culture on the implementation of collaborative governance in controlling forest and land fires in Riau Province is found that the output variable does not significantly impact the outcome in the performance of collaborative governance. This hypothesis has a t-statistic of 1.181, where the value is lower than the t-statistic criterion, which is > 1.96. In addition, the value of p-values on collaborative governance is 0.238, which is higher than the standard p-values criterion, which is < 0.05.

Figure 1 and Table 5 illustrate that culture has a favourable and significant impact on the collaborative process centred on trust (H1). Culture influences trust among collaborating

authorities in Riau Province when mitigating forest and land fires. Culture refers to the work habits, attitudes, and behaviours of individuals and those involved in inter-organizational collaboration (Jatmikowati et al., 2019). Work habits and individual attitudes and behaviours that promote implementing the organization's core goals and functions will foster trust among the multi-sectors involved in forest and land fire management, and vice versa. The culture that is maintained in the collaboration in controlling forest and land fires, as well as the cause of not maximizing collaboration, is the government's top-down concept when collaborating with other parties, the government's dominance, and the failure to implement agreements based on cooperation and egalitarianism as required for the operation of a collaboration. Collaboration in mitigating forest and land fires in Riau Province is also failing because the participation of other stakeholders is frequently viewed as superfluous, irrelevant, and dominated by the dominant group or the government via a top-down approach. The collaboration also fails because it caters to the needs of pro-government policy groups while ignoring anti-government policy groups.

According to Figure 1 and Table 5, facilitate leadership has a negative and insignificant influence on trust in collaborative governance (H3). The presence or absence of facilitative leadership does not affect the development of trust in the collaborative process of managing forest and land fires. This is not to say that facilitative leadership is not necessary or valuable. However, it must be stated that facilitative leadership necessitates a leader who is active, forceful, and capable of carrying out his duties effectively, precisely, and successfully carrying out the cooperation process (Agbodzakey, 2021).

Figure 1 and Table 5 show that institutional design negatively and insignificantly influences trust in implementing collaborative governance (H4). Overlapping institutional designs will only affect the effectiveness of forest and land fire control activities in Riau Province. Whether or not there is an institutional design, it does not influence the trust in establishing the collaborative process of controlling forest and land fires. This does not mean that institutional design is unnecessary or unimportant, but what needs to be emphasized in institutional design is how the main rules are when participating in collaborations, how forums or collaborations are formed, the form of clear implementation rules and how there is transparency in the collaboration implementation process (Bell & Scott, 2020). Therefore, it is clear that the regulatory design does not affect the trust built in collaboration to control forest and land fires in Riau Province.

Figure 1 and Table 5 show that the output, which is the immediate or short-term result of

the collaboration on forest and land fires in Riau Province, has a positive or significant influence on the outcome or medium or long-term results (H5). The outcome will follow immediately afterwards when the output is successfully realized (Greenway, 2021; Ulibarri et al., 2020). The output in question, among others, is the discovery of a coordinated and integrated forest and land fire management pattern in Riau Province. The outcome that will be realized afterwards is the control of forest and land fires in Riau Province. In the collaborative process of controlling forest and land fires in Riau Province, the collaboration outputs have not been achieved in their entirety, so the long-term outcomes cannot be realized.

Figure 1 and Table 5 show the results that trust has a positive and significant influence on the output of collaborative governance (H2). The longer the collaboration is implemented, the easier trust will be built. Furthermore, with mutual trust already existing in each actor, the output will be easier to obtain (Ran & Qi, 2019). The output in question includes the acceleration of the collaboration process and the discovery of a coordinated and integrated forest and land fire management pattern. In collaboration in controlling forest and land fires in Riau Province, trust has not fully grown among the institutions involved and collaborating in forest and land fires in Riau Province. By maintaining their respective egos in collaborating, the output, which is the result to be achieved in the short term, cannot be achieved.

6. CONCLUSION

This study aims to analyze the influence of culture on the implementation of collaborative governance in controlling forest and land fires in Riau Province. This paper is undoubtedly essential for future research due to the development of a collaborative governance model by Ansell and Gash (2008) with the addition of culture and output variable

indicators. The model that has been developed can be used by other researchers who wish to discuss collaborative governance because it has been tested through a series of hypothesis tests. The research results show that culture, trust, and output have a significant effect, and the three variable indicators influence the adoption of the collaborative governance model by Ansell and Gash (2008). Meanwhile, facilitating leadership and institutional design does not significantly affect trust building in collaborative governance on forest and land fire control in Riau Province.

Culture affects the implementation of collaborative governance in controlling forest and land fires in Riau Province. This can be seen from the cultures shown by collaborating institutions. Negative cultures, such as the government's retention of the top-down concept in building collaboration, collaboration dominated by the government alone, while non-governmental organizations are only a minority here. In addition, there is no agreement based on cooperation as required for collaboration and prioritizes the interests of groups that are pro-government policies and ignores groups that are against government policies. As a result, the collaborative process of controlling forest and land fires in Riau Province needs to run optimally. The study's limitations, which remain focused on collaborative governance at the provincial level, are acknowledged in the final paragraph. Future research should focus on collaborative governance in controlling forest and land fires at the national or international level, as haze pollution from forest and land fires affects neighboring countries such as Malaysia, Singapore, and Brunei Darussalam globally. The practical implication is that the study's findings can be used as a very positive input for collaborating institutions, that collaboration culture must be improved, trust must be built first, and output must be realized first if well-coordinated land and forest fire control are to be achieved.

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