

Support for Heritage Tourism Development: The Case of Ombilin Coal Mining Heritage of Sawahlunto, Indonesia

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Abstract: This study aims to investigate the effect of negative economic, social cultural, and environment impact on support for tourism development. Besides, this study also seek whether there is a significant effect of negative economic, social cultural, and environment impact on support for tourism development. Social exchange theory is applied to understand these relationships. Seventy seven residents of Sawahlunto are participated in this study. This study apply SEM-PLS (Smart-PLS) to analyse the data. measurement and structural model assessment is conducted before concluding whether there is a significant effect of latent independent variables on support for tourism development. The result reveals that out of six variables being tested, only two latent independent variables have a positive relationship with support for tourism development: positive social cultural impact and positive environment impact. This study has two implications: theoretical and practical. Theoretically, this study contribute to the social exchange theory in the sense that resident gains positive impact is likely willing to exchange with positive attitude toward supporting the tourism development in the context of Indonesia's environment. Practically, this study can be used by government in how to gain the residents' support of Sawahlunto by increasing the positive social cultural and environment impact from tourism development

1 BACKGROUND OF STUDY

One of an effective way to regenerate the commercialisation of destination is tourism development (Chen and Chen 2010). One of the theme for tourism development is heritage. Chen and Chen (Chen et al., 2010) add that heritage tourism is usually regards to the domains of cultural tourism and urban tourism. The word of heritage has been introduced and become a buzz in 1990 (Palmer, 1999). In the Urban context, heritage places are midst the crucial sectors of tourism (Jung and Han 2014). There are several organizations to promote the heritage site (Dieck et al., 2015). Two examples of that organization are the International Council on Monuments and Sites (ICOMOS) and UNESCO which conserve monument and sites around the world. Urban heritage sites have been developing in many countries. It is as consequences of several factor affects on tourism outcome, such as material impact because of reduced season ability, expanded stays and expanded customer based (Chang et al., 1996; Patuelli et al., 2013). Jung and Han (Jung et al., 2014) state that there are several negative impacts due to urban heritage tourism development re-

garding to use of space. In fact, Chen and Chen (Chen et al., 2010) documented that several factors affecting the attitude toward heritage tourism development: economic, social-cultural, and environments.

Central and local government, in every country have been developing the tourism destination, including heritage tourism. However, they forget about heritage management and suitability and it is critical concerns from both party of practitioners and academics. Chen and Chen (Chen et al., 2010) argue that the residents' support for tourism development is the success of heritage tourism. Besides, the success of factors are also attractive heritage resources, uniqueness, successful tourism policy and maintainability. Research on residents' support for tourism development has been done by previous researcher (Perdue et al., 1990; Sirakaya et al., 2002; Styliadis et al., 2014; Lee, 2013; Chen et al., 2010).

Perdue et al. (Perdue et al., 1990) investigate the factors affecting the supporting for additional tourism development in 16 rural Colorado community and found that there are several significant factors, such as positive or negative impact on tourism. In addition, (Sirakaya et al., 2002) assess the determi-

nants of supporting for tourism development in Ghana and conclude that social-psychological factors influence the supporting for tourism development, such as tourism's impact. Chen and Chen (Chen et al., 2010) investigate the interrelationship between economic dependence on tourism, community attachment, perceived negative tourism impact, perceived positive tourism impacts and support for tourism development in Taiwan. Lee (Lee, 2013) study the effect of community attachment, community involvement, perceived benefit, and perceived cost on support for sustainable tourism development, in southwest Taiwan and found that community involvement and community attachment have a significant effect on level of support for tourism development. Finally, (Stylidis et al., 2014) investigate the support for tourism development in northern Greece and found that the higher the economics, social-culture and environmental tourism impacts, the greater the support for tourism development.

Previous studies on support for tourism development much more focus on general tourism development. Study on heritage tourism development has been examined, but emphasize on cultural heritage tourism development (Chen et al., 2010). There is a lack of study investigating the urban or historical value heritage tourism development. Besides, studies on effect of tourism impact on support for tourism development has been seen from economic, social cultural and environmental impact (Gursoy et al., 2002; Gursoy et al., 2004; Lindberg et al., 1997; Yoon et al., 2001; Ko et al., 2002; Sharma et al., 2009; Jurowski et al., 1997; Chen et al., 2010; Lee, 2013), but the result is inconclusive. Most of support for tourism development studies are underpinned by social exchange theory (Emerson, 1976). In addition, there is an effort of Indonesia's government to develop a world heritage called "Ombilin Coal Mining Heritage of Sawahlunto" or OCMHS, in west Sumatra, Indonesia. It is being nominated by UNESCO as one of world heritages which will be conducted a plenary session in June 2019. Ombilin Coal Mining Heritage of Sawahlunto is representative and outstanding example of a pioneering technological ensemble planned and built by European engineers in their colonies designed to extract strategic coal resources¹.

Government of Sawahlunto, West Sumatra Province government and central of government of Indonesia have economic objective to develop this

¹Ombilin Coal Mining Heritage of Sawahlunto, a short guide: nomination for inscription on the world heritage list, available at office of cultural affair, historical remains and museum of Sawahlunto municipality.

site to be world heritage: tourism purpose. However, there is no study investigating the residents' support for this historical value and urban heritage tourism development. Therefore, this kind of study is compulsory to be conducted, otherwise the governments does not have knowledge of resident's support for this heritage tourism development. Thus, this study aims to investigate the effect of the positive and negative of economic, social-cultural, and environment impact on residents' support for heritage tourism development in Indonesia. The research framework is shown in Figure 2 below. This paper is significant for government of Indonesia, and Sawahlunto municipality to have a sustainability heritage tourism. This article can contribute to the literature of heritage tourism management. Due to uniqueness of Indonesia's culture, social and law system, this study differ compared to previous studies which done in difference environment, such as study done by Chen and Chen (Chen et al., 2010). The remaining of this paper is organised as follow. Method and material are second part of this paper. The third session is about result and discussion. the final session is conclusion and recommendation. Thus, we test six hypotheses in this study as follow.

H1: there is positive effect of positive economic impact on support for OCMHS development H2: there is negative effect of negative economic impact on support for OCMHS development H3: there is positive effect of positive social cultural impact on support for OCMHS development H4: there is negative effect of negative social cultural impact on support for OCMHS development H5: there is positive effect of positive environment impact on support for OCMHS development H6: there is negative effect of negative environment impact on support for OCMHS development

2 RESEARCH METHOD

There are seventy-seven respondents from Sawahlunto participated in this study. Primary data is used for this study which collected using questioners. The online survey is conducted during November to December 2018. There are two type of variables employed (latent dependent variable and latent independent variables). Support for tourism development is two items of questioner developed by Ko and Stewart (Ko et al., 2002). Tourism impact is developed by Ko and Stewart (Ko et al., 2002) and used by Chen and Chen (2010) which consists of economic impact (8 items), social cultural impact (10 items) and environmental items (8 items). Each im-



Figure 1: Location and area of nominated property.

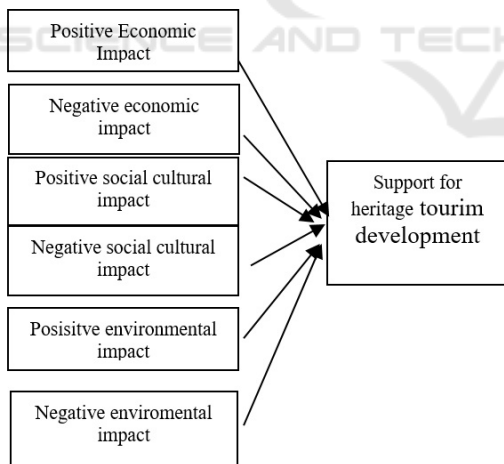


Figure 2: Research framework.

impact has two sessions: negative and positive impacts. This study applies SEM-PLS (smart-pls) method to analysis the data. There are two assessment of smart-pls: measurement model and structural model (Hair et al., 2017). Measurement model is assessing the construct validity which consists of convergent validity and discriminant validity (Vinzi et al., 2010).

The structural model assesses the predictive relevance and predictive power. Acceptance or rejection of hypotheses employ original sample means and t statistic or p-value (Hair et al., 2013).

3 RESULT AND DISCUSSION

This session is discussed about respondent profile, outer model assessment (MMA), and inner model assessment (SMA). Table 1 show the demographic data from respondent. Seventy-seven respondents returned the questioners. From gender perspective, forty-two respondents are male or 54.55% and the rests are female (45.45%). In addition, education level of respondent is dominated by graduating from senior high school (38.96%) and followed by bachelor's degree graduation (32.47%). Further, respondents working with government are 32.47%, followed by 10.39% as entrepreneurs, 33.77% as students and the rest is others. Finally, the respondents' income with less than Rp. 3 million is 61.04%. It is followed by 27.00% of respondent with the income of Rp. 3.1 to Rp. 6 million. The rest is income above Rp. 6 million.

The convergent validity applies the three property:

Table 1: Respondent Profile.

Demographic	Category	Number	%
Gender	Male	42	54.55
	Female	35	45.45
Education (Graduated)	Senior high school	30	38.96
	Diploma	7	9.09
	Bachelor	25	32.47
	Master	10	12.99
	Others	5	6.49
Occupation	Government servant	20	25.97
	Entrepreneur	8	10.39
	Students	26	33.77
	Others	23	29.87
Income	< Rp. 3 Million	47	61.04
	Rp 3.1 to Rp. 6 M	21	27.00
	Rp. 6.1 to Rp. 9 M	6	7.79
	> Rp. 9 Million	3	3.39

indicator reliability (outer loading), internal consistency reliability and AVE. The result of MMA is seen in Table 2. The construct of negative economic impact (NEI) has three items and all items have an outer loading greater than 0.700 (Hulland, 1999). In addition, the internal consistency for NEI also indicate the reliable due to the value of Cronbach’s alpha (CA) and composite reliability (CR) are greater than 0.800 (Bagozzi et al., 1988). Finally, the value of average variance extracted (AVE) is 0.636 and it reached the cut-off value (Bagozzi et al., 1988). The second construct is negative environmental impact (NENI). NENI has four items and all items have an outer loading above 0.700 (Hulland, 1999). In addition, the value of CA and CR for this construct is also greater than 0.700 and therefore it can be said that the internal consistency reliability is reached (Bagozzi et al., 1988). Further, NENI also has a higher value of AVE, greater than 0.500 (Bagozzi et al., 1988).

The third construct, negative social culture impact (NSCI) has five items and having calculate the outer loading, only two items has the value of outer loading greater than 0.700 (Hulland, 1999), that is nsci2 and nsci5. In addition, this construct has a value of CA and CR greater than 0.700 and it can be concluded the internal consistency of construct is reliable (Bagozzi et al., 1988). Further, this construct also has AVE’s value greater than 0.500 and it is reached the cut off

value (Bagozzi et al., 1988). The fourth construct is positive economic impact. This construct has five items and all items have outer loading value above 0.700 and thus, it can be concluded that the construct has an higher indicator reliability (Hulland 1999). In addition, this construct has satisfied (Bagozzi et al., 1988). Finally, the AVE is also greater 0.500 and it is satisfied (Bagozzi et al., 1988).

The fifth construct is positive environment impact (PEI). This construct has four items and all items are reliable due to outer loading above 0.700 (Hulland, 1999). the internal consistency of construct is also reliable because of CA and CR’s value above 0.700 (Bagozzi et al., 1988). In addition, the value of AVE also indicate above 0.5 and it satisfy the requirement of convergent validity (Bagozzi and Yi 1988). The sixth construct is positive social culture impact (PSCI) and has five items. All items have an outer loading more than 0.700 and therefore, it reached the cut off value (Hulland, 1999). In addition, the value of CA and CR for this construct is 0.803 and 0.902 respectively and it can be concluded that the internal consistency is reliable (Bagozzi et al., 1988). Further, the AVE’s value indicate above the cut off value (0.500) and it can be concluded that the convergent validity is achieved (Bagozzi et al., 1988). Finally, the latent dependent variable has an achieved convergent validity with outer loading above 0.700 (two valid items) (Hulland, 1999), the value of CA and CR is more than 0.700 (Bagozzi et al., 1988), and AVE’s value is greater than 0.500 (Bagozzi et al., 1988).

The discriminant validity is second construct validity assessment. Hair et al (Hair et al., 2013), stated that there are two property that can be used to check the discriminant validity: Fornel-Lacker criterion and cross-loading. Table 3 indicates the result of Fornel-Lacker criterion and based on this result, it achieve the discriminant validity rule in which the square root of AVE a construct must be higher than the correlation that construct with other construct (Fornell et al., 1981). For example, the value of square root AVE for NEI (0.797) is higher than correlation of NEI with construct of NENI, NSCI and etc.

Discriminant validity also can be assessed from the cross loading of construct with its items. Henseler (Henseler, 2010) argue that the loadings of an indicator on its assignment latent variable should be higher than its loadings on all other latent variables. From the result (see Table 4), we can conclude that it achieve the rule stated by Henseler (Henseler, 2010). For example, the loading of items nei1, nei2 and nei3 have a loading on its NEI construct with value of 0.835, 0.755, and 0.800 respectively. The measurement model can be seen in Figure 3.

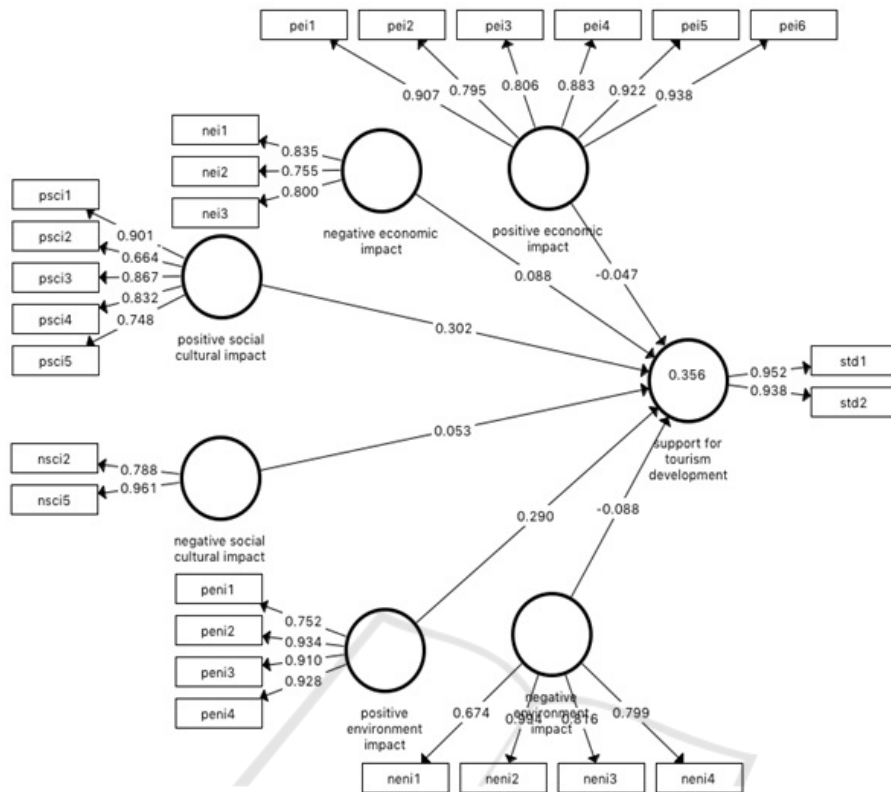


Figure 3: Measurement model .

The result of assessment of structural model is demonstrated in Table 5. Vinzi et al (Vinzi et al., 2010), argue that there are two type of structural model assessment, that is predictive relevance and predictive power. Predictive relevance uses the Q square and model has a good predictive relevance if its Q square above 0 (Hair et al., 2013). From Table 5, we can see that the value of Q square is greater than 0. In fact, the value is categorised as strong predictive relevance (Henseler, 2010). In addition, model predictive power is moderate (Hair et al., 2014). R square is 0.356 and it means that 35.60% variation in latent dependent variable is explained by latent independent variables. the rest is explained by other variables.

The effect of latent independent variable on latent dependent variable is determined by path coefficient and t statistic or p-value. Out of six latent independent variables, only two latent independent variables have a significant positively effect on support for tourism development in Sawahlunto: positive environment impact (PEI) and positive social cultural impact (PSCI). PEI has path coefficient of 0.290 with p value 0.090 (significant at 10%). In addition, path coefficient for PSCI is 0.285 with t statistic 1.871 (significant at 10%). Negative and positive economic im-

fact do not have a significant effect on support for tourism development due to the p value greater than 10%. Negative environment and social cultural impact also do not have a significant effect on support for tourism development because of its t value is lower than 1.69. The structural model is shown by figure 4.

Based on the result above, there are two latent independent variables influencing the support for heritage tourism development: positive social cultural impact and positive environment impacts. The reason why positive social cultural impact has a positive relationship with support for tourism development is that the resident is likely to participate in an exchange with tourists if they believe that they are likely to gain advantages (Yoon et al., 2001). Furthermore, if residents perceive that the positive impact of tourism development will be greater than the negative impacts, they will endorse a tourism development. Thus, this finding confirms to the social exchange theory (Emerson, 1976). The effect of positive social cultural impact on support of tourism development is aligned with (Chen et al., 2010) who conclude that there is a positively significant relationship between positive tourism impact on support for tourism development (t value=5.45). in addition, other scholar who sup-

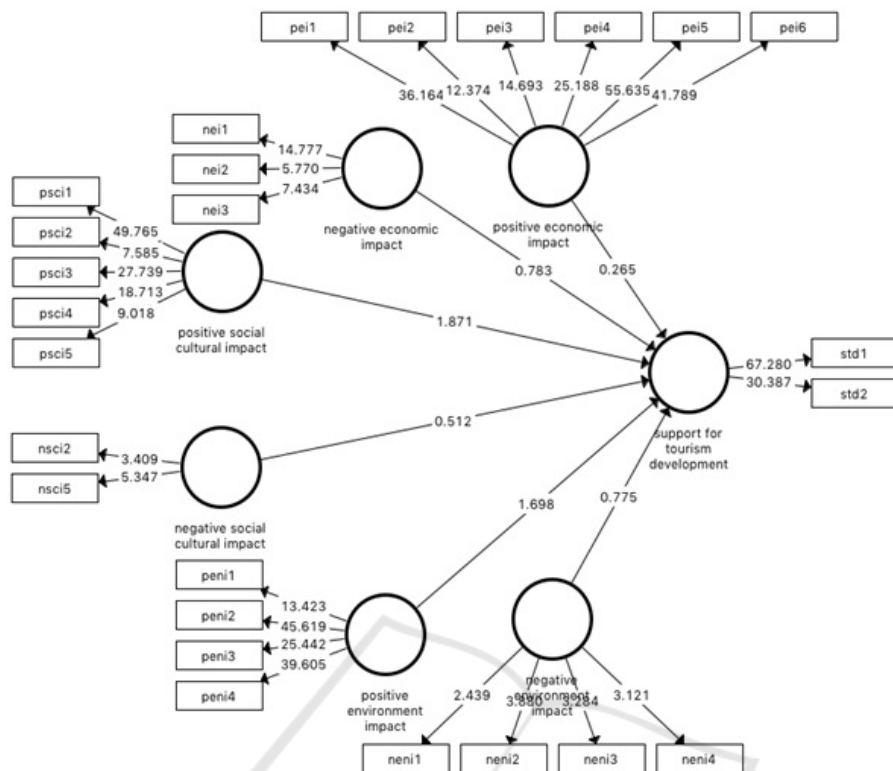


Figure 4: Structural Model .

port this finding is (Gursoy et al., 2002) who also found that perceived benefit that had almost equal to positive impact has a positive impact on support for tourism (path coef. = 0.37, t stat.=6.36). Further, the positive relationship between positive social cultural impact on support for tourism development is also supported by Gursoy and Rutherford (Gursoy et al., 2004), Jurowski et al (Jurowski et al., 1997), Ko and Stewart (Ko et al., 2002), and Yoon et al (Yoon et al., 2001). Other four latent independent variables which do not have a significant relationship with support for tourism development are not consistent with previous studies, such as Chen and Chen (Chen et al., 2010), Jurowski et al (Jurowski et al., 1997), Ko and Stewart (Ko et al., 2002), and Yoon et al (Yoon et al., 2001).

of world heritages. Thus, it will be decided in June 2019. However, there is no studies investigating the residents' supporting of this heritage tourism development. Therefore, this objective study of this study is to investigate the effect of economic, social cultural and environment impact on supporting for this tourism development. These impacts are divided into positive and negative. By surveying the Sawahlunto residents, we reveal that only two latent independent variables have a significant effect on supporting for heritage tourism development: positive social cultural impact and positive environment impact. This study contributes to the social exchange theory.

4 CONCLUSION AND RECOMMENDATION

Tourism development is an effort made by government to promote the culture or historic value of certain location. thus, it becomes an attraction that can invite tourism coming to the tourism sites. One of tourism development in Indonesia is OCMHS. In fact, this site is being nominated by UNESCO to be one

Table 2: Convergent Validity.

Construct	Item	Outer Loading	CA	CR	AVE
Negative economic impact	nei1	0.84	0.75	0.84	0.64
	nei2	0.76			
	nei3	0.80			
negative environmental impact	neni1	0.70	0.91	0.90	0.69
	neni2	0.99			
	neni3	0.82			
	neni4	0.80			
negative social culture impact	nsci2	0.79	0.74	0.87	0.77
	nsci5	0.96			
positive economic impact	pei1	0.91	0.94	0.95	0.77
	pei2	0.80			
	pei3	0.81			
	pei4	0.88			
	pei5	0.92			
	pei6	0.94			
	peni1	0.75	0.90	0.93	0.78
	peni2	0.93			
	peni3	0.91			
	peni4	0.93			
positive social cultural impact	psci1	0.90	0.86	0.90	0.65
	psci2	0.70			
	psci3	0.87			
	psci4	0.83			
	psci5	0.75			
support for tourism development	std1	0.95	0.88	0.94	0.89
	std2	0.94			

Table 3: Discriminant validity-Fornel-Lacker Criterion.

Construct	NEI	NENI	NSCI	PEI	PENI	PSCI	STD
NEI	0.80						
NENI	0.24	0.83					
NSCI	0.35	0.28	0.88				
PEI	0.61	-0.09	0.17	0.88			
PENI	0.52	-0.02	0.16	0.76	0.88		
PSCI	0.61	-0.03	0.20	0.77	0.78	0.85	
STD	0.39	-0.06	0.16	0.48	0.55	0.56	0.95

Table 4: Discriminant Validity-Cross Loading.

Items	NEI	NENI	NSCI	PEI	PENI	PSCI	STD
nei1	0.84	0.05	0.14	0.75	0.63	0.68	0.42
nei2	0.76	0.38	0.41	0.19	0.21	0.29	0.20
nei3	0.80	0.30	0.42	0.29	0.22	0.32	0.22
neni1	0.45	0.67	0.38	0.02	0.08	0.04	0.00
neni2	0.23	0.99	0.24	-0.10	-0.03	-	-0.07
						0.04	
neni3	0.32	0.82	0.47	-0.01	0.04	0.02	-0.01
neni4	0.34	0.80	0.48	0.02	0.03	0.05	0.00
nsci2	0.49	0.41	0.79	0.11	0.09	0.08	0.08
nsci5	0.24	0.19	0.96	0.17	0.17	0.22	0.17
pei1	0.55	-0.06	0.17	0.91	0.66	0.67	0.37
pei2	0.47	-0.08	0.17	0.79	0.69	0.65	0.40
pei3	0.50	0.02	0.13	0.81	0.68	0.60	0.44
pei4	0.55	-0.15	0.13	0.88	0.59	0.69	0.46
pei5	0.54	-0.12	0.12	0.92	0.69	0.73	0.42
pei6	0.59	-0.11	0.17	0.94	0.68	0.72	0.40
peni1	0.41	0.09	0.15	0.63	0.75	0.65	0.47
peni2	0.46	-0.05	0.06	0.70	0.93	0.70	0.54
peni3	0.48	-0.06	0.20	0.67	0.91	0.73	0.48
peni4	0.49	-0.05	0.17	0.68	0.93	0.74	0.45
psci1	0.59	-0.05	0.20	0.71	0.76	0.90	0.60
psci2	0.48	-0.01	0.13	0.46	0.47	0.66	0.38
psci3	0.49	-0.01	0.22	0.74	0.66	0.87	0.43
psci4	0.40	0.01	0.11	0.59	0.67	0.83	0.45
psci5	0.47	-0.07	0.11	0.61	0.62	0.75	0.36
std1	0.377	-0.07	0.15	0.52	0.54	0.59	0.95
std2	0.360	-0.05	0.14	0.37	0.50	0.47	0.94

Table 5: Structural Model Assessment.

Endogenous Construct	Q ²	Decision	R ²	Decision
STD	0.26	strong	0.36	moderate
relationship	path coef	t statistic	p value	Decision
NEI -> STD	0.10	0.78	0.43	not-accepted
NENI -> STD	-0.09	0.78	0.44	not-accepted
NSCI -> STD	0.05	0.51	0.61	not-accepted
PEI -> STD	-0.03	0.26	0.79	not-accepted
PEI -> STD	0.29	1.70	0.09*	accepted
PSCI-> STD	0.29	1.87	0.06*	accepted

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