



Validation of Sustainable Tourism Supply Chain Management Framework Model With SEM-AMOS Application

Andri Hermawan ¹, Nuri Kartini ², Muhamad Muhamad ³

^{1,2} University of Muhammadiyah Cirebon, West Java, Indonesia.

³ University of Gadjah Mada Yogyakarta

Corresponding Author: Email: andri.hermawan@umc.ac.id

Abstract

Background. The management of the tourism supply chain that exists today, when viewed from the reality on the ground, has occurred but is done traditionally, or in other words, it is not managed correctly, so the ultimate goal of supply chain management is not achieved.

Aim. The author has formulated a Sustainable Tourism Framework Model based on FGDs and surveys of tourism supply chain actors.

Methods. The authors used this study's research methodology: 1. Determine the title and research objectives; 2. Create an overview of the research in an abstract narrative, 3. Conduct a Literature Review on several topics related to the keywords in the abstract; 4. Research stages should be made in which the methodology is determined in detail beforehand; 5. Conduct FGD to discover the Decision Making System Model in implementing TSCM. 6. Make SEM Model Design Forms. 7. Entering data into the AMOS application. 8. Re-test the results of the AMOS application to optimal results. 9. Optimal Reconstruction of the SEM Model Design. 10. Arranging questions to be carried out in Survey, 10. Collecting survey data. 11. Enter data from survey results. 12. Report on survey results based on SEM model tests through the AMOS application.

Result. However, the Framework Model has not yet been accurately validated. After being validated through the SEM-AMOS application, the proposed Framework Model was changed to the Sustainable Tourism Supply Chain Management Framework Model.

Conclusion. Developing the STSCM application design in Indonesia should significantly improve the tourism sector's economy. For this reason, we recommend that this be followed up on the STSCM Application Development in Indonesia.

Implementation. This research will be beneficial for the Indonesian government, entrepreneurs in the tourism sector, and the tourism industry in general, especially in the tourism sector

Keywords: Tourism Supply Chain Management, Structural Equation Model, AMOS Application

INTRODUCTION

We have often heard about implementing Supply Chain Management in the Product Industry. Management from downstream to upstream of the supply chain is carried out to increase the smooth flow of supply chain pipes, improve service quality, and produce efficient and effective products. It depends on where we will focus on managing this supply

chain. But now, we are discussing implementing supply chain management in tourism services. How Tourism Service Supply Chain Management is implemented in the field.

Then, what if we do it in a modern way? What are its characteristics, and how can the decision-making system model improve the performance of tourism supply chain management in a more modern direction?

The author tries to describe the decision-making system model in carrying out the characteristics of modern tourism supply chain management. The researcher tries to test the validity of the decision-making system model in an SEM (Structural Equation Model) test tool using the AMOS Application.

This research aims to design a decision-making system model for implementing tourism supply chain management and conduct validity tests of a tourism supply chain management decision-making system model.

The scope of this research will be carried out and applied in Indonesia, a country that wishes to advance its income in the tourism sector.

.This research's limitation is that it only uses the AMOS application SEM method to test the validity of the TSCM Implementation Decision-Making System Model in Indonesia.

LITERATURE REVIEW

The tourism supply chain was explored as a new topic involving Richard Tapper from the Environment Business & Development Group and Leeds Metropolitan University. Xavier Font, Leeds Metropolitan University, has provided further information. The case studies presented herein exemplify various supply chain initiatives for illustrative reasons only. The groups have supplied the material; nevertheless, it remains unverified in the field and does not encompass the complete scope of their activities. The consultants neither approve the activities nor ensure the sustainability and correctness of the arguments. Richard and Xavier (2004). A recent research agenda characterizes a tourism supply chain (TSC) as a network of tourism entities involved in activities that encompass the provision of various components of tourism products/services, including flights and accommodations, as well as the distribution and marketing of the final tourism product at a designated tourism destination, engaging a diverse array of stakeholders from both the private and public sectors.

Validation is required to substantiate the suggested STSCM Framework Model above. Is the proposal deemed valid? We opted to employ the Structural Equation Model (SEM) methodology utilizing the AMOS application to validate the Framework Model. Structural Equation Modeling (SEM) is a multivariate analytical method used to clarify concurrent linear relationships between observable variables (indicators) and unobservable variables (latent variables) (Prihandini & Sunaryo, 2011).

Structural Equation Modeling (SEM) is a multivariate analytical method developed to address the limitations of earlier statistical models. These models include regression analysis, route analysis, and confirmatory factor analysis (Hox & Bechger, 1998). Bollen (2011), referenced by Latan (2013: 5), characterizes SEM as a set of equations illustrating the interrelations of latent variables, observable variables, and error variables. Structural Equation Modeling (SEM) can be utilized to tackle many research questions through systematic and thorough investigation. According to Ramadiani (2010), SEM stands for structural equation modeling. The equation model is a structural equation model of generation, utilizing multivariate analysis tools that allow the researcher to examine the relationships between complicated variables, both recursive and nonrecursive, to achieve a thorough understanding of the model.

Ghozali and Fuad (2008: 3) characterize a structural equation model (Structural Equation Modelling) as a second-generation multivariate analytical technique (Bagozzi & Fornell, 1982) that facilitates the examination of relationships among intricate variables, both recursive and nonrecursive, to achieve a holistic understanding of the entire model. Two primary variables exist in SEM, among others:

Latent Variable

Ghozali (2004: 12) characterizes Latent Variables as abstract psychological entities encompassing attitude and intellect. This latent variable is essential in Structural Equation Modeling (SEM). The behavior of latent variables can be inadequately assessed through their effects on indicator or manifest variables. Latent variables are classified into exogenous variables (independent) and endogenous variables (dependent). The two variables are differentiated by their role as the dependent or independent variable in an equation model. Exogenous variables are denoted by letters.

Greek is denoted by "ksi," and endogenous variables are represented by "eta." The exogenous variable is shown graphically as the target line with two arrows or a

correlation/covariance connection, whilst the endogenous variables are depicted as the target of at least one arrow or a regression relationship.

Observed Variable

The observable variable is a conceptual abstraction that may be measured directly. Direct inflation can be measured using consumer price index data, while business performance can be evaluated directly through profit. Within the SEM calculation framework, there are two distinct sorts of models:

Structural Framework

The structural model consists of a sequence of interactions among variables that can be considered linear. However, future developments allow for the incorporation of non-linear equations. A line with an arrowhead in graphical representation depicts regression relationships, represented by the Greek symbol " γ " for the regression of exogenous variables to endogenous variables and " β " for the regression between two endogenous variables. In contrast, the line with two arrowheads indicates the correlation or covariance relationship, denoted by the Greek letter " ϕ " for the correlation among exogenous variables. This model possesses predictive validity.

Measurement Models

The measurement model is a component of a Structural Equation Modeling (SEM) framework, often associated with latent variables and their indicators. The connection of this model is determined by confirmatory factor analysis (CFA), which investigates the unobserved covariance between each pair of potential variables. This measurement model is evaluated for measurement invariance, similar to other SEM models. The analytical process can advance only if the model represents a genuine measurement. This model has convergent validity.

METHOD

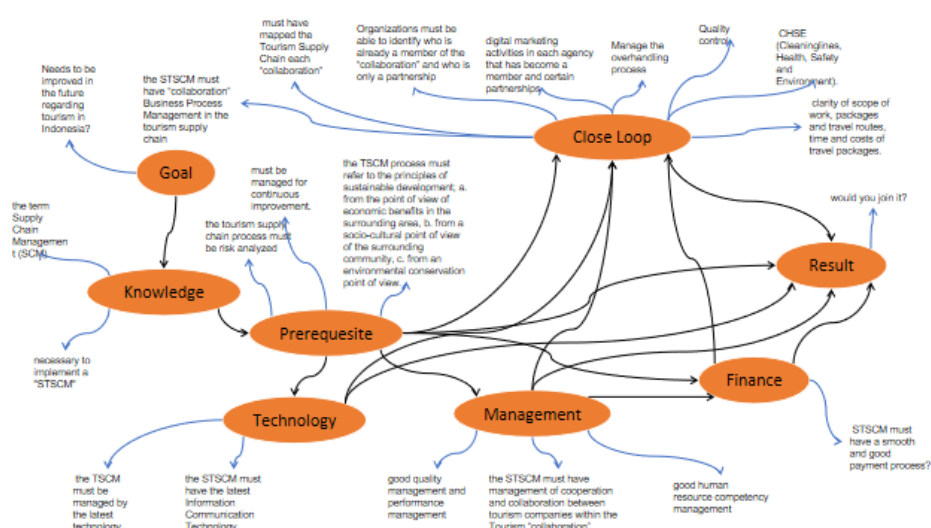
In this study, the authors tried to use the research methodology as follows: 1. Determine the title and research objectives, 2. Create an overview of the research in an abstract narrative, 3. Conduct a Literature Review on several topics related to the keywords in the abstract; 4. Make research stages in which the methodology is determined beforehand; 5. Conduct FGD to discover the Decision Making System Model in implementing TSCM.6. Make SEM Model Design Forms.7. Entering data into the AMOS application. 8. Re-test the results of the AMOS application to optimal results. 9. Optimal Reconstruction of the SEM

Model Design. 10. Arrange questions to be carried out in Survey, 10 and collect survey data. 11. Enter data from survey results. 12. Report on survey results based on SEM model tests through the AMOS application.

DISCUSSION

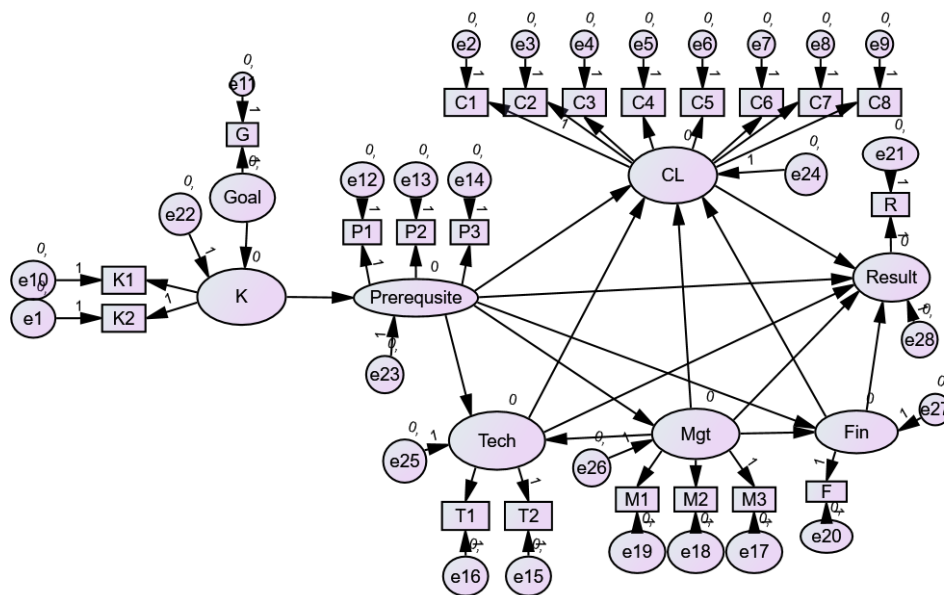
Validation is required to substantiate the suggested STSCM Framework Model mentioned above. Is the proposal deemed valid? We used the Structural Equation Model (SEM) method with the AMOS application to validate the Framework Model above. The diagram below depicts the interconnections and decision-making processes involved in developing the Framework Model of Sustainable Supply Chain Management. The image below presents a summary of the survey questions posed to respondents. This mind map will be converted into a Structural Equation Model, prepared for integration into the SEM-AMOS tool.

The AMOS program is utilized to validate the accuracy of the model system or pattern. Upon completion of validation, the model will undergo further refinement until it attains a valid state, typically by eliminating certain variables that may include erroneous data. It comprises one independent variable and seven dependent variables. Commence with Variable Goals as the initial Indicators, proceed with Knowledge, and thereafter address other variables including Prerequisite, Technology, Closed Loop, Finance, Management, culminating with Results.



Source: Research Data

Figure 1. Structural Model and Confirmatory Factor Analysis (CFA) in SEM (Structural Equation Modeling) Methodology



Source: Research Data

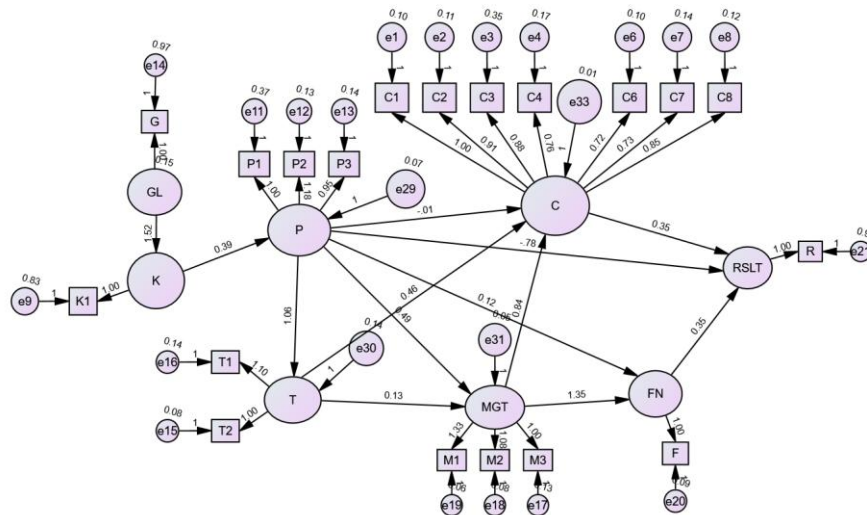
Figure 2. Propose STSCM Structural Equation Model 1

But after looking back at all the numbers, especially at each Indicator value, there are still some that have negative values, such as e10 and e32, with each value $e10 = -0.04$ and $e32 = -0.08$, so we will subtract e10 and e32 again. Then, the SEM-AMOS simulation results are as follows.

There are a few changes through the AMOS application, and the negative correlation is as follows:

1. P with CL with a value of -0.01
2. P with RSLT with a value of -0.78

What is missing from the negative values above is P with FN. so the negative ones are P vs CL and P vs RSLT, as shown in the following figure.



Source: Research Data

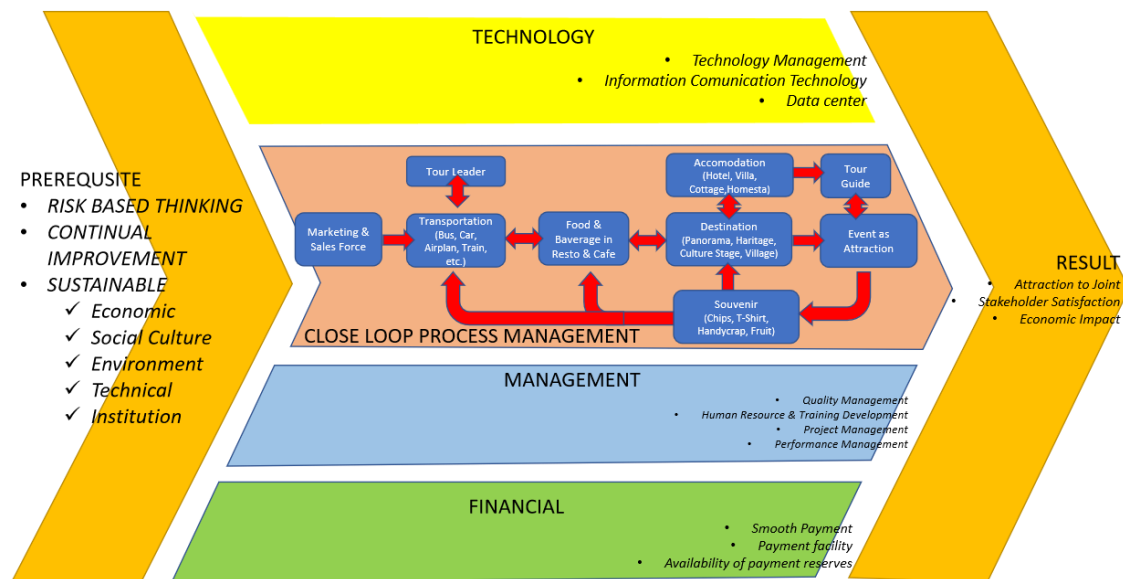
Figure 3. Propose The Final STSCM Structural Equation Model

DESIGN RESULTS

The last STSCM Framework Model is the final result of the proposed Framework Model from STSCM (Sustainable Tourism Supply Chain Management). The next step is to reformulate it as a New Formula Framework Model, as described below.

The STSCM Framework Model is divided into several parts: 1. Prerequisite, 2. Technology, 3. Closed Loop Process, 4. Management, 5. Financial, 6. Results

Below is an image of the complete STSCM Framework Model. The following is an explanation per part, as in the explanation below:



Source: Research Data

Figure 4. The Final Propose STSCM Framework Model

CONCLUSION

The conclusion from the results of this study is that the development of the STSCM application design in Indonesia should provide a significant solution to improving the economy in the tourism sector. For this reason, we recommend that this be followed up on the STSCM Application Development in Indonesia.

Acknowledgement:

We want to thank our associates in the field of tourism in Indonesia who constantly strive to improve tourism in their respective regions. We also want to thank you for the guidance given to me while writing this research and paper. We are very open to receiving suggestions and criticism for writing this paper, and it can be improved in the future in deeper research.

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