

A Summary and Classification of Logistics Hub Research

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Summary: The purpose of this paper is to provide a summary of the existing literature available and a breakdown of the articles that have been published by periodical, year of publication, and methodology used. An analysis of the periodicals from which articles have been obtained per 5-year period, as well as a breakdown of the research methods used within each article has also been provided. It was found that little research has been conducted on the ASEAN region, so this is a good opportunity to expand the research area of logistic hub.

Introduction

Much research has been done within the field of logistics hubs and ports-as-hubs, yet these works, while available, and have not been catalogued. The research currently exists and can be accessed in an ad-hoc manner. The reviewed research papers are aggregated in this document with references provided for future research. The purpose of this paper is to review, provide a summary of research that has been performed in the field of logistics hubs and ports-as-hubs, as well as to recommend areas of further research.

To complete this paper, a review of existing logistics hub and ports-as-hubs literature was performed. Articles were noted for the periodical from which they were obtained, the year of publication, and the methodology or methodologies used in completing the study. Each study was

classified as a “Port-as-a-Hub”-related study, or a “Hub”-related study, and within the appropriate 5-year period in which it was published. The periodical from which the article was obtained was also noted.

The quantity of articles from each periodical per 5-year period, along with a tally of the number of articles found from periodical, and for the number of articles obtained during a given 5-year time period.

The Analysis and Results provides graphical representations of the information found through this research. The Conclusion summarizes the work performed in this paper and suggests areas for further research.

Research & Analysis

Analysis of the research papers reviewed and it was noted that there is a growing interest in the area of logistics hub research has been noted through the gradual increase in volume of published article in the field, as depicted in Figure 1, “Article Publication Trend by 5-Year Period”.

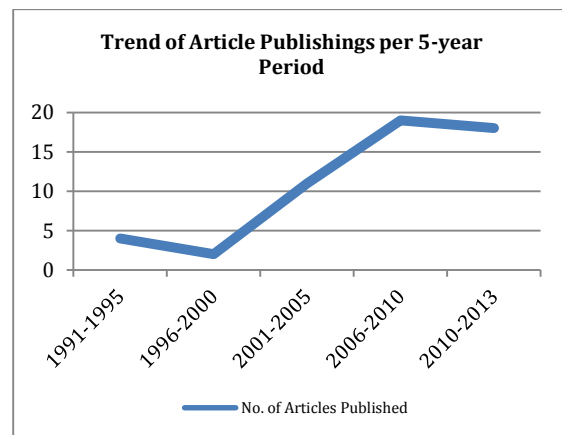


Figure 1: Article Publication Trend by 5-Year Period

In all 54 articles reviewed, it was noted that in the papers reviewed, the modeling research method was most popular, having been used 59% of the time. This is

depicted in the pie graph shown in Figure 2, “Percentage Breakdown of Research Methods Noted in Articles Reviewed”.

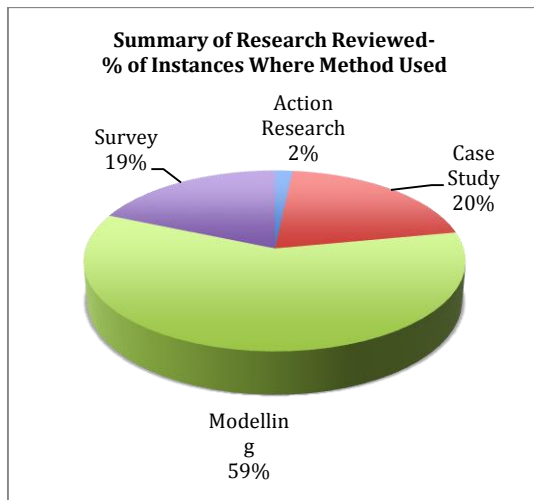


Figure 2: Percentage Breakdown of Research Methods Noted in Articles Reviewed

Within the Port-as-a-Hub-Related Research sub-category, a total of 43 research methods were noted to be in use in the papers reviewed. It was also noted that in the greatest proportion of papers, 51%, the modeling research method was used to perform the study, as depicted in the pie graph shown in Figure 3, “Percentage of Port-as-a-Hub-Related Research by Methodology”.

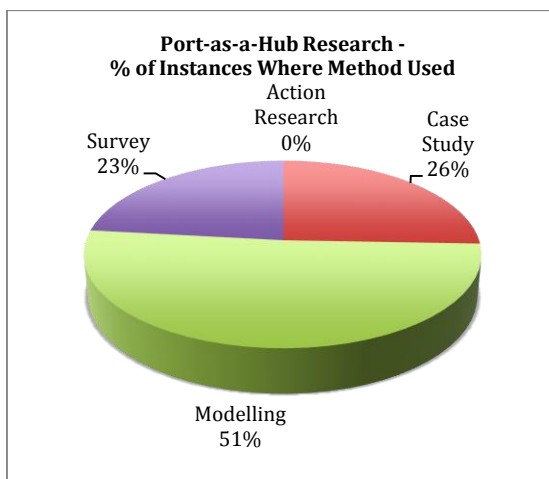


Figure 3: Percentage of Port-as-a-Hub-Related Research by Methodology

Within the Hub-Related Research sub-category, a total of 16 research methods were noted to be in use in the papers reviewed. It was also noted that in the greatest proportion of papers, 81%, the modeling research method was used to perform the study, as depicted in the pie graph shown in Figure 4, “Percentage of Hub-Related Research by Methodology”.

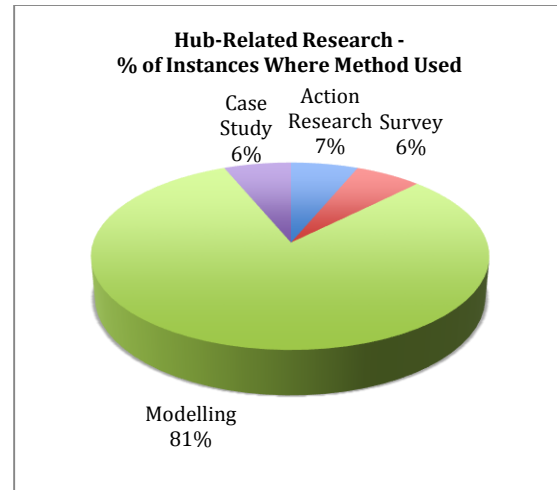


Figure 4: Percentage of Hub-Related Research by Methodology

Conclusion

Much research had been done in several areas within the field of logistics hubs with respect to ports-as-hubs and hubs, which had not been catalogued. Existing research is available but could only be accessed in an ad-hoc manner. As a result, this paper aggregated in this document several other papers pertaining this area of research.

The periodicals containing each article were listed and the 5-year period in which the article was published. The articles were classified as pertaining to either “Port-as-a-hub”- or “Hub”-related research. The methodology or methodologies that were used while completing the research in the article were noted.

The findings of this research showed that of the 54 articles that were reviewed, it was noted that there was a noticeable upward trend in the volume of available material concerning the area of logistics hub and port research. From 1996 to 2010, the volume of research grew during each period to a peak of 18 during the period from 2006 to 2010. In the period beginning from 2010 to the present day, there was a slight decrease in the number of articles published, however it is worth noting that this period contains only three years. The period is not yet complete, so it is reasonable to believe that the upward trend will continue, especially as the attention given to the field grows.

Among periodicals reviewed to obtain relevant literature, *Transportation Research: Part A* was the most active publication, as it provided the greatest number of articles, 7, which were reviewed for this study. Following closely were other publications, *European Journal of Operational Research*, *Transportation Research Part E*, *Research in Transportation Economics*, *The Asian Journal of Shipping and Logistics*, *Computers & Operations Research*, and *Journal of Transport Geography*. These periodicals show that they can be relied upon to provide relevant information regarding the field of logistics hub and port-as-hubs research.

Within the 54 articles reviewed, it was noted that the modeling method was utilized 59% of the time, the case study method 20% of the time, the survey method 19% of the time, and the action research method 2% of the time. Among the methodologies used in the articles that were classified as pertaining to hubs, 81% utilized the modeling method, 7% the

action research method, 6% the case study method, and 6% the survey method.

Given the rapid changes in the ASEAN region, there remains an opportunity for new geographic locations to establish future hubs and ports-as-hubs. Consequently, research into future locations could add value to shipping lines that might look for alternative routes in order to reduce transportation costs in light of the ever-rising prices in popular cities, like Singapore.

Additionally, much of the existing literature is comprised of studies on European and East Asian ports. Among East Asian ports, Busan, Shanghai, Hong Kong, Singapore, and Kaohsiung were the ports most commonly written about. Besides Singapore, the research on ports in the ASEAN region has been largely neglected, so the field would greatly benefit from similar studies that have been done regarding other parts of the world that have been highlighted in this paper, but that focus on the ASEAN countries.

Finally, the majority of studies have been completed using the modeling methodology. It might be worth exploring whether new insights in the field of logistics hub and port-as-a-hub research if other methodologies were used. Given that only one study utilized the action research method, it might seem unfeasible for action to research to be employed in most studies. However, perhaps the case study and survey method could be used in future studies.

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