



Contents lists available at ScienceDirect

Polar Science

journal homepage: <http://ees.elsevier.com/polar/>

Interest of Asian shipping companies in navigating the Arctic

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ARTICLE INFO

Article history:

Received 28 October 2015

Received in revised form

21 March 2016

Accepted 7 April 2016

Available online xxx

Keywords:

Arctic

Shipping

Asia

Shipping companies

Climate change

ABSTRACT

Climate change in the Arctic is leading to the fast recession of sea ice in the summer. This evolution leads several observers, scientists, media and government officials, to consider the possibility of developing new shipping routes along Arctic routes, as these routes are much shorter between Europe and Asia. The literature displays a strong discourse about interest from Asian countries for these potential shipping routes. This paper tackles with this idea and examines to what extent Asian shipping companies, the ultimate economic agents, are really interested in Arctic shipping routes. The image the research portrayed is that only a minority of Asian shipping companies are indeed interested, and those that are interested stress the destination dimension of Arctic shipping, not transit shipping.

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1. Introduction

The impact of climate change on melting Arctic sea ice has been widely discussed in the scientific literature, but also in the media. It has triggered debates among scholars, government officials and journalists about the potential development of commercial shipping in the Arctic, in particular along the fabled Northwest and Northeast Passages, which offer much shorter distances between Europe and Asia than the classical itineraries through Panama or Suez and Malacca. In the frame of climate change, sea ice conditions are changing and the length of the navigable season, depending on the vessel ice class, is expected to increase (Stephenson et al., 2014). These debates often turned to dramatic reports or assertions about the oncoming surge in commercial traffic in the Arctic: for instance, Yang Huigen, of the Polar Research Institute of China, predicted that 5–15% of China's international trade would use the NSR by 2020 (The Economist, 2014). Jong-Deog Kim, head of the Polar Policy Research Center at the Korean Maritime Institute in Seoul, predicted that traffic between Europe and Asia along the Northern Sea Route would grow by 6.5 percent a year and could potentially account for a quarter of all cargo traffic by 2030 (Reuters, 2013). Didier Schmitt estimated (Schmitt, 2014) that by 2030, the proportion of

global traffic that will pass through [the Northern Sea Route] would be 15%. These estimates may seem optimistic given the discrepancy between the order of magnitudes of the maritime routes: the Northwest Passage saw only one commercial transit per year between 2012 and 2014, and zero in 2015 (Nordreg, 2015). For the Northern Sea Route, administrative transits are as follow: 4 in 2010, 34 in 2011; 46 in 2012; 71 in 2013; 31 in 2014 and 22 in 2015 (NSRA, 2016). These figures underline the interest for the NSR is greater, partly because Russia offers services for transiting ships; partly because natural resources projects, like the Yamal Project, are much more developed than in the maritime Canadian Arctic. By comparison, in 2014, 17,148 ships crossed the Suez Canal; 11956 ships crossed the Panama Canal; 79,344 vessels transited the Malacca Strait (Guy and Lasserre, 2016).

Beyond the scientific issue regarding the likelihood of commercial shipping developing in Arctic waters, the prospect of a fast-developing traffic along Arctic routes is at the very heart of an ongoing debate on security in the Canadian and Russian Arctic, for it raises the issue of control of such navigation, and therefore of the Canadian-claimed and Russian-claimed sovereignty over their respective Arctic passages; claims that remain challenged by the United States and the European Union. Similarly, these debates rest on the idea potential routes are shorter, which is usually true (it depends on the origin and destination, see Lasserre, 2014) but also depends on the amount of drifting ice that is present: a dense pack

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may force a ship to change course several times to avoid ice. Many shorter routes will be affected in the Arctic by lower ship speeds.

Asian shipping companies were often depicted among the media and scientists as among the most likely to be interested in Arctic shipping (Borgerson, 2008; Spears, 2009; Hong, 2014; Stokke, 2014), because of the strong dependence on maritime trade of Asian economies like Japan, South Korea or China, both for their raw material imports as well as for their manufactured goods exports. Shorter Arctic routes would therefore likely be of interest to them, an image depicted notably through the quotations above. However, if the governments of these Asian countries did express interest for Arctic natural resources and potential sea routes (Jakobson, 2010; Jakobson and Peng, 2012; Blunden, 2012; Solli et al., 2013; Jakobson and Lee, 2013; Stokke, 2014; Huang and Lasserre, 2014), to what extent is this vision shared by Asian shipping companies? In other words, is the commercial strategy of Asian shipping companies consistent with this widespread discourse on Asian interest for Arctic seaways? This paper will examine the results of a survey conducted with 72 Asian shipping companies so as to try and assess their interest for Arctic shipping. It turns out few shipping companies are really interested in the Arctic market; those that are interested are mainly focusing on the natural resource exploitation submarket.

2. Shipping companies survey – methodology

2.1. An empirical and comparative survey in four steps

Our approach is a qualitative analysis based on the triangulation described by Webb et al (Webb et al., 1966), and completed by authors like Arksey and Knight (1999), Bertrand et al. (2007), Creswell (2007) and Lejeune (2014). We designed our survey in a way that allowed us to combine the questionnaire method, sent by email, and the phone interview method in order to gather more information, more descriptions about the positioning of the shipping companies on the Arctic market, and in order to limit the drawing of wrong or biased conclusions. We coupled these two methods with a series of observations ensuing from the collection of collateral data (ice-class ships, composition of the fleets... etc.) and the results obtained with the European companies so as to make sure the coding process was thorough and that we did not forget any major keyword.

We divided our work into four phases. During the first phase, we designed a short questionnaire (9 questions) using similar topics to the first survey published in 2011 (Lasserre and Pelletier, 2011) for comparison sake, and we added new topics about risks and monitoring systems. The objective was to have the companies detail their views on the challenges, opportunities presented by Arctic routes and how they position themselves regarding this market. Following this, we gathered from the companies' websites all the data available on their fleets, in particular, information on their ice-class ships (if applicable), and their major traffic. Then we tried to find the most appropriate contacts to send the survey to and/or to call. The fourth and last phase was dedicated to analyzing the replies based on a broad set of keywords and the occurrence of those keywords in the responses of each company and question. Most of our questions are open-ended, hence providing qualitative data from which we tried to measure the results from our sample and represent it in charts.

As the three first stages of the survey are very straightforward, we will focus on the last step: the analysis of the answers.

2.2. Text analysis: categorizing, coding and filtering

We opted for a classical qualitative analysis process. Our first

step was to create to create a database of information related to the shipping company (name, country, and major type of traffic), and including the data extracted from the answers we received (coding process). The second stage of the data processing was to extract systematically, and in an exhaustive way, the indicators that would allow us to compare between shipping companies, to determine trends and to analyze the level of knowledge and interest the shipping companies have on the Arctic shipping market; here, we use the terms indicators and keywords interchangeably. For each answer given we extracted keywords and coded them with a simple coefficient: 0 for no answer and 1 when the keywords were present in the survey response. There were some main categories such as ice or weather, for which we detailed the indicators when possible. For example, question 4 of our survey was dedicated to the risks and one of the main categories was "ice". We detailed the topic with sub-categories such as drifting ice, multi-year ice, ice ridges, growlers, etc.

Going through the responses one-by-one we generated a list of keywords, then reassessed each response to quantify the presence of each keyword.

Once we finished categorizing and coding the responses we applied filters to cross the information we extracted from each answer. For example, we looked only at the container companies and the operational challenges they think they will meet in the Arctic. A cross tabulation is also possible in order to compare, for example, the strategies of companies specialized in container traffic with the companies which are specialized in bulk.

For each indicator we aggregated the results using absolute values and percentages. Then we used bar charts and frequency tables to visualize our results; both are very common methods.

2.3. The collected sample

In 2011, Lasserre and Pelletier published a first analysis of the shipping industry's views on Arctic shipping after conducting a survey with 142 shipping companies from the Northern hemisphere; 98 answers were compiled. We used the database used in 2011 as it enables this survey to offer a follow-up on the possible changes of strategies by shipping companies; we extended the database through professional lists of Asian shipping companies (Lloyds, Drewry, Maritime Professional, Clarkson, Japan Shipping Exchange).

For this survey, 95 Asian shipping companies were contacted; 72 answered: 27 from China, 20 from Japan, 11 from South Korea, six from Singapore, four from Taiwan, one from Indonesia, Singapore/Japan, Vietnam, and one joint venture from China/Poland (see the list in Appendix 1). This empirical comparative study, with a set of nine questions (Appendix 2), is only focusing on commercial shipping; the sample does not include fishing or cruise companies.

Of the 72 companies that replied to the survey, 99% are not commercially active in the Arctic; one said it is offering occasional services, but in fact made only one test run in 2013. Only five companies (7% of our sample) are planning on developing their services in the Arctic; eight are looking at the market, reassessing the potential and waiting to see. 58 companies (82%) are definitely not interested in the Arctic mostly because "it is not their business", because "the ratio of investments to gains is too low", or because the market is considered too small.

3. Results by questions

Q1. Commercial potential of the Arctic

Q1.1. General views from the companies

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