Typology and Models of Cruise Travellers’ Consumption in Coastal Tourist Destinations

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Joanna Kizielewicz

Abstract:

Purpose: The aim of this study is to identify the typology of cruise travellers taking into account the consumer behaviour in the coastal destinations related to various functions performed on the cruise tourism market, and also to present models of consumption and mathematical formulas which allow to estimate the total travellers’ spending. The research questions are as follows: 1) What are the types of consumers on the cruising market? 2) What are the types of cruise tourist destinations (CTD)? 3) What functions are performed by cruise travellers in various CTD? 4) How can we calculate the cruise travellers’ total expenditures?

Design/Methodology/Approach: The research methods applied are literature review, exploration method of data, desk research and comparative analysis.

Findings: The study showed a gap in consumer consumption on cruising market regarding cruise travellers’ expenditures incurred before and after a cruise voyage. This makes it difficult to estimate the total cruise travellers’ expenditures connected with an idea of “cruise voyage”. This also obviously has an impact on the difficulties in estimating revenues from cruise travels not only for travellers’ places of residence but also for the reception areas. Furthermore, there is still insufficient data on cruise travellers’ expenditures on board cruise ships which are not included in a tourist package. Analyses indicate that cruise travellers bear much more higher costs related to their cruise voyage, than they expected or were unaware of it.

Practical Implications: The results of the foregoing may constitute an interesting source of information for tour-operators, cruise companies and local authorities in coastal tourist destinations

Originality/Value: The review of the most important publications on consumption related to services and consumption modelling, including publications on the tourist market, has showed that there is a gap in literature when it comes to theoretical models of consumption and typology of tourists on the cruise tourism market. The knowledge of consumption models is important in assessment of economic effects generated from tourist service in coastal regions.

Keywords: Tour-operators, cruise companies and local authorities in coastal tourist destinations.

JEL codes: M21, L99, L83, C38.

Paper type: Research study.

1Gdynia Maritime University, Faculty of Entrepreneurship & Quality Science, Poland, ORCID: 0000-0001-7415-9928, e-mail: j.kizielewicz@wpit.umin.edu.pl
1. Introduction

Recently, the market of cruise ship tourism services has become the subject of numerous scientific studies, which results from its dynamic development we can observe in the last decade. UNWTO provides that the cruising market annual average growth rate amounts to 7%, whereas the growth rate of other segments of tourist market totals 4% annually. According to Cruise Line International Association (CLIA 2019c) in 2019, 30 million passengers will take part in cruise ship travels, taking advantage of the offer from 272 cruise ships, and the forecast till 2025 indicates that this number is going to increase up to 36,3 million passengers (CLIA 2019a). Today, the value of this market, according to CLIA (2019c) is estimated at 134 billion USD, generating 108,676 workplaces. In the face of this situation, it is hardly surprising that this segment of the market is sparking such interest.

The academic achievement in analysing models of consumer behaviour on the tourist market is extraordinary, however in the source literature still little attention is paid to the analysis of phenomena related to the consumption models on the cruise ship tourism market (Parola et al., 2014), including the functions performed by various reception areas.

The main aim of this study is to identify the typology of cruise ship travellers considering the consumer behaviour in the cruise tourist destination playing various roles on the cruise tourism market. The additional aim is to present chosen models of consumption and mathematical formulas which can be useful for estimating the total cruise travellers’ expenditures. Moreover, in the study, the following research questions have been raised:

1) What are the types of consumers on the cruising market?
2) What are the types of cruise tourist destinations?
3) What functions are performed by cruise travellers in various CTD?
4) What is the basket of goods and services purchased by cruise travellers in various CTD?
5) How can we calculate the cruise travellers’ total expenditures?

After analysing the available source literature, research hypothesis H has been formulated, providing that the cruise travellers’ total expenditures are still undervalued due to gaps in research at numerous stages of the consumption process.

2. Theory and Literature Review

2.1 Review of Research Studies in Cruise Tourism

The analysis of the previous scientific achievements regarding cruising market studies proves that the market is a subject to thorough social and economic analyses. The researchers analyse the development of tourist market in this segment of cruising
(Deloitte 2018; FCCA 2019; Honey and Krantz, 2007; Delener, 2010), factors that determine its development (Madsen et al., 2018; Duman and Mattila, 2005), structure of tourist demand for cruise travels (CLIA 2019b; Kizielewicz, 2018), impact of cruising on the social and economic development of coastal regions (Vayá et al., 2016; Brida et al., 2008; FCCA, 2018a; Braun et al., 2002; MacNeill and Wozniak, 2018; Dwyer and Forsyth, 1998) impact of cruising on the social and economic development of coastal regions (Butt, 2007; Johnson, 2002), Other studies are dedicated to maritime accidents, terrorist threats at sea (Pete, 2018; Boven, 2014) and the labour market at sea and HR policy (Kizielewicz, 2017; Thalassinos et al., 2011).

Furthermore, the researchers analyse the operations of seaports and their preparation to handle cruise ships (Butt, 2007; McCarthy, 2006), but on the other hand, they analyse the activities of cruise ship owners looking at their investment policy and development strategies and CSR policy (Polat, 2015; Deloitte 2018; Graćan, 2016; Wilson, 2012; Szelağowska-Rudzka, 2016; Grosbois, 2016) and marketing activities (Bengtsson, 2014, Penco et al., 2017, Óskarsson and Georgsdóttir, 2017), as well as legal regulations regarding work on the sea (Skrzeszewska, 2017).

The majority of consumer studies on the cruising market refers to analyse the structure of the market by age, gender, origin, social and financial status (Sciozzi et al., 2015; Astralasia, 2015; Kizielewicz, 2017) as well as the needs and motivation to travel (Hung and Petrick: 2011; Elliot and Choi, 2011; Andriotis and Agiomirgianakis, 2010; Jones, 2011). A large number of studies refer to consumer behaviour on the cruising market (Cantis, 2016; Mazilu and Mitroi, 2010; Roszkowska–Hołysz, 2013; Liz, 2018). In the previous studies on the consumption the main area of interest among researchers refers to several thematic areas. The studies focus on the consumer needs and expectations related to various consumer goods and services offered on the market (Semeniuka et al., 2009). Moreover, the research comprises factors the consumers consider upon choosing particular goods and services (Petrick, 2005; Jones, 2011).

Other research studies also involve the process of decision making, on the part of consumers, regarding the purchase of particular goods or services, and factors stimulating or hindering this process (Petrick et al., 2007). And finally, the research focuses on analysing the purchase process and the related customers’ feelings, the feeling of satisfaction or no satisfaction among customers after purchasing the consumption goods and/or services (Petric, 2004; McBaker, 2014; Sanz-Blaz et al., 2017). In conclusion, the analysis involves mainly the process starting from the stimulus affecting the consumer needs, the choice of goods or services up to the purchase, including the related feelings. Unfortunately, there is still insufficient research on the process of consumption from the purchase of goods and/or services, and the related additional activities undertaken by consumers and incurred expenditure.

The purchase of goods and/or services by consumers constitutes, time after time, the stimulus to take further purchase decisions because of the specificity of a product or
intention to improve it by consumers. The consumption of goods/services, depending on their type and character, is also spread over time, which translates into total expenditure incurred by a consumer, which the consumers are often unaware of while taking the purchase decision. The perfect example involves tourist services, and in particular services offered on the cruising market.

The source literature provides numerous consumption models such as e.g., “Black Box” model which enables observing the consumers’ relation to stimuli (Nowak, 1995), structural model (Bettman, 1979), presenting the consumers’ decision-making process as a conscious sequence of events involving the data analysis. Model Nicosii (1966) describing the consumers’ reactions to marketing activities, Howard and Sheth model (1969), indicating the rationality of consumers’ behaviour on the market, upon taking the decision, or for example the Engel, Kollat, Blackwell model (Engel et al., 1968) indicating the conditions and their impact on the consumer behaviour (Mowen, 1993). Yet another model has gained popularity, namely the TOTE (Test-Operate-Test-Exit) model describing the inquisitiveness in consumer behaviour related to searching for information on the product before taking a decision to purchase it (Światowy, 2016).

Certainly, the above-mentioned list of models presents only selected examples available in the source literature. Unfortunately, they refer to various stages of the consumption and consumer behaviour process observed on the market. All of these consumption models neglect the fundamental issues, i.e., the duration of consumption process, expenditure incurred in relation to the purchase of goods or services both before and after the purchase which would not have occurred, if the purchase of goods or services had not been done. Furthermore the series of actions taken by the consumers after the purchase which are not related to post-purchase feelings, but the need to perform a number of activities to be able to consume the purchased goods or services, in this case the tourist offer. Moreover, it should be underlined that the consumption on the tourist market is specific and must be analysed separately from the consumption and consumer behaviour related to other goods and services.

We know the models of tourist consumption systems, developed by Woodside and Dubelaar (2002), Woodside and MacDonald (1993) and Woodside and King, (2001) but unfortunately they fail to take into account the specificity of cruising market and CTD depending on economic functions they perform on the cruising market. Moreover, the models neglect the complexity of goods and services consumption process related to various types of consumers on the tourist market, and the duration of this process, as well as rational and irrational issues, and necessary and redundant expenditures incurred by the consumers.

The knowledge on consumer behaviour in various tourist reception areas constitutes grounds for providing consumer typology and enables defining the basket of potential goods and services they purchase in the whole consumption process.
2.2 Research Studies on the Typology of Cruise Travellers

In the source literature, many authors propose various typologies of consumers on the cruising market by applying different criteria. The most popular consumer typology is based on the criterion of motives behind travelling. Under this criterion we can differentiate drifters, pilgrims, partygoers, explorers, etc., (Kizielewicz and Urbanyi-Popiołek, 2015). Cohen provided four categories of tourists, organized mass tourist, individual mass tourist, explorer, and drifter (Panasiuk, 2005) whereas McMinn and Cater (1998) provided three main types of tourists, indicating their positive and negative impact on the development of local destinations, developer-tourist, condo-tourist and itinerant-tourist.

Travellers are divided into focused on historic achievements, “party-goers”, “Shirley Valentine” type (i.e., girlfriends on holidays looking for romance), sun loving tourists, “Lord Byron” type (i.e., tourist always visiting the same place) (Panasiuk, 2005). Teye and Paris (2011) provided five types of consumers on the cruising market, i.e., (1) travellers taking part only in the voyage and enjoying only the activities offered on board of cruise ships, uninterested in visiting seaside towns, (2) travellers visiting cruise destinations as per the itinerary, (3) travellers keen on relaxation and respite while cruising, (4) travellers looking for new acquaintances and friends actively enjoying the entertainment activities offered on board of cruise ships, (6) travellers (sunny) looking for sun and sun bathing in the warm climate.

Cruise Market Watch (Cruise Market Watch, 2019) applies a number of variables that predict cruise behaviour, and they replace the following segments of tourists: explorers (exotic cruises and cultural learning cruises), admirals (a good, loyal customer seeking a traditional experience), marines (motivated and active young professionals, intellectually curious, media-involved), little mermaids (upper middle class families, looking to maximize leisure activity), escapers doing nothing and relaxing, souvenirs (looking for a really good deal). Whereas CLIA, conducting regular analyses of the cruising market, divided cruise ship travellers with regard to their age into four main groups, i.e., Gen Y/Millennial 1982-1998, Gen X 1967-1981, Baby Boomers 1948-1966, and Traditionalists 1917-1947 (CLIA 2017).

Certainly, the typology is not exhaustive and certainly, on cruise ships there are travellers whose motives to travel are completely different from these mentioned above. In the source literature, most of the traveller classifications are provided based on demographic features and with regard to their preferences, needs, interests and financial status.

Although the reports by CLIA and FCCA include information on travellers’ expenditure in various cruise destinations, there are still insufficient reports describing functions performed in various seaside destinations by cruise ship travellers, which exerts significant impact on their purchasing behaviour and the basket of purchased goods and services. It should be underlined that the same traveller may take different
roles depending on the stage of travel and destination at a particular moment of a travel, and it exerts a very significant impact on the traveller’s consumption behaviour, and consequently, on the structure of expenditure. Due to CLIA Report (2020) an average passenger usually spends 376 US dollars in port city before boarding the cruise, and 101 US dollars – in a port during a cruise.

Coastal regions perform different functions in handling cruise ship tourism (Figure 1), which is dependent on physical and geographical conditions, location of the region relative to shipping routes, status of hydrotechnical facilities and status of port infrastructure, and most importantly, the attractiveness of seaport environment. Considering all these factors, we can differentiate three basic Cruise Tourist Destination (CTD), e.g., CTD Type I – home ports, CTD Type II – ports of call and CTD Type III – incoming ports (Kizielewicz, 2017).

A consumer of type I plays three roles, it means she/he is a resident of CTD type I (home port) and when she/he visits CTD type II (ports of call) plays the role of an excursionist, and in CTD type III (incoming port) – a ship’s passenger. Meanwhile, a consumer of type II is usually a traveller who is mainly a one-day visitor (the so-called an excursionist), since she/he does not take any accommodation in coastal tourist destinations, and is accommodated only on the ship, whereas only in CTD type III. From the point of view of statistics, he/she is treated as a ship’s passenger. And in turn, a consumer of type III is a typical traveller who is a tourist, when he/she is accommodated in CTD type I before and after the voyage, an excursionist in CTD type II and ship’s passenger in CTD type III.

**Figure 1. Typology of consumers and their functions in the coastal tourist destinations**

We can also discuss which consumer group includes crew members and on board staff of cruise ships (Kizielewicz and Urbanyi-Popiołek, 2015). In many coastal
destinations the expenditures of that group of consumers constitute significant income for the producers and providers of goods and services. They should be considered as excursionists since in their free time they make use of the available services and purchase goods at local providers and producers in CTD.

2.3 Models of Consumption Process on Cruise Tourism Market

In research, still little attention is paid to issues related to the types of travellers regarding the roles they play in various coastal regions, and processes and model of consumption on the tourist market. The first attempts related to analysing the consumption process in tourism were undertaken by Woodside and King (2001). In their decision-making and consumption model they indicate that the consumers take decisions before starting the travel. Thus, they indicate that the consumption process starts before the travel begins and it has a significant impact on the whole travel and selection of particular activities during the travel (Woodside and Dubelaar, 2002) also proposed the Tourism Consumption System, referring to the consumer’s needs, decisions and behaviour before, during and after the travel.

However, it should be underlined that apart from the decisions on the purchase of tourist package, the consumers often incur costs related to the purchase of planned goods or services much earlier than the actual purchase of the preferred product, such as the costs of transport to the place of purchase, telecommunication fees related to consultations, experts’ recommendations, purchase of handbooks, commissions, etc. The phenomenon is frequently observed on the tourist service market where the travellers, before taking the decision, engage their time and financial resources to choose the type of travel, track social media information, and take advantage of experts’ recommendations. They purchase tourist guidebooks and trade press.

Whereas, after completing the travel, time after time, the consumers incur further costs unrelated to their satisfaction or no satisfaction with the participation in the travel, but resulting from the need to develop the photographs, repair the tourist equipment, visit the doctor due to health issues caused by the travel and other. The most important fact is that the consumers were not aware that the total cost related to project entitled “cruise ship voyage” would burden the family budget more than they had expected or realized. Unfortunately, in the above-mentioned model by Woodside and Dubelaar (2002), these aspects are not included.

Considering the above-mentioned assumptions, the process of tourist consumption is multi-stage; however, researchers have been arguing for years how many stages the process should include. Jafari (1987) listed as many as six stages of consumer behaviour on the tourist market, i.e., “initiation” (motivation and preparation for the voyage), “emancipation” (voyage to the place of destination), “excitement” (stay in the place of destination), “repatriation” (return), “personification” (consumer behaviour after the voyage) and the stage indicating the time of consumer’s absence at the place of residence. Whereas, Wodejko (1998) and Dziedzic (1998) listed five
stages of tourist consumption, i.e., preparation for the travel, voyage to the place of destination, stay in the tourist destination, return to the place of residence and summary of the travel. From the statistical point of view, the traveller performs various functions in CTD and it is influenced by the traveller's behaviour and the basket of purchased goods/services.

3. Methods of Estimation of Cruise Travellers’ Total Expenditures

To estimate the cruise travellers' total expenditures mathematical formulas, considering consumer expenses at different stages of tourism consumption process, were applied. Due to the limited restrictions regarding this manuscript only two consumption models have been chosen for simulation (the longest process, most expensive cruise voyage offer) and the most economical model (the shortest offer, the cheapest cruise voyage offer).

From the economic point of view, the most valuable consumer for CTD is the consumer performing the role of “tourists”, type III consumers since they spend more than 24 hours in the reception area and their basket of goods is very broad. They take advantage of available services, hotel accommodation, catering, transport, tourist, cultural and entertainment, sport and recreation, commercial services and other, thus generating the biggest income for tourism and hotel industry compared to CTD type II and CTD type III.

In order to calculate the traveller’s total expenditures in HCTE model (High Cruise Travellers’ Expenditures) we can apply the developed mathematical formula for estimating various stages of the consumption process related to travel from the moment of taking the purchase decision to the return to the traveller’s place of residence ICTE\textsubscript{T} formula (Kizielewicz, 2017) as follows:

\[ ICTE_T = \sum_{s=1}^{8} CTE_s = \sum_{k_{p1}=1}^{5} x_{k_{p1}} + \sum_{k_{p2}=1}^{5} x_{k_{p2}} + \sum_{k_{p3}=1}^{5} x_{k_{p3}} + \sum_{k_{p4}=1}^{5} x_{k_{p4}} + \sum_{k_{p5}=1}^{5} x_{k_{p5}} + \sum_{k_{p6}=1}^{5} x_{k_{p6}} + \sum_{k_{p7}=1}^{5} x_{k_{p7}} + \sum_{k_{p8}=1}^{5} x_{k_{p8}} \] (1)

where: \( ICTE_T \) – total expenditures of i-th person incurred during the travel in HCTE model; \( s = 1, \ldots, 8 \) is a number of stage where expenditures are incurred; \( CTE_s \) – expenditures incurred during s stage; \( X_{k_{ps}} \) – defined in detail type of consumer spending in subsequent stages; \( k_{ps} \) - number of expenditure category in stage s.

This mathematical formula can be applied to calculate the expenditure incurred in the case of the HCTE model. Using the aforementioned mathematical formula, it is useful to apply the statement of consumer expenditures during each stage of the consumption process (Table 1).
<table>
<thead>
<tr>
<th>Number of stage</th>
<th>PAX Expenditures</th>
<th>Good &amp; services purchased by cruise travellers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Purchase of cruise offers from tour operators, agents or cruise line owners.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Expenses for passport formalities &amp; visas fees.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Purchase of travel travel insurance in the insurance companies.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Expenditure on protective vaccinations.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Purchase of tourist equipment necessary for travel.</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Transport expenses to the start of the journey.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Spending on car rental to reach the starting point of the trip.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Purchase of airline tickets.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Purchase of ferry tickets from ferry line owners.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Expenses for other forms of transport to reach the place where the journey begins.</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Expenses for accommodation in base ports.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Purchase of food and drink at local dining options.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Spending on purchases in local shopping centers.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Expenses for participation in cultural and entertainment events before embarkation.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Other expenses made to purchase goods and services at ports.</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Purchase of food and beverages in restaurants on board cruise ships.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Buying alcohol in pubs and bars on board ships.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Expenses for SPA &amp; Wellness services on board ships.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Shopping in shops on board cruise ships.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Expenses for excursions on land purchased at the ship's office &amp; other expenses.</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Purchase of onshore tours at places of ship collapse with local organisers.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Expenditure on individual travel guides.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Expenditure on local transport to tourist-attractive places.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Spending on food &amp; drinks while exploring local dining options.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Expenses for souvenirs, local products, handicrafts &amp; other goods &amp; services.</td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Expenses for accommodation in base ports before return travel.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Purchase of food &amp; beverages in local restaurants in base ports.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Spending on purchases in local shopping malls in base ports.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Spending on attending cultural &amp; entertainment events before returning.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;5&lt;/sub&gt;</td>
<td>Other expenses for the purchase of goods &amp; services at base ports.</td>
</tr>
<tr>
<td>7&lt;sup&gt;th&lt;/sup&gt; stage</td>
<td>E&lt;sub&gt;1&lt;/sub&gt;</td>
<td>Purchase of public transport tickets to reach the place of completion of the journey.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;2&lt;/sub&gt;</td>
<td>Car rental expenses to reach the destination.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;3&lt;/sub&gt;</td>
<td>Purchase of airline air tickets.</td>
</tr>
<tr>
<td></td>
<td>E&lt;sub&gt;4&lt;/sub&gt;</td>
<td>Purchase of ferry tickets from ferry line owners.</td>
</tr>
</tbody>
</table>
Typology and Models of Cruise Travellers’ Consumption in Coastal Tourist Destinations

<table>
<thead>
<tr>
<th>8th stage</th>
<th>E5</th>
<th>Expenditure on other forms of transport to reach the place of completion of the journey.</th>
</tr>
</thead>
<tbody>
<tr>
<td>E1</td>
<td></td>
<td>Expenditure on the maintenance of tourist equipment.</td>
</tr>
<tr>
<td>E2</td>
<td></td>
<td>Expenses for calling photos from travel.</td>
</tr>
<tr>
<td>E3</td>
<td></td>
<td>Expenditure on the necessary cosmetic treatment caused by excessive tanning.</td>
</tr>
<tr>
<td>E4</td>
<td></td>
<td>Expenses for treatment caused by any troubles with health after cruise voyage.</td>
</tr>
<tr>
<td>E5</td>
<td></td>
<td>Other expenses for goods &amp; services related to the journey.</td>
</tr>
</tbody>
</table>

Source: Own elaboration.

Whereas the smallest economic benefits for CTD are generated by a group of “ship’s passengers”, since they do not leave the ship in the port and stay on board. Therefore, there is no possibility for them to purchase anything on land. The research proves that on average 20%-30% of all cruise travellers stay on board the ship at the port of call. There are numerous reasons for such situation, i.e., the fact that they visit the same destination yet again and they are not interested in visiting the place again, or they are sick or disabled and prefer staying on board the ship.

However, there is a large group of travellers who choose the offer provided on board the ship, which in their opinion is much more attractive than the offer at any cruise tourist destination. It seems that this group of travellers is still insufficiently analysed, and we still do not know the reasons for their decision to give up visiting the destinations as per the itinerary. Perhaps, the offer of local tour operators is not adapted to their needs, and we are facing the loss of potential economic benefits by the producers of goods and service providers in CTD, because they are not sufficiently effective in creating the image of CTD and cannot encourage travellers to leave the ship. There is also another important reason, i.e., in some seaports visited by cruise ships passenger quays are located in unattractive industrial port areas. Another important aspect that should be underlined is that cruise ship owners are satisfied with travellers spending more on board the ship than in the visited CTD.

Some shipping companies invest in land-based private islands as an extension of onboard exclusive offer; they take their passengers there by ship so that the expenditures could directly reach the company budget and generate more income. We can provide examples of Great Stirrup Cay and Harvest Caye islands owned by the Norwegian Cruise Line, and Perfect Day at CocoCay and Labadee owned by the Royal Caribbean International.

The other group within the group of low-cost travellers are residents who participate in cruise ship voyages directly from their place of residence where the home ports are located. They incur no costs related to the reception before and after the voyage completed in the home port since they live nearby. The behaviour of this group of consumers is characterised by three-stage LCTE Model (Low Cruise Travellers’ Expenditures) (Kizielewicz, 2017).
In this model, the travellers usually do not leave the ship in the ports of call and incur costs mainly on board the ship or eventually spend only one day on the land during a 2 or 3-day cruise travel. In order to estimate the volume of these expenses we can apply ICTEOS formula (Integrated Cruise Travellers’ Expenditures Onboard of a Ship) (Formula 2) (Kizielewicz, 2017):

\[ ICTEOS = \sum_{s=1,4} CTE_s = \sum_{k_{ps}=1}^{s} X_{k_{ps}} + \sum_{k_{ps}=1}^{s} X_{k_{ps}} \]

where ICTEOS – total expenditure of i-th person incurred on consumption on board cruise ships, s - number of stage where the expenditure is incurred, CTE_s – expenditure incurred during s stage, X_{k_{ps}} – defined in detail type of consumption expenditure in subsequent stages and k_{ps} - number of expenditure category during s stage.

Between a very large 8-stage model of consumer behaviour on the cruising market HCTE (High Cruise Travellers’ Expenditures) – ICTEOS formula and three-stage LCTE model (Low Cruise Travellers’ Expenditures), we can certainly differentiate indirect models, taking into account different options selected by the consumers of tourist travel offers and apply different mathematical formulae to calculate them.

On the cruising market, the most popular is the model of consumer behaviour represented by an excursionist who leaves the ship at the port of call and has an opportunity to take the sightseeing offers provided by the ship owner / travel operator, but can also choose an offer individually, directly at the producer of goods and service providers in CTD. The basket of goods and services purchased by such consumer is extremely broad. The travellers coming on board the ships to areas included in CTD type III, the so-called incoming ports, are carried by buses directly by tour operators from the quay to the attractive tourist places in the region.

The local authorities of these ports frequently strive for attracting tens of thousands of tourists to their destinations providing tourist attractions and developing the infrastructure, but with little economic results. The ports are frequently located in the vicinity of famous and popular tourist destinations that are difficult to compete with. A small group of people remaining on board the ships sometimes decide to leave the ship and take a stroll or go shopping. This group also comprises crew members who leave the ship during their free time. The basket of purchased services they benefit from is limited mainly to local transport and commercial services.

Considering the fact that consumers play different roles in coastal tourist destinations, the strength of their economic impact on supplying entities on the tourist market is also different. The travellers’ expenditures while preparing for the travel, during the travel and after the travel is completed, constitute the source of income for various producers of consumer goods and services, both in the travellers’ place of residence and in the reception areas. The volume of income generated from consumer spending in CTD depends on the function of reception area on the cruise ship tourism market.
4. Results of Estimation of Cruise Travellers’ Total Expenditures

4.1 Cruise Travellers’ Total Expenditures - HCTE Model

The study reports reveal detailed analysis of the basket of goods and services purchased by consumers in the ports of call. Due to FCCA studies (FCCA, 2018b) “the typical cruise passenger spent an average of $101.52 at each coastal tourist destination during their cruise vacation and local tour operators received an average of $48.01 per passenger directly from cruise passengers and cruise lines” (FCCA, 2018b). Detailed analysis of such expenditures indicates actual differences in the consumer buying behaviour in CTD performing various functions on the cruising market.

According to FCCA studies the largest group of cruise travellers in the world includes the US citizens (11.9 m), and the second largest are the citizens of China (2.4 m) and Germany (2.19 m). The most popular destinations in the US among cruise travellers include the Caribbean Sea region, Mexican Riviera, and Alaska (FCCA, 2019). In Alaska, 93% of cruise travellers include the US citizens, and only 7% the citizens of other countries (McDowell Group, 2019).

Considering certain limitations related to access to study data, a simplified simulation was conducted, regarding the calculation of total expenditure incurred by consumers. Seattle in Alaska has been selected as an example since, as mentioned above, it is one of the main voyage destinations in the US. The available data from research conducted by FCCA, CLIA and McDowell Group was applied to perform the analysis.

Table 2. The HCTE model - a case study of total cruise travellers’ expenditures

<table>
<thead>
<tr>
<th>Stage of the consumption process</th>
<th>Characteristic of the consumption process</th>
<th>An average expenditure per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>Cruise travellers’ expenditures in the place of residence before the cruise travel, including cost of 7 days cruise travel with RCCL (^1) and other goods and services (^3) (^4).</td>
<td>$1049.00</td>
</tr>
<tr>
<td>Stage II</td>
<td>The costs of a flight with DELTA Airlines from San Francisco to Seattle.</td>
<td>$298.00</td>
</tr>
<tr>
<td>Stage III</td>
<td>Cruise travellers’ expenditures in Seattle (home port) before the beginning of cruise travel (accommodation, catering, entertainment etc.).</td>
<td>$163.00</td>
</tr>
<tr>
<td>Stage IV</td>
<td>Cruise travellers’ expenditures on aboard of the ship (^1)</td>
<td>$565.02</td>
</tr>
<tr>
<td>Stage V</td>
<td>Cruise travellers’ expenditures for shorex (4 CTD x $48.01) (^2) and services / goods in ports of call (4 CTD x $53.51) (^2)</td>
<td>$406.08</td>
</tr>
<tr>
<td>Stage VI</td>
<td>Cruise travellers’ expenditures in Seattle (home port) after the end of a cruise travel.</td>
<td>$46.00</td>
</tr>
<tr>
<td>Stage VII</td>
<td>Flight with DELTA Airlines from Seattle to San Francisco.</td>
<td>$298.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$2825.10</td>
</tr>
</tbody>
</table>

\(^1\) Cruise travel leaving from: Seattle, Washington onboard Ovation of the Seas and visiting: Seattle (Cruising) - Alaska Inside Passage (Cruising) - Juneau – Skagway - Endicott Arm & Dawes Glacier (Cruising) –Vancouver; \(^2\) The FCCA report was used as data for the Alaska
While analysing the conducted simulation of cruise travellers’ expenditures in \textit{HCTE} model (Table 2) and mathematic formula \textit{ICTE}\textsubscript{T} it turns out that the average cruise traveller taking, in this case, a 7-day voyage incurs in total 2825.10 USD, which constitutes almost 170\% more than the expenditure for purchasing the voyage. It should be noted that these calculations do not include additional expenditure that cruise travellers could incur in their places of residence before the voyage, related to preparations for the voyage and after the return.

Firstly, the calculation of total expenditure incurred by cruise travellers is significantly limited due to lack of studies on the volume of expenditure related to taking a decision on purchasing the offer from ship owner (costs related to consultancy, travel to tourist agency, phone calls and other). Secondly, unavailable are studies on the volume of expenditure incurred by cruise travellers on preparations for the voyage, such as, for example purchase of suitcases, sun creams, bathing suits, guidebooks, but also costs of travel to airports, etc. Thirdly, unavailable is also information on expenditure incurred by cruise travellers after the return from voyage to their place of residence, related strictly to their voyage (i.e., costs of repair of tourist equipment, printout of photographs, credit card debt settlement, medical services, skincare services, etc.).

Finally, inability to approach guests on board the ships and consequently, difficulties in collecting information on the consumer expenditures on board the ships is a significant limitation. The related studies conducted by ship owners constitute their trade secret and are used to develop their marketing strategy and pricing policy. Nevertheless, we can take into consideration the results of a survey conducted by Britain’s "Daily Mail" about 25\% of the cost of a cruise is in spent on board (Seatravel.com, 2010).

4.2 Total Cruise Travellers’ Expenditures - Model ICTE

Whereas the situation regarding the application of \textit{ICTE} model and \textit{ICTE}\textsubscript{OS} formula is absolutely different. The cruise travellers’ total expenditures are insignificant compared to other consumption models since they refer only to the purchase of voyage and potential expenditures on board the ship during a one-day or two-day voyage, or one-day stay in a particular destination and possible additional costs incurred at the place of residence.
Table 3. The ICTE model - a case study of total cruise travellers’ expenditures

<table>
<thead>
<tr>
<th>Stage of the consumption process</th>
<th>Characteristic of the consumption process</th>
<th>An average expenditure per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I</td>
<td>Cruise travellers’ expenditures in the place of residence (home port) before the cruise voyage, including expenses on two-days cruise voyage with RCCL &amp; other goods and services</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$250,00</td>
</tr>
<tr>
<td>Stage II</td>
<td>Cruise travellers’ expenditures on aboard of the ships or/and during one-day stay in ports of call* (1CTD x $149,75 + $133shorex + $91 food/beverage + $125 gifts averaged)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$498,75</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>$748,75</td>
</tr>
</tbody>
</table>

1) Cruise travel leaving from: Fort Lauderdale - Perfect Day at CocoCay - Fort Lauderdale; 2) FCCA Report 2019; 3) No data available.

Source: Own elaboration on the base of FCCA Report 2019.

For example, two-day Night Perfect Day Weekend Cruise leaving from Fort Lauderdale in Florida onboard of Independence of the Seas offered by Royal Caribbean International costs $250 per person. The cruise route includes only visiting Perfect Day at CocoCay and coming back to the Fort Lauderdale. This cost may constitute cruise travellers’ total expenditure, provided that the travellers do not make any purchase in the port of CocoCay as well as before and after the voyage. However, if a cruise traveller purchase food and beverages, souvenirs and shorex (excursions on the shore) the total cost of a travel may exceed the cost of the cruise voyage by almost 200% (Table 3).

5. Discussion

To calculate the total expenditure incurred by consumers with regard to project called “cruise ship voyage” requires numerous data regarding the consumer expenditures. Firstly, it involves data on expenditures before the voyage, at the place of residence, related strictly to the purchase of sea voyage, including definitely the cost of voyage itself, but also other goods and services indispensable, in the opinion of consumers, to embark on this voyage. Secondly, the consumer expenditures related to reaching the port of departure and return home, namely travel expenses to railway station, airport terminal, and airport transport or other transport, and consumer spending after reaching the home port before and after sea voyage, related to accommodation and catering resulting from the need to wait for boarding or return transport to the place of residence.

The above-mentioned data can be acquired by surveying the travellers waiting for embarkation at the terminals in home ports, asking them whether they incurred any additional costs, related to sea voyage, in their places of residence.

It is more difficult with acquiring data on the basket of goods and services purchased by consumers on board the cruise ships. In recent years, cruise line owners, struggling to win customers, include in the voyage price the cost of accommodation in the cabins on board the ships and catering, which results in significantly lower consumer
spending on board the ships. Moreover, ship owners are reluctant to disclose in public the average consumer spending on board their ships since they treat such information as trade secret.

On the other hand, it is easier to estimate the consumer spending in home ports, since numerous organizations such as, Florida Caribbean Cruise Association (FCCA), Cruise Baltic, Cruise Line International Association (CLIA), or Business Research and Economic Advisors (BREA), as well as various research centres, for example Dickey Consulting Services, who conducted such studies for Port Everglades in 2015 (AECOM, 2015) or McDowell Group, who conducted such studies for the port in Seattle in 2017 (McDowell Group, 2017) and in 2019 (McDowell Group, 2019). The analysis of research methodology proves that studies are also conducted at terminals among travellers waiting for their voyage.

In conclusion, it should be noted that the consumption process on cruise ship tourism market is conditional upon numerous factors, First of all, the type and duration of voyage selected by the traveller, distance between the home port and the place of residence, function performed by a particular tourist region on the cruising market, as well as a number of economic and social factors defining the place of destination reached by potential consumer. Moreover, we need to indicate a whole range of factors affecting the consumer individual behaviour on the market, constituting the subject of numerous studies.

6. Conclusions

The consumption process of cruise ship travellers is significantly different from other forms of tourism, including mainly the roles the travellers play in various destinations they visit during the whole voyage, and the type of function a particular reception area performs on the cruising market. The basket of goods and services purchased by cruise travellers at every stage of their travel is quite different, which is significant for the economic results in visited cruise tourist destinations. This area of research is still insufficiently defined and analysed.

The conducted analysis allowed to formulate the following conclusions:

1) Cruise travellers perform various functions during the whole consumption process, which results from the environmental conditions and specificity of CTD. The same cruise traveller may once perform the function of a resident, another time an excursionist or a tourist, and yet another time – only a cruise ship passenger. It is significantly important for the statistical purposes in CTD and economic contribution to the local economy.

2) The most diversified basket of goods and services is purchased by cruise travellers in HCTE Model, and the least diversified – in LCTE Model; however, it should be noted that the most significant benefits (proven by studies) are
derived by home ports, since cruise travellers take advantage of extensive offer of services before and after the voyage.

3) In the classic consumption model, the consumer passes through 5 stages, i.e., recognizing the need, searching for information, taking a decision, purchase, and consumption. Whereas, in the case of cruise tourism, depending on the selected offer, cruise traveller passes through another three up to even 8 subsequent stages.

4) The gap in consumer studies on the cruise tourism market was diagnosed, in particular within studies on cruise travellers’ expenditure before the voyage and after the voyage, in their place of residence. The results of these studies would allow to estimate the economic contribution of cruise travellers’ expenditure not only for the places of departure (travellers’ departure towns), but also for the reception areas.

5) There is still insufficient data on cruise travellers’ expenditures on board the cruise ships regarding goods and services not included in the price for the tourist package. Therefore, the cooperation with cruise line owners is necessary in this area.

6) The conducted simulation related to calculating cruise travellers’ total expenditures proved that they incurred much more higher costs related to their voyage; the costs they could not have expected or had not been aware of. There comes a question, whether, being aware of these costs, they would decide to take the voyage, or they would resign. The question can also constitute grounds for further studies on the consumers’ decision-making process.

In conclusion, it should be noted that the defined research hypothesis \( H \) providing that cruise travellers’ total expenditures are undervalued due to gaps in studies at various stages of consumption process, has been positively verified. The previous studies related to cruise travellers’ consumer behaviour in the majority of home ports and ports of call are conducted at random and irregularly. Only FCCA has been regularly analysing the expenditure incurred by travellers within the Caribbean Sea region and conducting studies in all ports associated within the organization. Whereas, in many other CTD studies are not conducted at all or are conducted at random. No access to research results makes it difficult to provide correct statistical conclusions and economic analysis. Certainly, such studies are very cost- and time-intensive and require engagement of numerous entities to obtain comprehensive information on expenditure incurred by cruise travellers at different stages of travel. It is also hindering the assessment of economic impact of cruise tourism development on the development of CTD.

It would be worth focusing in further studies on developing methods and techniques for analysing consumers on the tourist market during the preparatory stage, before taking purchase decisions in their place of residence, and the expenditure related to preparations for the voyage. The other stage of research that requires analysing involves analysing the consumers after they return to their place of residence, related to expenditure incurred in connection with but unrelated to the voyage.
References:


