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The development of geocaching in the theory of a tourism area cycle of evolution by Butler

Abstract: With improved economic standing of Polish society, growing salaries, increased average amount of leisure and technological advances tourism flows in Poland increase year by year. This is generated by both domestic travel and foreign arrivals. For about a decade the number of overnight stays provided to tourists, including those from foreign countries, have increased. Today tourism is among most rapidly developing and complex areas of social life. Tourism development has a series of consequences, both positive and negative. In order to remain competitive, tourist area requires proper management. This can be achieved by, among other things, implementing corrective action in response to the ever changing external and internal conditions. These may impact tourism intensity and quality and thereby tourism area lifecycle. The present paper attempted to differentiate geocaching stages of development in Poland based on the concept of tourism area lifecycle by Butler. Problem identification and recommendations for further actions aiming to cease or restore tourism functions were also at the basis for considerations. Individual stages of development were discussed based on two major geocaching websites in Poland. References were also made to worldwide trends and interests.

Keywords: geocaching, tourism area lifecycle, traffic history

1. Introduction

The attractiveness of a tourist area or a tourism branch is not constant. Tourists' interest in an emerging attraction evolves from initial exploration of a new area, through intensive penetration to a decline of interest. Environment has a major impact on the attractiveness of a tourism area and shall be perceived as an ever-changing external structure. The lifecycle of an object is the result of the external and internal factors impacting the object. The theory of a tourism area cycle of evolution by Butler (1980) is an important research method in studying the development of tourist destinations and regions. Butler identifies six stages: exploration (discovery), involvement, development (increase), consolidation (maturity), stagnation (saturation), decline (decline-rejuvenation). Butler's theory was extensively used for tourist destinations and larger areas receiving tourists; and it was also modified several times (Cooper and Jackson, 1989; Douglas, 1997;

Agarwal, 2001; Hovinen, 2001; Johnston, 2001; Alvares and Laurencó, 2005; Miedziński, 2013; Kruczek, 2015).

The present paper discusses tourism area cycle of evolution based on geocaching in Poland, one of the youngest types of tourism. Globally geocaching was started in the year 2000 and in 2002 it reached Poland (Hurd nad Schlatter, 2005; Samołyk, 2013). Geocaching is a type of a treasure hunt of people looking for hidden and concealed containers often left in places of tourist interest (Sherman, 2004; O'Hara, 2008; Samołyk, 2013, 2017). Tourists learn about locations and descriptions of places on dedicated websites, where they also leave their accounts from travels in on-line logs. In Poland geocaching.com (worldwide website started in 2000, owned by Groundspeak Inc.) and opencaching.pl (Polish nationwide website, started in 2006, non-profit) attract most users.

2. Materials and methods

The notion of tourism has acquired a new meaning in the 21st century. There are various activities focusing entirely on feelings triggered by certain stimuli or experiences. Extreme tourism (among other things adventure racing, ski-alpinism, speleology), theme tourism (e.g., cemetery, wine, food) and religious tourism enjoy enormous popularity. Although a relatively new phenomenon, geocaching fits well with those worldwide trends, offering experiences that cannot be experienced in any other types of tourism and at the

same time it allows to discover little-known tourist attractions.

Stages of tourism area lifecycle have been defined for Poland. The available statistical data relating to geocaching were analyzed for the purpose of the present paper. The data on the number of users, structure and volume of tourist flows and the number of active geocaches were obtained from geocaching.pl (for geocaching.com) and from opencaching.pl on May 1st and 2nd, 2018. The website traffic analysis was based on the data from rank2traffic.com and trend.google.com.

3. Results

At the end of 2017 there were over 37700 users registered on opencaching.pl who participated in the hunt at least once. As many as 33500 active geocaches were identified at that time and 2240000 hunts have been registered since the beginning of the website. This on average gives 59 hunts per user, 67 hunts per single geocache and approximately 530 online entries daily since May 25th, 2006 when the service started.

In the case of geocaching.com (data obtained from geocaching.pl) at the end of 2017 the number of registered users in Poland amounted to over 136700 and the number of active geocaches was 38950. The website users participated in approx. 3640000 hunts which yields 27 hunts per user, 93 geocache finds per geocache and over 620 online entries on the website daily, following the setting up of the first geocache in Poland on January 1st, 2002.

Apart from Polish users foreign tourists also use geocaching.com, making it more popular. Therefore the statistics show a smaller number of hunts per tourist. Based on the data from opencaching.com almost all users come from Poland.

Constant changes in the popularity of various forms of activity are natural for tourism, starting from the initial exploration stage, through maturity to the point where competitive potential is achieved through meeting or even exceeding capacity limits. This may be followed by a decline, rejuvenation or long term stability. A lack of coordination of

actions and strategic management may eventually lead to decline and a total loss of interest of a given area (Buhalis, 2000). Anticipating an adverse event, may help mitigate the consequences of the emerging crisis. It also helps extend the growth period or even rejuvenation and continuation of tourism of a given area (Butler, 1980; Johnston, 2001; Russo, 2006).

Geocaching-based tourism can be perfectly monitored. Its basic assumption is to post sites descriptions, i.e. tourist attractions on the website. In addition users' hunts (effective and ineffective) are registered by adding a log entry. This data helped obtain information about interest in geocaching, number of users and their activity.

The behavior of tourists visiting places within the geocaching experience is reflected in the number of hunts (Fig. 1A), new website users (Fig. 1B), active users in a given year (Fig. 1C) and emerging active geocaches (Fig. 1D). What is meant by hunts is the number of entries in the cache log books in a given year. New users were all users who in a given year made their first such entry. Information regarding the number of active users as well as new active geocaches was based on the analysis of the dynamics of their emergence in a given year.

Opencaching.pl was started in 2006. Between 2006 and 2014, there was a steady increase in the number of tourists, matched by an increase in new and active users, active geocaches and

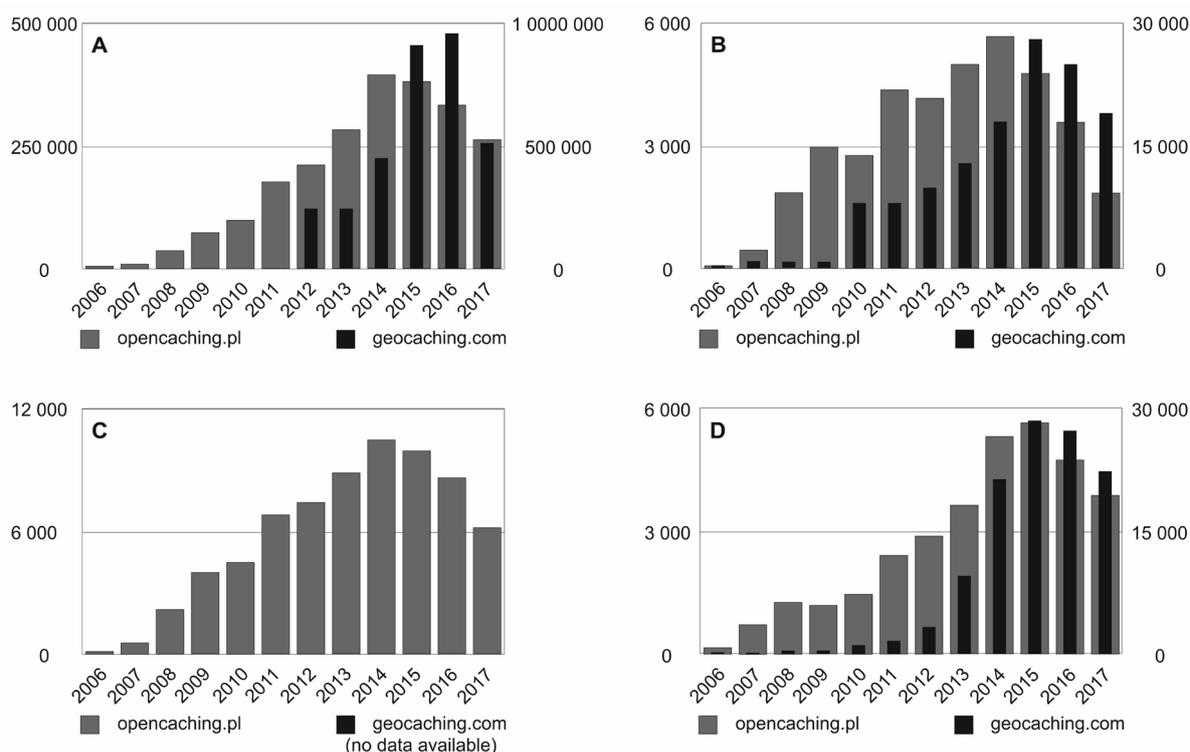


Figure 1. Activity of opencaching.pl and geocaching.com users in Poland – figures in a year: A – hunts, B – new users, C – active users, D – new active geocaches (data obtained from opencaching.pl and geocaching.pl, A - for geocaching.com data available since 2012)

hunts. In the years 2015-2017 website users decreased their activity. A detailed analysis of tourist behaviors helped describe the evolution of tourists interests. Problems observed at individual stages of tourism area evolution were

described, which for the purpose of the study was the entire area of Poland.

The exploration stage (Table 1) was observed in the years 2006-2007, with an annual increase at that time of 300 users and 450 geocaches, and

Table 1. Stages of tourism development in Poland and the projected changes in tourism functions based on the phenomenon of geocaching (data obtained from geocaching.pl, 1st -2nd May, 2018)

Users' activity	exploration	involvement	development	consolidation	stagnation	decline
	[%]					
Change in the number of users	> 400 (410-530)	> 150 (110-180)	> 125 (110-150)	< 125 (120)	< 100 (87-95)	< 75 (72)
Number of new users to the number of active users	> 95 (95-100)	± 75 (65-90)	± 60 (55-65)	± 50 (55)	< 50 (40-50)	± 30 (30)
New geocaches to the active ones	± 90 (80-100)	± 40 (30-60)	± 30 (25-35)	< 30 (28)	± 20 (16-23)	± 10 (12)
	[-]					
Number of hunts per geocache	± 5 (1-9)	± 20 (16-21)	> 20 (20-24)	± 20 (20)	< 15 (11-15)	< 10 (8)
Number of hunts per user	± 10 (2-17)	± 20 (16-22)	± 30 (26-32)	± 40 (38)	± 40 (38-39)	± 40 (43)

a scarce number of hunts amounting to 5000 per year. Active users in a given year conducted on average 14 hunts.

The involvement stage was recorded in the years 2008-2010, with an annual increase of 2500 users and 1300 active geocaches; the number of hunts increased to 68000 annually and the number of users active in a given year to 3500 – each of them recording on average 19 hunts per year.

The development stage (2011-2013) meant a dynamic expansion of the website and related tourism flows, with over 4500 users and nearly 3000 active geocaches increasing every year. There were over 7500 active users performing 220000 hunts (29 per person on average).

The consolidation stage (2014) recorded 10300 users performing 390 000 hunts (38 per person). The number of geocaches increased by 5300 and the number of website users by 5700.

The stagnation stage was between 2015 and 2016 with trends of falling interest in geocaching. There was a slight annual decrease in the number of hunts amounting to 350000, active users in a given year to 9200 and active geocaches to 5200 per year.

The year 2017 may well signal decline of geocaching in Poland: there was a decrease in tourism flows – a measure of a total average number of hunts (260000 per year); there were 6100 active users, including 1900 new ones; the

tourism infrastructure developed at a slower pace – only 3900 new geocaches were set up.

The traffic history on websites for the key words of “opencaching” and “geocaching” and on opencaching.pl and geocaching.com confirm varying in time interest in that form of tourism (Fig. 2).

Interest in geocaching (Fig. 2A) was on the increase for the period of 2006-2012; it was the highest for geocaching.com in 2011, while for opencaching.pl in 2012. In the exploration stage (2006-2007), interest in opencaching was four times lower with respect to the time of its greatest popularity. In the involvement stage (2008-2010), the interest increased by over 50% from its peak value. The development stage is the period of greatest interest in this type of tourism. Since 2014 a steady decline has been observed, which in the consolidation stage was 80%, 50% in the stagnation stage, while in the year 2017 below 25%. Similar trends were observed for geocaching.com; in this event changes in interest were 44%, 72%, 100%, 82%, 60% and 36% respectively.

Average monthly traffic generated by users of opencaching.pl (Fig. 2B) in individual stages was: involvement >50000, development >110000, consolidation >180000, stagnation >150000, decline >130000. For geocaching.com, the corresponding figures were >3600000, >6800000, >6100000, >8800000 and >8300000 sessions per month.

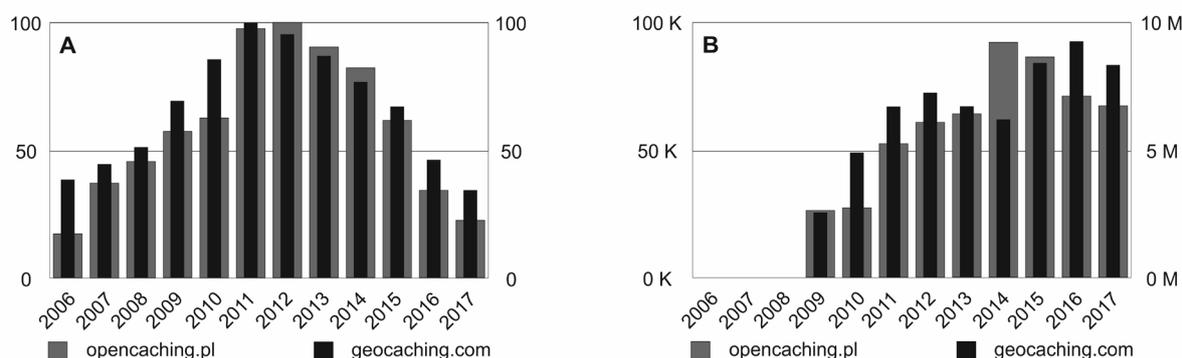


Figure 2. The statistics of traffic history on websites for the key words of “opencaching” and “geocaching” and on opencaching.pl and geocaching.com: A – interest over time (*), B – traffic history (**)(data obtained from www.rank2traffic.com and www.trends.google.com, changed, 1-2.05.2018)

* Interest over time (www.trends.google.pl) – the figures represent interest in searching relative to the highest point on the chart. The 100 value means that the search query is most popular, while 50 means the search query was half as popular. The 0 value shows that there is insufficient data for a given search query.

** Traffic history (www.rank2traffic.com) – the total monthly number of the Internet sessions generated by users; data available for years 2009 – 2017; the highest monthly average for the Internet sessions generated worldwide for opencaching.pl was 184688 in 2014, and for geocaching.com – 9268333 in 2016.

4. Conclusions

Based on the available statistical data, the paper presents a description of different stages of development and changes in the tourism functions of geocaching. In the exploration stage geocaching was marked by a rapid growth in tourist numbers (even over 500% per year). Novices accounted for more than 90% of all users, and new geocaches for approx. 90% of all active ones. Because adequate infrastructure was lacking and largely dispersed, tourists were not very active in the field. This resulted in small number of hunts, below 10 per geocache and approx. 10 per user.

The involvement stage was accompanied with a small number of attractions (geocaches) and a small number of tourists. The total increase in tourism flows was nevertheless high (on average 150% per year) with the result that the newcomers represented approx. 75% of the entire group. New geocaches accounted for about 40% of all active ones while the number of hunts per single geocache and a single user increased to 20 per year.

In the development stage tourism flows were generated by large-scale promotion activities, and the land-use planning and management were carried out at a regional and national level and the number of users grew dynamically (> 125% annually). Therefore, new users still continued to outnumber the experienced users (approx. 60%). Active users increasingly participated in seeking geocaches (approx. 30 times annually per person), which were found 20 times per year.

The consolidation stage shall be linked to the end of a considerable increase (below 125% per year). The number of new users was equal to the number of experienced users (approx. 50%), while the number of hunts per user was highest ever (40 per year).

Exceeding tourism capacity and a slowdown in tourism flows are most essential characteris-

tics of the stagnation stage. The number of new users was smaller than in the consolidation stage (below 100%), experienced users started to take the upper hand, the pace of setting up new geocaches also slowed down to account only for 20% of all active ones. The decreasing number of website users and declining interest in geocaching were matched by a fall in the total number of hunts, while their number per user increased, mainly thanks to the experienced website users.

A gradual decline in tourism functions, decrease in tourism flows (less than 10 hunts per year) and slowdown in tourism infrastructure development (new caches account for only 10% of active caches) are the indicators of the decline stage. A decrease in the number of website users and an inflow of new ones (up to 30% per year) indirectly resulted from weaker promotional activities. Ill-fitted tools for the control of new caches and accepting new geocachers at the earlier stages of development caused market saturation with poor-quality tourism products. For that reason, in 2017 geocaching in Poland was most probably on the eve of decline.

Similar trends were also observed abroad. The analysis of Google search queries (Fig. 2A) for "opencaching" and "geocaching" made it possible to identify a changing popularity of this phenomenon worldwide. The interest grew from an average of 23% in the exploration stage, through 58% in the involvement stage, to 100% in the development stage, before falling to 86%, in the consolidation stage, 51% in the stagnation stage and 28% in the decline stage. Similar trends were observed for "geocaching", in which case popularity across the world at various stages of development accounted for 44%, 73%, 100%, 81%, 60% and 39% respectively.

The rejuvenation of geocaching in Poland is feasible. However, a coordinated effort at a national level and the implementation of many corrective measures are necessary.

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