

Agritourism Farms - Evaluation of Their Websites Quality and Web 2.0

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Anotace

Na základě porovnání výsledků z dotazníkových šetření z let 2009 a 2012 bylo zjištěno, že kvalita www prezentací agroturistických farem se téměř nemění. Kvalita stránek u stejných farem je statisticky vyšší pouze u kritéria "Obsah – struktura" www stránek. Lze usuzovat, že v roce 2012 farmáři věnovali větší pozornost struktuře informací, které prezentují na vlastních stránkách. Farmy, které mají vlastní doménové jméno, vykazují statisticky významně vyšší kvalitu www prezentací.

Obecně lze říci, že prezentace agroturistických farem málo využívají nové přístupy v internetových technologiích. Proto byl navržen postup jak inovovat méně kvalitní www prezentace pomocí WCMS WordPress. Je doporučováno více využívat technologie Web 2.0, například pomocí mashup technologií integrovat do webových prezentací související informační zdroje (odkazy na sociální sítě, propojení s počasím nebo zdrojem RSS v daném regionu).

Klíčová slova

Agroturistika, kvalita website, SEO, Web 2.0, WordPress.

Abstract

Based on surveys carried out in 2009 and 2012 it can be suggested that the web presentations of agritourism farms are virtually unchanged. The quality of the web pages for the same farms is statistically higher only for the criterion of "Content – structure" of websites. It can be assumed that in 2012 farmers devoted more attention to the structure of information that is presented on their own websites. Farms that have their own domain name show statistically significantly higher quality websites.

Generally, it can be said that the website presentations of agritourism farms do not use the new approaches to the internet technologies as much as they could. For this reason, an approach has been proposed for upgrading the www presentations of lesser quality by means of the WCMS WordPress. It is recommended to use the Web 2.0 technologies, e.g. integrate through the mashup technologies the associated information sources into the websites (links to social networks and weather forecasts or the RSS sources in a given region).

This paper was elaborated within the framework of the solution VZ MSM 6046070906 „Economics sources of Czech agriculture and their efficient use in the context of multifunctional agri-food systems“.

Key words

Agritourism, website quality, SEO, Web 2.0, WordPress.

Introduction

The multiplication effects of tourism put it amongst the significant factors of economic growth. It is one of regional development tools in the form of rural tourism. Agritourism represents a specific category of regional tourism. Webster Dictionary defines agritourism as the practice of touring agricultural areas to see farms and often to participate in farm activities. [1]

Today's tourists are increasingly more demanding. Ecology, healthcare and healthy life style, culture and active use of free time play a much more important role in their current "modern" life.

Potential agritourism farms visitors search for information mainly on the internet and it is, therefore, essential that the agritourism farms present their activities by means of suitable web pages. Morisson [10] analyses the impact of IT

on tourism in great detail. Law et al.[6] provide a comparison of different methods for the evaluation of tourism web sites. Havlicek et al. [4] explain the possibilities of using ICT in the Czech Republic's agritourism in 2009.

Several years ago the web presentation of a company would have gained an advantage against competition. Today, having a website is an absolute necessity and the emphasis on the overall quality of the website is very strong. Even when a website is completed its regular update is necessary. The www technologies continue to develop and new applications, called Web 2.0, are created through the usage of the so-called "mashups". Furthermore, the great current phenomena are the online social networks of which the most typical representative is Facebook. It would therefore seem imperative to use these new technologies for the sustainable development of regional tourism.

Materials and methods

The main objective of this paper is to compare the results of two questionnaire surveys, which aimed at determining the quality of the websites of tourist facilities in rural regions. The results would then provide a basis for the proposed new approaches to the www presentations of agritourism farms.

In 2009 a questionnaire was compiled to evaluate the websites quality. The first results from this survey

were published by Havlicek et al.[3] Table 1 outlines the comparison of the original 2009 questionnaire with an updated version of 2012.

Each criterion in Table 1 was evaluated on the scale from 0 to 4 points (where 4 is the best result). In the "Content – languages" criterion the scale ranged from 1 to 4.

Characteristics of the evaluated criteria

The basic attributes that most influence the quality of the website include:

Content and structure

A web presentation (e.g. of a farm, see Table 2) must be well-structured with easy to understand text. Presented information should always be up-to-date and, if possible, in several languages.

Design

Almost limitless graphics options in creating a web site give rise to a design that can be beautiful but, if one is not careful, can become unattractive. It is important that the visitor gets a pleasant feeling when viewing the page that interests him/her, and will be happy to return.

Number of advertisements

Pages without advertisements were awarded 4 points. Those with one advertisement received 3 points, with two adverts were given 2 points, with three only 1 point and with more adverts they had scored zero points.

Criteria	2009	2012	Comment
Content – structure	yes	yes	Statistically evaluated
Content – update	yes	yes	Statistically evaluated
Content – languages	yes	yes	Statistically evaluated
Design	yes	yes	Statistically evaluated
Number of advertisements	yes	yes	Statistically evaluated
Browsers support	yes	no	Too much variability in the use of browsers
Wayback– website age	yes	yes	Not evaluated
Complexity of the web address	yes	yes	Used as a criterion for sorting data from 2012
Age of the domain names	yes	yes	Not evaluated
Number of Google backlinks	yes	yes	Not evaluated
Number of Seznam backlinks	yes	yes	Not evaluated
Google Page Rank	yes	yes	Not evaluated
Seznam S-Rank	yes	yes	Not evaluated
Accessibility	yes	yes	Statistically evaluated
Version for printing	yes	no	Not used

Source: own processing

Table 1: The criteria of the 2009 and 2012 questionnaires.

Homepage	Introduction, logo, advertising motto, a typical photograph (picture), contact information
About us (about the farm)	Farm's focus (animal husbandry, cultivation of special plants, organic products, etc.)
Activities on the farm and in the neighbourhood	Accommodation, places to visit, attractions in the neighbourhood
Price list	Prices for accommodation and meals (preferably in a table form)
Photo Gallery	Guide to farm, or a video focused on a particular event
Contacts	Owner's name, address, phone, email, GPS coordinates

Source: own processing

Table 2: Recommended structure for a farm's presentation.

Errors in accessibility	Range of ratings points
Website contains no errors and warnings, is accessible and also includes some features that contribute to accessibility (green icon).	4
Web site contains no errors or warnings, is accessible.	3
Web site contains no errors in accessibility, but contain one or more warnings (yellow icons).	2
Web site contains only one or a combination of these three errors in web accessibility (lack of longdesc, blank form label, image maps on the server side).	1
Any error in the accessibility of sites (red icon) in addition to the three rules listed on the line above.	0

Source: wave.webaim.org and own processing

Table 3: Accessibility rating.

Accessibility for handicapped people

Accessibility of a homepage has been tested using web accessibility tool Wave (<http://wave.webaim.org>). The range of ratings is shown in Table 3.

A new approach has been developed for updating the websites with the lowest evaluation points with minimum costs. This study presents an example of a solution using the Web 2.0 technologies (see the results in Section e).

Results and discussion

The data obtained from the surveys in 2009 and 2012 have been analysed from several viewpoints. The results are presented in the following categories:

- Comparison of all agritourism farms in 2009 and 2012 (Section a)
- Comparison of the same farms in 2009 and 2012 (Section b)
- Comparison according to the complexity of the web address - only in 2012 (Section c)
- Search Engine Optimisation (SEO) evaluation (Section d)

a) Comparison of all agritourism farms in 2009 and 2012

In 2009, after excluding incorrectly filled-in forms only 219 questionnaires out of 421 were used for analysis and comparison.

In 2012, 449 correctly completed questionnaires out of 947 were statistically processed. This drop in the total analysed number is due to the inclusion of only the questionnaires concerning the farms involved in agritourism (or rural tourism in relation to agriculture). Items such as tourist cottages, guesthouses, B&B's, hotels, etc. have been excluded.

Individual evaluated criteria were compared using the Two-sample Assuming Unequal Variances t-Test. The results obtained are shown in Table 4.

The average value of the "Content – structure" criterion is higher by 0.08, but the other criteria are lower. There is a statistically significant change in the "Content – languages" criterion. The average value for this criterion has decreased by 0.13. This change can be explained by the increased use of tools for translating web content, which is implemented directly in the Google Chrome browser. For these

Criterion	Mean		Variance		T stat	Significant $\alpha=0.05$
	2009	2012	2009	2012		
Content – structure	2.78	2.86	0.98	0.97	-0.96	No
Content – update	2.58	2.54	1.83	1.7	0.35	No
Content – languages	1.58	1.45	0.81	0.74	1.68	Yes
Design	2.51	2.48	1.29	1.38	0.3	No
Number of advertisements	3.12	3.1	2.02	1.95	0.23	No
Accessibility	1.18	1.07	1.89	1.64	0.98	No
Sum	13.71	13.5	11.58	13.7	0.72	No

Source: own processing

Table 4: The results for all the questionnaires.

Criterion	Mean		Variance		T stat	Significant $\alpha=0.05$
	2009	2012	2009	2012		
Content – structure	2.75	3.05	0.94	0.86	-1.73	Yes
Content – update	2.68	2.65	1.71	1.72	0.14	No
Content – languages	1.58	1.75	1.03	1.14	-0.88	No
Design	2.55	2.6	1.03	1.29	-0.25	No
Number of advertisements	3.28	3.43	1.63	1.13	-0.7	No
Accessibility	1.3	1.17	1.91	1.73	0.54	No
Sum	14.15	14.65	12.27	14.6	-0.75	No

Source: own processing

Table 5: The results for the same farms.

reasons it is not a priority for the web designers to create new language versions.

In all other criteria the average values have decreased, but none of these changes are statistically significant.

Partial conclusion

The overall quality of the websites in 2012 compared with 2009 has remained virtually unchanged.

b) Comparison of the same farms in 2009 and 2012

In both surveys the same 60 farms websites were evaluated.

A statistically significant change was demonstrated only in the “Content – structure” criterion (see Table 5). The significantly higher value of 0.3 can be explained by the fact that farmers are paying more attention to the structure of information that is presented on their own websites. Statistically, the other criteria do not show significant differences. The overall rating is slightly higher by 0.5 points, but at the significance level of $\alpha = 0.05$ it was insignificant.

Partial conclusion

The overall quality of the websites has not improved. Only the “Content – structure” criterion had a statistically significant higher value in 2012.

c) Comparison according to the complexity of the web address (only in 2012)

Completed questionnaires from 2012 were sorted according to the criteria of the „Complexity of www address“ into two groups. Farms with the domain name of the second level such as www.agroturistika.cz were placed into one group (360 questionnaires). The second group consisted of farms with a complex web address, such as the domain name of the third level www.xxxx.wz.cz or address type www.xxxx.cz/cs/farma1 (89 questionnaires).

The technological background of each website is not known. Hypothetically, we assume that if the farm has its own domain name it is more likely that the website quality will also be better. This assumption is based on the fact that if a farmer registers his own domain name he pays greater attention to the website quality.

Criterion	Mean		Variance		T stat	Significant $\alpha=0.05$
	level 2	level 3	level 2	level 3		
Content – structure	2.98	2.37	0.88	1.08	-5.01	Yes
Content – update	2.69	1.96	1.54	1.98	-4.51	Yes
Content – languages	1.53	1.15	0	1.53	-5.3	Yes
Design	2.66	1.74	1.22	1.35	-6.77	Yes
Number of advertisements	3.26	2.44	1.68	2.54	-4.5	Yes
Accessibility	1.09	0.97	1.69	1.46	-0.88	No
Sum	14.21	10.62	11.24	13.42	-8.42	Yes

Source: own processing

Table 6: Comparison according to the complexity of the web address.

All criteria (except for accessibility) have the higher values, which are statistically significant at the significance level $\alpha = 0.05$ (see Table 6).

Partial conclusion

It can be argued that farms that have their own domain name have significantly better quality websites. This is probably due to their investing more money into creating and updating websites.

d) Search Engine Optimisation (SEO) evaluation

During the development of websites it is necessary to concentrate on achieving good rankings by search engines. This is important for obtaining higher traffic (i.e. number of visits to the website) from search engines. This traffic, in some cases, forms more than 95% share of the total number of website visits.

One of the important factors affecting link positions is the technology of backlinks.

Search engines positions are calculated on the basis of the so-called “ranks”. These are internal ratings used in the calculation methods of search engines. The best known rank is “PageRank”.

These criteria were used in the questionnaires (number of backlinks and toolbar PageRank value), but there are continuous changes in the methods of counting them (PageRank and S-Rank), so it is not convenient to use them for statistical research.

Partial conclusion

SEO is an inseparable part of any web site. It is carried out by using methods which are not documented and, for this reason, the raw data from the questionnaires had not been analysed.

e) Websites innovation

Some websites are already obsolete (see Figure 1)

and unattractive for the current competitive environment.

The WCMS (Web Content Management Systems) are suitable for the websites improvement. The most popular systems that can be used for this purpose include Open Source software, particularly WordPress.

The high quality and modern style of a website produced by WordPress are due to the extension of a number of so-called plug-ins. These extensions enhance the usability and usefulness of the presentation. The following modern elements of Web 2.0 technologies, such as microformats [2] could be added to the website presentations:

- Event - hCalendar
- Contact - hCard
- Evaluation - hReview
- Geolocation - geo
- Product – hProduct

Modern presentations often utilize mashups technologies, which allow linkages to other servers and offer better and more sophisticated service to visitors. These technologies include:

- Mapping service (Google maps, Maps Seznam.cz)
- Online news via RSS (eg Yahoo! Pipes)
- Servers providing multimedia support (Flickr, Panoramio, YouTube)
- Online social networks (Facebook, Twitter, LinkedIn).

Links to other resources allow the user a comprehensive view of agritourism farms presentations. They also include discussions and comments from social networks. This can be a determining factor in increasing the conversion

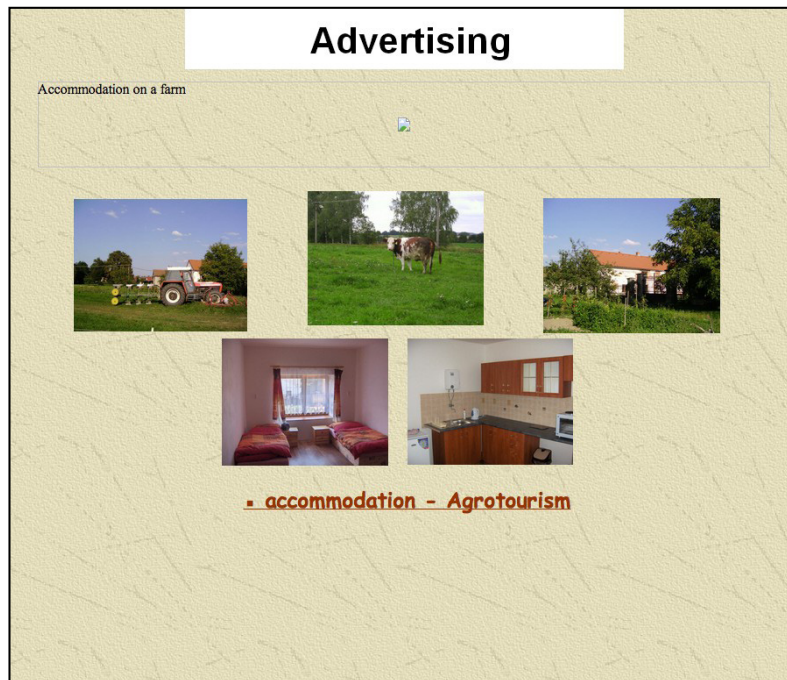


Figure 1: Habřina Farm - the original website.



Figure 2: Habřina Farm – a new presentation created in WordPress.

of a visitor into a customer.

Figure 2 illustrates the possibilities of integrating Web 2.0 technologies into websites. The letters A, B and C in Figure 2 designate areas which utilize the Web 2.0 technologies. These elements have been added to the site in order to improve the presentation of its content in the form of additional information.

Area A includes the icon of the RSS syndication technology news from Web sites. This is called an RSS feed that is generated automatically – and is based on posted items, pages or received messages. The RSS technology emerged gradually and, therefore, there are several versions of this format today. But this is a factor that can benefit not only individual users but also syndication sites that are based on many sources that are automatically

informed about the different areas. RSS refers to the principles of facilitating information sharing described by Liburd [8].

Area B features links to social networks and services, such as Facebook, Google+, Twitter, YouTube, Skype and e-mail. The network with the largest number of users is Facebook. It has currently more than 3.8 million Czech users and offers a huge potential market for agritourism farms. We can increase the impact of social networking by inserting a variety of references. For example, a special software application called widget provides information inserted into social networks and allows customers to interact with the site. The widgets include small items such as the „like“ button, „+1“ or „tweet“. All of these bring to the web what Liburd [8] calls “social action”.

Area C is an example of value-added information, which is linked to the website through Web 2.0 technologies. The embedded supplement shows the current weather. It is technically possible to implement it in a number of ways - by using prepared supplements, using API or some services such as custom data from automatic weather stations (AWS). Other similar types of mashup implementation are described by Wanget al. [13].

Partial conclusion

It is possible to state that the usage of Web 2.0 technologies has a potential in ranking of web sites in search engines. Most web sites, which can be found in better positions, use some of these technologies. A better position obviously generates economic and social benefits as described by Marjanovic et al. [9]

Discussion

An important factor in promoting agritourism is a good Internet connection. The status and development of the Internet infrastructure in rural regions of the Czech Republic has been described by Vaněk et al. [11] and compared with the official source – the Czech Statistical Office.

Byeong Cheol Lee [7] analyzes in detail the positive aspects of Web 2.0 technology and highlights its importance for tourism.

Vaněk et al. [12] present the results of information and communication technologies (ICT) in a research report on the Czech Republic regions. It is focused mainly on the problems of mapping the cultural heritage in the country together with activities in the area of tourism and business

activities associated with it (accommodation, food etc). One possible approach to using the Internet in promoting tourism is demonstrated in the example of the web portal entitled “Get to know Posumavi – a tourist guide to Posumavi Region”.

In the tourism sector it is recommended to increase the use of rating services. These include TripAdvisor, which is a typical representative of the „electronic word of mouth“ with millions of visitors a day [5].

Conclusion

Based on the surveys carried out in 2009 and 2012 it can be suggested that the overall quality of the Czech agritourism farms websites as shown by the evaluation of respondents has dropped slightly since three years ago. The quality of the web pages for the same farms has statistically increased only for the criterion of “Content – structure”.

It can be assumed that in 2012 farmers devoted more attention to the structure of information that is presented on their own websites. Farms that have their own domain name show statistically significantly higher quality websites.

Generally, it can be said that the website presentations of agritourism farms do not use the new approaches to the Internet technologies as much as they could. SEO is an important part of any web site.

A new approach has been proposed for upgrading the www presentations of lesser quality by means of the WCMS WordPress. It is recommended to use the Web 2.0 technologies, e.g. integrate through the mashup technologies the associated information sources into the websites (add links to social networks, weather forecasts or the RSS sources in a given region).

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