The objective of the article was to present the authors' conceptual model of using lifestyle sports applications. Proposed model provides classification of lifestyle sports mobile applications types used by companies for brand promotion purposes and identification of ways in which companies can reach users through applications. The recognition of benefits that applications can provide to the enterprises and possible benefits associated with the presence of brands in the application for its user was also provided in the conceptual model. The second objective was to study the opinions of runners about the presence of brands in sports mobile applications on the basis of own quantitative research (n = 2434 questionnaires). The research results indicate that presence of commercial brands in the app is treated by their users as too invasive, therefore this communication tool should be used with moderate intensity. In spite of the fact that majority of sports applications users are reluctant to see brands in their apps, a significant proportion of them participate in the activities and challenges proposed by companies. According to the authors, lifestyle mobile applications could be promising marketing space for vendors, especially regarding the growing market of sports mobile apps users. However, companies should use more personalized, innovative and socially responsible approach to application users. Although the article uses the results of empirical research, it should be treated primarily as a signalling of a new research problem, which is the new brand communication channel with consumers. Thus, it is descriptive rather than exploratory.

**Key words:** mobile application, sports application, brand promotion, runner, commercial brand
Possibilities of brand promotion through lifestyle mobile sports applications

Introduction

According to the report "Polska jest Mobi" ("Poland is Mobi") (Mobee Dick, 2018), almost half of Poles (48%) declare the usage of mobile devices over 2 hours a day. In 2017, Poles (over 15 years old) owned about 20.93 million smartphones, about 4.25 million tablets. Application statistics show that users spend much more time using apps than using the mobile version of the website. Although not every company needs to be mobile-first, absolutely each should be mobile-sensitive.

Running is one of the most popular forms of participation in physical activity in Europe. The number of runners increases in line with the growth of usage of sports and physical-related monitoring devices such as...
sports watches and applications specifically designed for sports (Janssen et al., 2017, p. 2, Deelen et al., 2019, pp. 1–15). On one hand use of sports lifestyle mobile apps may be a powerful instrument to encourage physical and health activity (Stephens and Allen, 2013, p. 320; Dallinga et al., 2017, pp. 1–9, Bort-Roig et al., 2014, pp. 671–686, Martin et al., 2015, pp. 50–54), on the other hand mobile apps can be also a marketing space to create a positive image of commercial brand (Yüce et al., 2019, pp. 34–44, Jae-Pil et al., 2017, pp. 281–297, Kim et al., 2011, pp. 576–592). However, considerable efforts in terms of personalization have to be made by company to develop the full potential of sports application (Janssen et al., 2017, p. 13) in order to use it as promotion tool.

According to the authors of this article interstitial and expandable ads of commercial brands are not an effective and appropriate marketing tool for lifestyle sport mobile applications. Therefore, there is a need to identify the approach of users of such applications to different functions offered in apps to specify possible forms of commercial brands presence in them.

Aims and Methods

The first objective was to create the conceptual model of using applications on the sports market. Proposed model was to classify the types of lifestyle mobile applications used by companies on the sports market for brand promotion purposes and to identify the ways in which companies can reach users through applications. The recognition of the benefits that applications can provide to the enterprises and possible benefits of brand presence in applications for app users were also to be presented in model. The second objective was to study the opinions of runners about the presence of brands in sports mobile applications.

The first step was the literature review, which included articles from such databases as Web of Science, Scopus, ProQuest, Google Scholar. Authors collected over 50 different studies for an initial review and basing on keywords, abstracts and titles they made a selection process. Finally, 26 publications: articles and report were chosen for analysis.

The second step was testing the selected lifestyle sports mobile applications (Endomondo, Strava Running, Garmin Connect, Nike
Running Plus, Runtastic, Run-Long, RunKeeper, Sports Tracker, My Tracker, Google Fit) in order to identify apps' possibilities for enterprises to reach the sports application users.

The third step was analysing the selected results of own quantitative research. One of authors has carried out a research project (in 2014, 2016, 2018), that provides for periodic analysis of the sport activity of Polish runners and their shopping behaviour. The research as per the assumption is conducted in a two-year cycle, which in the long term will allow for comparative analyses and monitoring of changes (Waśkowski & Jasiulewicz, 2017, p. 25). So far, three editions of nationwide research have been conducted: in 2014 (sample of 4,466 runners), in 2016 (sample of 1,545 runners), in 2018 (sample of 889 runners). In 2014 the questionnaire did not contain questions about mobile applications, thus this study was excluded from the results analysis. The research sample included in the presented research consists of 2,434 questionnaires.

The data has been collected using the CAWI method, i.e. using an electronic questionnaire. Runners who simultaneously met the following criteria were invited to the study: they were at least 15 years old, did running at least twice a month and in the completed calendar year they ran at least 100 kilometres. The criteria for eligibility for the study were deliberately set at a low level, thus attempting to penetrate as many runners as possible. Reaching out to potential respondents, the selection of a snowball was used, i.e. the study participant recommended other runners who met the required criteria. Other method was the voluntary selection to participate in the study — in this case, running portals were used, through which the conducted research was communicated and readers were invited to participate.

Due to the adopted methods of selecting a research sample, it is difficult to generalize the results obtained for the entire population or it should be done with caution (Waśkowski & Jasiulewicz, 2017, p. 25). However, empirical material allows for the formulation of conclusions describing the usage of the sports applications by runners.
Theoretical foundation

It should be emphasized that the presented research area is in statu nascendi phase. Previous researches carried out in recent years have focused on the following issues:

- Factors that influence the use of mobile devices and mobile applications in sport context (i.e. Jae-Phil at al., 2017, pp. 281–297),
- Evaluation of existing mobile applications in relation to nutrition and health (i.e. Peart et al., 2019, p. 1167; Braz & de Moraes Lopes, 2019, pp. 1209–1214),
- Determination of relationship between the use of apps and changes in physical activity, health and lifestyle behaviour (i.e. Dallinga et al., 2015, pp. 1–9; Guo et al., 2017; Clermont at al., 2020, pp. 31–40; Hanson & Jobe, 2014, pp. 4–20; Carrol et al., 2017, p. 125; Bort-Roig et al., 2015, pp. 671–686),
- Determination of running application user profile regarding the demographic, social and psychographic characteristics (i.e. Janssen et al., 2017),
- Examination of in-app advertising in mobile applications or/and its influence on users (i.e. Yüce et al., 2019, pp. 34–44; Venkatalakshmi & Sachin, 2016, pp. 236–239).

After reviewing the literature, the authors noted that there is a lack of research on the perception of the presence of brands in lifestyle sports mobile applications by their users. This is a specific type of application due to its form and functions. Previous research has focused on the perception of marketing activity of companies in commercial mobile shopping applications performing primarily sales and promotional functions (Chiem, 2010, p. 46; Süleyman, 2007, pp. 26–38; Broeckelmann, 2010, pp. 414–429; Karthikeyan & Balamurugan, 2012, pp. 809–821; Rudaina, 2012, pp. 147–162; Mohd et al., 2013, pp. 135–153; Jasiulewicz, 2015, pp. 315–326). Therefore, the authors decided to initially describe this new scientific area.
Conceptual model of using lifestyle sports mobile apps

Basing on the literature review (References) and after testing selected lifestyle sports and fitness mobile applications (Endomondo, Strava Running, Garmin Connect, Nike Running Plus, Runtastic, Run-Long, RunKeeper, Sports Tracker, My Tracker, Google Fit) authors created conceptual model of using lifestyle sports mobile applications. (Figure 1). An attempt was made to classify the types of sports mobile applications used by companies for brand promotion purposes and to identify the ways in which companies can reach users through applications (commercial and social possibilities). The recognition of expected benefits that application can deliver to the enterprise and possible benefits associated with the presence of brands in the application for its user was also provided.

Considering the types of sports mobile applications that are available on the market with noticed presence of commercial brands, they can be divided into: own apps of sports brands, apps used by sports brands (but not owned by brands) and apps used by non-sports brands. Most of lifestyle sports application are free of charge and have advertising space. Sportswear companies repurchase fitness app firms. Some of sports brands own the apps: Under Armour bought MapMyRun and Endomondo, Asics owns Runkeeper, Adidas took over Runtastic, Nike has its Nike Run Club app (Tucker, 2017). Other sports brands use the foreign sports and fitness apps to communicate in various ways their promotion offer, even non-sports apps are present in sports apps (i.e. banks and enterprises that are sponsors of sports events).

The marketing space for brands in sports applications includes commercial possibilities: advertisement and shop (i.e. shop of Under Armour in Endomondo) and also social possibilities: challenges or contests (for sports amateurs using apps) and participating in charity (charity action proposed by companies in apps). The benefits that brands in the app can get are: increasing interest of users in brand offer, creating positive brand image (thanks to users' involvement in challenges and competitions as well as conducting charity actions in app), users data profiling and increase in sales. Thanks to the presence of brands in apps, users can get diversified app offer, may participate in interesting challenges and win the prize in
contests offered by brands, they have also ability to buy sports products via application and to participate in socially responsible activities proposed by company.

Basing on own quantitative research results authors tried to determine if application users evaluate positively the presence of brands in apps.

**Figure 1. Conceptual model of using lifestyle sports mobile apps**

![Conceptual model of using lifestyle sports mobile apps](source)

Source: own elaboration.

**Results**

Sports mobile applications are used by the majority of respondents. Almost 67% of runners declared using the application. Comparing the data from 2016 and 2018, the trend is growing, especially when it comes to free of charge applications, but the growth is also noticeable in the case of usage of both free and paid apps.

For Polish amateurs of physical activity Endomondo application is undisputed leader (other possibilities suggested in questionnaire were as follows: Nike Running Plus, Runtastic, Run-Long, RunKeeper, Sports Tracker, My Tracker, Google Fit, Other apps). Endomondo was chosen by 78% of runners in 2016 but there is a significant decrease to 45% of users in 2018. This is probably due to the growing popularity of other sports apps not indicated in the questionnaire — in 2018 respondents mentioned such apps as: Strava Running, Adidas MiCoach, Decathlon Coach and few others. Besides, leading brands producing professional sports watches have
recently introduced their own applications. Among the other apps mentioned by respondents in the open-ended question were: Garmin Connect (the most often indicated), Polar Flow, Suunto, TomTom Sports. These applications belong to the sports watches brands. Moreover, there is a clear correlation between running experience and the use of specific applications. Endomondo, RunKeeper Runtastic, Strava applications are mainly used by runners with shorter running experience (2 years or less). Many of these runners do not use sports watches while running. In turn, associated with sports watch applications Garmin Connect, Polar Flow, Suunto were indicated by runners with more running experience (at least 3–4 years and more). It should be emphasized here that some of these runners also use the Endomondo application (training statistics from the associated with watch application can be transferred to Endomondo automatically after training). Such results are in line with previous research. According to Janssen et al. (2017, p. 12) applications are more likely to be used by less experienced, less involved and younger runners. Therefore, apps have the potential to target group of running beginners, less trained, and unorganized runners. In contrast, sports watches are more likely to be used by a different group of runners, older and more experienced ones, with higher involvement.

So the potential of sports applications is still visible from the marketing point of view. Although apps and sports watches may potentially promote the brands, these electronic devices do require a differentiated approach to target specific needs of less and more experienced runners. Considerable efforts in terms of personalization should be made to develop the full potential of these electronic devices as a marketing tool for brand promotion. Regarding the functions offered in apps, runners are the most interested in training statistics (91% in 2016, 82% in 2018), observations of other runners’ trainings (69% in 2016, 60% in 2018) and informing other runners about personal achievements (67% in 2016, 61% in 2018). The function that allows to inform about your own sporting achievements can be indirectly used by commercial brands for promotional purposes by proposing participation in the challenges they create in the applications. For example, runners participating in the Under Armour challenge in Endomondo application can inform their real and virtual friends about own result in competition not only via Endomondo but also on Facebook. Respondents are less interested in training plans that
are available in apps, using personal audio trainer and music player, information about weather forecast. About 30% of runners use often, sometimes or rarely the function of nutritional advice in their applications. It could be a marketing space for brands producing functional food products and nutrients for athletes and amateurs of physical activity.

However, according to the research of Carlén & Maiivorsdotter (2017, pp. 18–32) astonishingly, runners do not use the performance-related feedback and health information offered by the digital tools like sports watches and associated applications to boost their running progress when participating in the social networking site (SNS). But on the other hand they willingly share details about their running performances, they signal their presence in the social network and plan running events (and that is in line with our research result). Digital information is mainly used to strengthen the runners' identity formation. The meaning-making of applications in consequence becomes a way of pointing an individual's social relation to runners' collective.

Many runners do not want the presence of commercial brands in mobile applications and consider it redundant (34%). Irritation with the presence slightly increased compared to the level from 2016. The presence of brands discourages one-tenth of respondents from using the application. On the other hand, there is a group of runners who appreciate the presence of brands, believing that it differentiates the application offer (22% in 2016 and 16% in 2018), increases the attractiveness of the application (11% in 2016 and 6,5% in 2018) and causes growing interest in the brand (6%) (Figure 2). Respondents also had the opportunity to express their opinions on the presence of brands in an open-ended question. Several people wrote that they accept the presence of brands because thanks to this presence the application is free of charge. However, according to the Mobee Dick report, the trend of aversion to advertising content in mobile applications is increasing. Users report willingness to pay for using the application, if there are no ads (Mobee Dick, 2018). So probably the ads are not the proper marketing tool for brand in apps.

The percentage share of supporters of brand presence in applications does not seem promising for companies. However, looking at the results presented in Figure 3, it is visible that quite a large group of respondents willingly take part in certain activities of brands in applications, even if
Figure 2. Respondents’ opinion about the presence of commercial companies in mobile apps

Source: own elaboration.

Figure 3. Frequency of participating in competitions proposed by companies

Source: own elaboration.
they declare negative approach towards brands presence in apps. Over 50% of runners positively respond to incentives of brands to participate in various types of competitions available in applications. Over 10% of runners participate often or very often in the challenges and competitions proposed by the brands through the application. Another 43% takes part in them sometimes or rarely.

Part of competitions is charitable and as such they are the most encouraging to participate in respondents' opinion (55% in 2016, 43% in 2018). In the case of some competitions sport amateurs may win attractive prizes. Interest in these challenges is lower than in those without prizes (21% in 2016, 15% in 2018). Respondents prefer competitions organized for promotional purpose by sport-related companies (12% in 2016 and 6% in 2018) than non-sport related companies (3% in 2016, 1% in 2018). That somehow may be explained by results of the research conducted by Mobee Dick (Mobee Dick, 2018). Users expect more and more personalized content and are more likely to get involved or be loyal to an application that provides content tailored to their individual tastes and habits. Polish users of mobile applications are waiting for a deeper integration of products with their behaviours and needs. Currently, a trend can be observed which can be summerized in the sentence: "Assistance is really the new battleground for growth". Users are looking for application-assistants and nowadays brands that are the most "assistive" win (Mobee Dick, 2018). Thus the presence of brands in sports applications that have nothing to do with physical activity can be seen as a fake by apps users.

The challenges posed only to Polish amateurs are more often chosen (21% in 2016 and 11% in 2018) than those with international character (10% in 2016, 4% in 2018). The respondents' favourite competition is the challenge in which the number of run kilometres in a given period counts. Interest in competitions in which cooperation with other runners is required (6% in 2016 and 5% in 2018) is relatively small. The presented results of own research show that over a period of 2 years a significant decrease in the involvement of competitions hosted in applications is observed (Figure 4). What are the reasons for the decline in interest in participating in challenges and competitions? To answer this question, more research would have to be carried out.
Figure 4. The types of competition encouraging to participate

Source: own elaboration.

Limitations and Recommendations for Future Studies

This study is not devoid of limitations. The shortcomings of this paper include the research method adopted by the authors. Authors used selected databases in the literature review, so article do not exhaust the subject. Moreover the result of the own study is not representative, so it should be interpreted with great caution. Only runners were included in the study, it did not include individuals engaged in other physical activities. Perhaps the
research results would be different if amateurs of other sports were included. In addition, the questionnaire was completed only by Polish runners. Perhaps users of sports applications from other countries would have a different approach to the presence of brands in applications. Another limitation is the fact that the last quantitative study was conducted in 2018, and in the meantime there have been changes on the mobile application market that the study does not take into account. The authors, testing applications for the purpose of the article in 2019, noticed changes in the content of sports mobile applications caused, among others by development of the mobile application market, introduction of innovative functions in applications and changes introduced in 2018 in the possibilities of issuing digital advertisement according to the guidelines of Coalition for Better Ads (the initiative associating Google and Microsoft, which introduces new advertising emission standards and causes that Google blocks the appearance of some ad formats). Another limitation is the fact that commercial possibilities for brands (advertisement and shop) were not included in quantitative the research. The study did not allow to examine the strength of the brands' presence impact on their perception and possible acceptance by users. In addition, research in this form does not allow determining how the presence of the brand in sports applications affects the brand's capital and brand value.

Although the article uses the results of empirical research, it should be treated primarily as a signaling of a new research problem, which is the new brand communication channel with consumers. Thus, it is descriptive rather than exploratory. For future research, the authors propose to verify the empirical model created by them by conducting empirical qualitative and quantitative researches focused mainly on the marketing potential of digital mobile devices on sports market from both: user and company perspective.

Conclusions

Lifestyle mobile applications may be promising marketing space for vendors, especially regarding the growing market of sports mobile apps users. The use of sports mobile applications gives commercial companies the
opportunity to profile their users' data and to create a positive brand image. Although many users of sports applications are reluctant to see brands in their applications, a significant proportion of them participate in the activities and challenges proposed by companies. Companies should avoid the direct ads. The presence of brands in applications can not be too invasive. Brands through applications should offer specific value expected by users (in accordance with the value marketing concept). The presence of company in application is not well perceived due to its commercial context. Therefore, in order to alleviate this reluctance, companies should engage in responsible social campaigns that will strengthen their credibility and increase the favor of users. Due to the possibility of users getting bored with the current offer after some time, companies should constantly search for innovative, personalized and attractive for the user opportunities to appear in foreign applications and constantly improve their own applications, if they have them.

According to the authors, sports mobile application is just a tool and to be effective it must be integrated into the entire marketing communication strategy of the brand.

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Zygmunt Waśkowski, Ph.D., D.Sc., Poznan University of Economics and Business, Marketing Institute, Department of Marketing Strategies, Poland — is a professor of Poznan University of Economics and Business, director of Marketing Institute and Head of Marketing Strategies Department, v-ce Dean of Faculty of Management PUEB in 2012–2019, chairman of the Board of Polish Scientific Society of Marketing. Scientific areas: Sport Marketing, Management of Sport Organisations, Marketing Strategies. Author of about 100 articles on these topics. Chairman of the organising committee of Running Events Conference (seven editions so far), one of the most important and prestigious running conferences in Poland. For six years he has been conducting scientific research on the Polish running market titled: "Profile of a Polish Runner".

Anna Jasiulewicz, Ph.D., Warsaw University of Life Sciences WULS, Faculty of Economics, Institute of Management, Poland — is an assistant professor of Faculty of Economic Sciences at Warsaw University of Life Sciences, theme editor in the international journal Annals of Marketing Management & Economics (AMME), head of Postgraduate Public Procurement Studies. She is an author of about 50 articles and researcher with special interest in marketing, consumer behaviour, enterprises marketing innovative strategies.