EC6617 - Professional Business Skills

Identifying Health and Fitness Opportunities for the Quick App Industry.

'The Greater Good' Quick App.

MSc Business Economics Monday 1st of May 2023

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Executive Summary:

Endogenous improvements in technology and exogenous factors like the COVID-19 pandemic have significantly changed the health and fitness industry in Ireland and the UK. The prevalence of obesity and chronic diseases is increasing in the UK and Ireland, and accordingly people are becoming more interested in fitness and wellness as well as the good cost-benefit ratios of relevant apps. The 'Greater Good' Quick App consultants have chosen the UK and Ireland as a key region for expansion. Apps for health and fitness can be an affordable and practical tool to help people to adopt better behaviours, such as consistent exercise and a balanced diet, which can help lower the chance of contracting certain diseases and improve lifestyle patterns. Additionally, these apps can help users achieve their exercise goals and enhance their general health and wellbeing. This analysis aims to give a succinct overview of the most recent trends in the Irish and British health, fitness, and wellness industries with a view to identifying potential growth opportunities for quick apps as a whole.

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Introduction:

Quick apps are lightweight mobile applications that can be accessed instantly without the need for a traditional installation process. They are designed to provide users with a fast and seamless experience, as they do not require any downloading, updating or installation. This results in higher engagement and retention. Quick apps are also cost-effective and can help developers reach a broader audience through links or QR codes. Additionally, they can be used as a marketing tool to offer a preview of the app's functionality and user experience, potentially increasing downloads and usage.

The "Greater Good" app aims to help people improve their health and wellbeing by using technology and data-driven insights. It plans to provide resources for tracking physical activity, food and water intake, stress management, and sharing goals and achievements. The app will also have unique features to provide mental health support, social and group support, and facilitate interaction with tourism and the environment. It will operate on a freemium subscription model where free users can access basic features, and premium users can access more advanced capabilities. The app will offer personalised coaching, thorough training routines, and character customisation for virtual characters. The developers aim to provide engaging and interactive campaigns on platforms like Fortnite and Snapchat to promote the app.

The UK and Ireland have been selected by consultants as prime areas for expansion for Quick Apps in the light of growing health and fitness industries in these countries. In the UK, the health and fitness market has become the third largest international market, contributing £78 billion to

global GDP. The market has also seen the emergence of fitness culture, leading to the creation of companies such as Gymshark and MyProtein. Similarly, the Irish government has implemented initiatives such as the Obesity Policy and Action Plan 2021 to enhance the health and fitness sector, with firms such as Holland & Barrett and MyCore Supplements expanding into the market. Health and fitness apps and social media have become prominent revenue-generating assets, with In-App purchases within health and fitness apps in Ireland projected to have reached \$16.46m in 2022. The consultants in this report have identified these countries as prime expansion areas for Quick Apps due to their potential for expansion in the present health and fitness culture.

The following report will consist of three main sections. The first addresses the nature and implications of Quick Apps. The second will explore market potential for health and fitness apps in Ireland and the UK, which will justify the selection of these markets for consideration, along with assessing the general techno-economic potential of quick apps through these case examples. For this goal, a wider analysis of the UK/Ireland health and fitness industry context for quick apps will be conducted by means of a PESTLE analysis to evaluate the external factors that might influence the success of quick apps. Finally, in the light of the above assessments of both supply and demand contexts, the opportunities for the 'Greater Good' app and the impact of government funding in advancing realisation of these opportunities will be addressed.

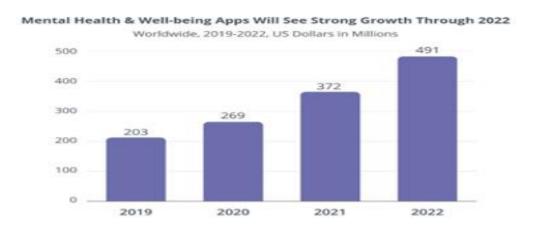
Quick Apps, their Nature and Implications:

Quick apps are lightweight mobile applications that provide users with instant access to content and services without the need for a traditional installation process. They are hosted on a cloud server and accessed through a dedicated icon or URL link, making them easy to use and reducing data usage. Quick apps are smaller in size than traditional apps and offer improved performance. They are particularly popular in markets with limited storage space and slower internet connections. Benefits for developers include lower development costs, simplified platform redirection, and improved user acquisition and retention. Quick apps are installation-free, space-saving, and easily accessible from various sources, providing a streamlined user experience(Huawei Developers, 2023).

The Quick App Alliance was formed in 2018 by 10 major Chinese companies, including Huawei, Xiaomi, OPPO, and Vivo, to create a community for developers to interact with quick app providers(OW2 Quick App Initiative, 2021). The alliance organises collaborative activities with external partners to help all involved to develop services and create shared opportunities. Due to Chinese regulations, Google App Store is not available in the Chinese market, and customers must rely on the manufacturer's app store. To counteract this, "Quick Apps" was launched.

COVID-19 has brought significant changes in people's lifestyle habits, with many people turning to their devices for daily workouts, diet and nutrition plans, mental health, etc. The installation of apps that offer customised home workouts, diet and nutrition plans, and mental wellness has increased. Some health and fitness applications are still becoming more and more popular even if all restrictions (COVID) have been eliminated.

Mental health and mindfulness apps have also emerged to meet the need and new demands in the market, with spending on mental health apps expected to reach \$491 million by 2022, more than twice as much as in 2019. People are turning to their devices to ease their mental burden. Accordingly, mental health and well-being apps are likely to see strong growth.



Overall, it appears that the market is adapting to shifting customer demands and tastes and that there is a need for quick and simple-to-use apps that address a range of health and wellness issues. Improved customer acquisition and retention, reduced development costs, and easier platform redirection are all advantages for developers who can meet these criteria. People's lifestyle patterns have changed significantly as a result of the COVID-19 pandemic, with an increase in the use of technology for daily exercise, food and nutrition programmes, mental health, and mindfulness. Improved customer acquisition and retention, reduced development costs, and easier platform redirection are all advantages for developers who can meet these criteria.

Market Potential for Health and Fitness Apps in Ireland and the UK?

Because of the UK and Ireland's fast expanding health and fitness industries and high rates of obesity in these nations, Quick Apps intends to strategically focus on these two markets. The third-largest health and fitness market in the world, the UK, adds £78 billion to global GDP, while the health and fitness market in Ireland is already well established and well-served by existing health and fitness apps. Given the rising interest in fitness and wellbeing in both of these nations, where over 50% of consumers anticipate maintaining or increasing their levels of activity, the "Greater Good" app has good potential. Further to this, Quick Apps help achieve economies of scale in the health technology sector since they can generate revenue through a variety of channels, including the subscription business model, in-app advertising, the sale of plugins, and/or partnerships with other businesses.

In the UK and Ireland, health and fitness apps are necessary for a number of reasons. People are becoming more aware of the value of maintaining a healthy lifestyle, which has led to a growing trend towards healthy living in recent years (Hammouri et al 2022; Smirmaul 2021), even if this also coincides with negative developments such as growing obesity. By giving users tools to measure their progress, set goals, and get advice, health and fitness applications can help people reach their health and wellness objectives. In the last decade, the UK health and fitness industries have undergone significant changes due to technological advancements and external events like the COVID-19 pandemic. A 2013 National Health Survey found that a quarter of adults were obese, and many recognized the danger of the UK becoming the most obese state in Europe by

2020. As a result, people began adopting healthier habits such as engaging in physical activities and improving their nutrition.

70% 60% Proportion overweight 50% England Spain A 40% 30% 20% 1980 1990 2010 1970 2000 2020

Fig.1: Proportion of citizens overweight 1970-2020

(Source: OECD)

Trends in the health and fitness industry have emerged, including influencers sharing tips on platforms like YouTube and Instagram, and companies such as 'Gymshark' and 'MyProtein' capitalizing on people's interest in health and fitness. These companies have been successful due to their strong business models and ability to adapt to external factors such as the COVID-19 pandemic and global crises. The UK health and fitness market is now the third largest in the world and contributes £78 billion to global GDP. Given this growth and the constant advancements in fitness and app-based technology, Quick Apps plans to expand in this area.

Ireland's health and fitness market is growing due to both good and bad trends, respectively a rise in health consciousness, on one side, and obesity levels on the other. In this context, initiatives have been implemented by the Irish government such as the Obesity Policy and Action Plan 2021, Many firms and individuals have taken advantage of these trends, including the rise of social media and health apps. Ireland has been identified as a prime expansion area for Quick Apps due to its potential as a foundational hub for the 'Greater Good' Quick App, with a well-developed market already penetrated by existing health and fitness apps. Similar to the United Kingdom; many firms and individuals took advantage of emerging trends in health and fitness, manifested for example in the opening up of 520 gyms across Ireland in just under a decade, (Healy 2020). On the basis of research into Far Eastern market trends, Quick Apps offer potential opportunities for gaining competitive advantage in the digital health and fitness markets of the Western hemisphere. Social media and health apps have become the most profitable assets in various industries.

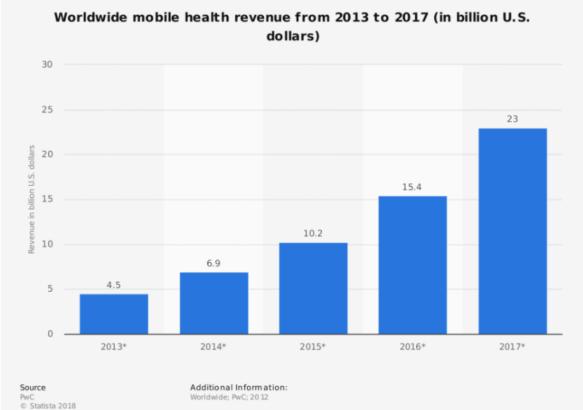
The growing interest in fitness and wellbeing in these countries suggests strong demand for these types of apps. With over 50% of consumers anticipating maintaining or increasing their levels of exercise compared to the time of COVID-19 restrictions, exercise is one of the stickiest behaviours examined by recent studies by PwC. Further, those surveyed for the same report discovered that exercise is among the top 5 pastimes crucial to their way of life(PricewaterhouseCoopers, 2022). Research has also shown that using physical activity apps as part of public health initiatives can have positive health and economic outcomes (Ronda et al 2021; Mano 2021). Therefore, promoting the use of health and fitness apps can be a valuable strategy for addressing the rising rates of obesity and chronic diseases in the UK and Ireland. These apps can help people adopt healthier habits, achieve their fitness goals, and improve their overall health and wellbeing. Many

apps also offer low-cost or free subscriptions, making them a more affordable alternative to gym memberships or private instruction. Overall, it would seem that demand conditions are promising.

Feasibility of 'Greater Good' App:

The feasibility of a software application is a crucial factor in determining its success. According to the World Bank's research on software application growth, determining the technical and financial viability of a project is an important step before investing in its development. This includes assessing its impact, functionality, and performance. In the healthcare industry, the use of mobile apps as helpful resources has become increasingly common. Patients can easily access health information, receive remote monitoring, and other health-related services, thanks to the widespread use of mobile devices. As of 2021, the worldwide revenue generated by the healthcare and fitness industry was \$2.4 billion, with the global spending on health and fitness apps growing by 70% YoY, according to Sensor Tower's report (Chan 2021).





It's not just technological advantages that make an app economically feasible; it's also important to consider its monetization potential. Building economies of scale in the health-tech industry requires the app to be a sustainable solution. Quick apps can generate revenue through multiple

mediums, such as the Subscription Business Model, In-App advertising, Sale of Plugins, and/or Partnerships with other companies.

One of these methods is the 'Freemium Subscription Model'. Quick apps implement a Freemium business model, as described by Christensen and Raynor (2003), offering a no-cost version of a product or service that can be upgraded to a premium version with added features or functionality upon payment. The complimentary version of the quick app's platform includes rudimentary functionalities for the development of mobile applications. However, users need to elevate to a subscription edition to avail themselves of sophisticated functionalities such as analytics, push notifications, and integrations with third-party services. The Freemium model is widely adopted across different industries, and it works well for free apps, regardless of genre.

Apart from its Freemium model, quick apps generate income by vending plugins and templates to software developers. These supplementary plugins and templates can augment the features of their applications or enhance their visual aesthetics. The plugins and templates are marketed as distinct products, and their pricing is contingent upon their intricacy and utility. Additionally, quick apps engage in strategic partnerships with firms that provide supplementary services, such as web hosting or payment processing solutions, to enhance its user experience and generate revenue by entering into revenue-sharing arrangements. Laudon and Laudon's (2016) research highlights the importance of collaborative agreements in generating revenue, and Quick Apps has been following this strategy. Furthermore, the In-App Purchases (IAP) market in the UK and Ireland is projected to reach a staggering \$29 billion by the year 2023 and grow to \$80 billion at a growth rate of 8.25% CAGR where the healthcare sector contributes about 14% of all revenue generated where the

average revenue generated per user was around EUR 2.02 (Statista, 2022). This highlights the potential for generating revenue through in-app.

Given that global expenditure on health and fitness apps has increased by 70% year over year, the healthcare and fitness sectors have significant income potential. Quick apps is a viable choice for creating healthcare apps, especially for ageing populations who can find it difficult to use sophisticated applications for their basic healthcare needs. The Subscription Business Model, In-App Advertising, Sale of Plugins, and/or Partnerships with Other Companies are just a few of the different ways that quick apps can make money.

Wider Analysis of Ireland and UK's Health and Fitness Industry - Context for Quick Apps

In the light of the above promising market situation, globally as well as in the two countries under consideration, more detailed analysis of the wider context appears appropriate. We will first address the wider context by means of a Pestle analysis and then assess the potential of Quick apps in this light.

Pestle Analysis

For a product like Quick Apps, a PESTLE analysis is crucial since it can be used to pinpoint the external factors that can have an impact on the company's success. The business may better grasp the industry and its potential and challenges by looking at the Political, Economic, Sociocultural, Technological, Environmental, and Legal variables that could have an impact on the 'Greater Good' app(CIPD, 2021).

Political:

In Ireland and the UK, the health and fitness industries are impacted by political decisions about taxes, regulations, and healthcare. The availability and affordability of healthcare services can have an impact on the demand for health and fitness items. Government financing decisions and regulations can also have an impact. While taxes on specific products may decrease demand, tax incentives for health and fitness programmes may raise it. The cost of providing goods and services as well as consumer demand may be impacted by safety and effectiveness regulations.

The political landscape in the UK and Ireland is stable, which is necessary for the 'Greater Good' app to succeed. Healthy lifestyles are encouraged in the UK and Ireland by the Health Incentives Scheme and Healthy Ireland Fund, respectively. In developed countries like the UK and Ireland, the health and fitness industry can be classed as advanced. Brexit brings complications for the UK, but not ones that can't be overcome in marketing these apps.

The 'Greater Good' app must also be aware of the following: Companies may be reluctant to commit to long-term plans until the political situation regarding Chinese producers becomes clearer, this might have an effect on the creation and promotion of health and fitness apps. The sectors in the UK and Ireland may be impacted by changes to rules regarding data protection and health and fitness apps.

Economic Factors:

In Ireland and the UK, economic issues have an impact on the health and fitness sector. These include demography, economic growth, production costs, and disposable income. The fitness sector depends heavily on consumer expenditure. When the economy is doing well, consumers are more likely to have extra cash to spend on personal training sessions, gym memberships, and other fitness-related goods and services.

Both the UK and Ireland have seen significant consumer spending on fitness and health, and recent years have seen a rise in this trend. This is demonstrated by the increase of companies and services in the health and fitness industry, including personal training centres, health food shops, and gyms. The 'Greater Good' app needs to be aware of how prices have been rising steadily in Ireland and the UK, especially for housing, childcare, healthcare, energy, and food. A potential threat of recession in the UK might potentially be brought on by a combination of rising inflation and cost of living, supply chain disruptions, and a potential slowdown in global economic growth. These difficulties must also be considered by the 'Greater Good' app.

The pricing strategy and market share of Quick Apps may also be impacted by the presence of competitors in the market. Due to the intense rivalry in these regions, businesses are encouraged to aim for excellence by providing superior products, services, and prices in an effort to draw in and keep customers. Innovation and enhancements to quality, effectiveness, and customer service may result from this. By giving customers options and generating market pressures that prevent enterprises from overcharging, competition also aids in price regulation. Finally, competition can

give customers more variety and options by enticing companies to provide a greater range of goods and services to suit a variety of requirements and tastes.

Sociological Factors:

In Ireland and the UK, sociological considerations have an impact on the health and fitness sector. These include social influence, education and knowledge, attitudes and beliefs, cultural ideas and values, and gender roles and expectations. Consumer behaviour can be influenced by societal ideals, social networks, education, attitudes, and gender roles, among other things. For businesses to predict shifts in demand and modify their products and services accordingly, it's critical to comprehend these elements.

Demand for fitness-related goods and services has increased as a result of society's growing emphasis on health and wellness. Fitness has become a more popular hobby across the population as a result, which has raised rivalry among fitness providers. The fitness sector has been significantly impacted by the growth of social media. Fitness influencers now have a platform to share their exercises, diets, and lifestyles on social media sites like Instagram and TikTok, which has raised interest in fitness. Ireland and the UK are therefore excellent locations.

Technological Factors:

In Ireland and the UK, technological elements have an impact on the health and fitness sector. These consist of electronic health records, virtual fitness, wearable technologies, smartphone apps, and artificial intelligence. Consumers can now choose from a variety of personalised, practical, and adaptable solutions thanks to technological improvements. Businesses in the sector can enhance their goods and services and better serve customers by utilising technology.

People now frequently use fitness apps to keep track of their exercise and diet. Users can register their meals, track their runs, and get personalised training routines using certain applications. The fitness sector has been significantly impacted by social media. Celebrities and influencers in the fitness industry have big fan bases and can inspire and motivate followers to exercise and lead healthy lives. Online communities for fitness, such forums and social media groups, let users interact with others who have similar fitness objectives and offer support and motivation.

Legal Factors:

In Ireland and the UK, legal considerations have an impact on the health and fitness sector. The following fall under this category: contract law, liability and risk management, intellectual property law, employment law, and consumer protection legislation. Businesses can safeguard themselves from legal liabilities and guarantee customer pleasure by adhering to legal regulations.

Personal data, including location data and user health information, is collected and processed by health and fitness apps. As a result, they must adhere to data protection and privacy rules, such as the General Data Protection Regulation (GDPR) and the UK Data Protection Act 2018, which specify how personal data must be processed and safeguarded. Consumer protection rules, such as the Consumer Rights Act 2015, which give consumers rights and safeguards when using digital services and making online purchases, must be complied with by health and fitness apps.

Apps for health and fitness may make use of intellectual property, including patents, copyrights, and trademarks, which needs to be properly licensed and protected. The UK Code of Non-broadcast Advertising and Direct & Promotional Marketing (CAP Code), which outlines guidelines for advertising and marketing communications, is one example of a law that must be complied with by health and fitness apps. The UK Employment Rights Act of 1996 and the Equality Act of 2010 are two examples of employment regulations that specify criteria for employee rights, working conditions, and discrimination. Health and fitness applications may employ employees or contract workers and are required to adhere to these rules.

Environmental Factors:

The health and fitness industries in Ireland and the UK may be impacted by environmental issues such as climate and weather patterns, accessibility of green spaces, environmental sustainability, pollution, and air quality. Businesses can address these issues by offering environmentally friendly facilities and equipment as well as interior choices with air filtering systems to meet the needs of customers.

Generally speaking, the UK and Ireland have variable and unpredictable weather. However, this may present chances for health and fitness apps as users may be more inclined to track their outdoor activities or employ indoor workout options as a result of the weather.

Pestle analysis conclusion

In conclusion, a variety of issues, including political, economic, social, technological, and legal ones, have an impact on the health and fitness industries in Ireland and the UK. The availability and affordability of healthcare services, as well as the demand for products related to health and fitness, can be impacted by political decisions regarding taxes, laws, and healthcare. The sector may also be impacted by economic factors like disposable income, production costs, and demographic factors like age and gender. Technological aspects like wearable devices, smartphone apps, and artificial intelligence are revolutionising the sector, while sociological ones like social influence, education, attitudes, and cultural concepts can affect customer behaviour. Finally, to ensure compliance and customer satisfaction, legal factors like data protection, intellectual property law, employment law, and consumer protection legislation must be taken into account. Overall, the UK and Ireland's consumers are driving change in the health and fitness sector, and companies who keep up with these trends have a better chance of succeeding.

Opportunities for 'Greater Good' App

Combining health and fitness with wellness tourism can offer a holistic approach to wellness that addresses both physical and mental wellbeing (Smith & Puckzko 2008). Government funding can

greatly impact the health and fitness industry, and promoting active transportation can benefit both the environment and people's health. By promoting healthy lifestyle choices and making fitness more accessible to the general public, increased government funding can have a huge impact on the health and fitness industry (Moustakas et al 2020; Gelius et al 2020; Reece et al 2020).

The 'Greater Good' app aims to stand out in the highly competitive health and fitness app market by offering unique features, such as mental health support, social and group support, and facilitating interaction with tourism and the environment. The app intends to combine wellness tourism with QR codes that provide historical and cultural information about scenic locations across the UK and Ireland. Additionally, the app will provide standard features such as tracking, exercise plans, dietary tracking, coaching, and wearable device integration to assist users in reaching their wellness goals. All of these have high promise.

The 'Greater Good' fast app, as previously said, aims to operate on a Freemium Subscription Model, which divides goods or services into free and premium versions. Free users will only be able to access a small number of features, but premium users can subscribe to the service and gain access to more robust functionality.

The 'Greater Good' app seeks to work with companies that are closely associated with the health and fitness sector. Food and nutrition, technology-enabled clothing, fitness gear, and leisure activities are a few examples. Through such potential associations and marketing campaigns, it will in return create a new and interactive health and fitness app with a sense of community. Thus,

this will provide a unique selling point and innovative app for the health and fitness industry, a niche market at the moment.

The 'Greater Good' app aims to capitalise on QR codes increasing popularity in recent years due to their ability to store and convey large amounts of information quickly and easily. In the context of health and fitness apps, QR codes can be used to provide quick access to relevant information and features. For example, a gym or fitness studio may provide QR codes at their entrance or on equipment, which can be scanned by users to access workout routines, track progress, or schedule classes. Similarly, health and fitness apps can use QR codes to provide personalised information and recommendations to users. For instance, a nutrition app may provide users with customised meal plans and recipes, which can be accessed by scanning a QR code on the packaging of a particular food item. The 'Greater Good' app aims to utilise these features by combining QR use with wellness tourism, gym usage, brand association and general health and fitness. The main distinctive feature of the 'Greater Good' app is the ability to pick it up at any time and at any place. The app aims to diminish traditional health and fitness concepts of individualistic approaches by creating a sense of community, through networking and sharing capacities.

To build trust for the 'Greater Good app, several strategies will be required. The first involves clear and transparent communication. The second is that the 'Greater Good' app needs to have a polished and user-friendly look. The third is that 'Greater Good' app ratings and feedback are also required. By showing that other users have had excellent experiences with the app, encouraging

user feedback and reviews can help increase trust in the app (Maalej et 2016; Hood et al 2016). The fourth is that the app must also demonstrate its ability to secure data storage in order to win users' trust. The 'Greater Good' app should employ secure data storage techniques to safeguard users' private information. The 'Greater Good' app must also finally demonstrate compliance with privacy laws regarding use of personal information.

Conclusion:

In conclusion, the health and fitness app industry has seen significant growth in recent years, with revenue generated from In-App purchases within the industry projected to continue to rise. In Ireland, this revenue is predicted to reach \$16.46m in 2022, highlighting the potential of the market in the country. Similarly, the UK has been identified as a prime expansion area for health and fitness apps, making it an attractive market for companies like the 'Greater Good'.

However, political factors such as Brexit and the regulatory climate may impact the industry in both Ireland and the UK. The uncertainty caused by Brexit may lead to changes in regulations and trade policies, affecting businesses in the industry. The regulatory climate, particularly with regards to data sensitivity and privacy, may also affect the way health and fitness apps operate in the two countries. Additionally, the attitudes towards Chinese social media and apps may also impact the industry, as concerns about data privacy and security may affect consumer trust.

Despite these potential challenges, the Greater Good Quick App aims to stand out in the highly competitive health and fitness app market by offering unique features, such as mental health support, social and group support, and facilitating interaction with tourism and the environment. These features may differentiate the app from existing ones and attract users in the crowded market. Overall, the health and fitness app industry in Ireland and the UK presents a promising opportunity for growth and innovation, with the potential to improve the health and well-being of individuals in the region.

References:

Agarwal, N. and Liu, H., 2008. Blogosphere: research issues, tools, and applications. *ACM Sigkdd Explorations Newsletter*, 10(1), pp.18-31.

Arghashi, V. and Yuksel, C.A., 2022. Interactivity, Inspiration, and Perceived Usefulness! How retailers' AR-apps improve consumer engagement through flow. *Journal of Retailing and Consumer Services*, 64, p.102756.

Arora, R., Parashar, A. and Transforming, C.C.I., 2013. Secure user data in cloud computing using encryption algorithms. *International journal of engineering research and applications*, *3*(4), pp.1922-1926.

Belch, G.E., Belch, M.A., Guolla, M.A., Webb-Hughes, A.M. and Skolnick, H., 2004. *Advertising and promotion: An integrated marketing communications perspective* (Vol. 6). New York: McGraw-Hill/Irwin.

Berry, L., Mirabito, A.M. and Baun, W.B., 2020. What's the hard return on employee wellness programs? (pp. 2012-2068). SSRN.

Carter, M., Moore, K., Mavoa, J., Horst, H. and Gaspard, L., 2020. Situating the appeal of Fortnite within children's changing play cultures. *Games and Culture*, *15*(4), pp.453-471.

Chan, S. (2021) Sensor Tower's State of Health & Fitness Apps 2021: Top U.S. workout apps see increased retention among older users, Sensor Tower - Market-Leading Digital & Mobile Intelligence. Available at: https://sensortower.com/blog/state-of-health-and-fitness-apps-report-2021

Christensen, C. M., & Raynor, M. E. (2003). The innovator's solution: creating and sustaining successful growth. Harvard Business Press.

CIPD (2021) Pestle analysis, CIPD. Available at: https://www.cipd.co.uk/knowledge/strategy/organisational-development/pestle-analysis-factsheet#gref

Cleary, A. and Dowling, M., 2009. Knowledge and attitudes of mental health professionals in Ireland to the concept of recovery in mental health: a questionnaire survey. *Journal of psychiatric and mental health nursing*, 16(6), pp.539-545.

Connolly, S., Carlin, A., Johnston, A., Woods, C., Powell, C., Belton, S., O'Brien, W., Saunders, J., Duff, C., Farmer, O., & Murphy, M. (2020). Physical Activity, Sport and Physical Education

in Northern Ireland School Children: A Cross-Sectional Study. *International journal of environmental research and public health*, 17(18), 6849.

Crilly, P., Hassanali, W., Khanna, G., Matharu, K., Patel, D., Patel, D., Rahman, F. and Kayyali, R., 2019. Community pharmacist perceptions of their role and the use of social media and mobile health applications as tools in public health. *Research in social and administrative pharmacy*, 15(1), pp.23-30.

Dwivedi, Y.K., Ismagilova, E., Hughes, D.L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A.S. and Kumar, V., 2021. Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, *59*, p.102168.

Evans, D. S. (2009). The Online Advertising Industry: Economics, Evolution, and Privacy. The Journal of Economic Perspectives, 23(3), 37–60.

Firmanza, M.H.D. and Artanti, Y., 2022. ONLINE BUYING INTENTIONS OF SHOPEE CONSUMERS: THE INFLUENCE OF CELEBRITY ENDORSEMENT, SOCIAL MEDIA MARKETING, AND BRAND IMAGE. *Jurnal Manajemen Pemasaran*, 16(2), pp.87-95.

Gelius, P., Messing, S., Goodwin, L., Schow, D. and Abu-Omar, K., 2020. What are effective policies for promoting physical activity? A systematic review of reviews. *Preventive Medicine Reports*, 18, p.101095.

Gubler, T., Larkin, I. and Pierce, L., 2018. Doing well by making well: The impact of corporate wellness programs on employee productivity. *Management Science*, 64(11), pp.4967-4987.

Guo, Y., Ma, X., Chen, D., & Zhang, H. (2022). Factors Influencing Use of Fitness Apps by Adults under Influence of COVID-19. *International journal of environmental research and public health*, *19*(23), 15460.

Hammouri, H., Almomani, F., Abdel Muhsen, R., Abughazzi, A., Daghmash, R., Abudayah, A., Hasan, I. and Alzein, E., 2022. Lifestyle variations during and after the COVID-19 pandemic: a cross-sectional study of diet, physical activities, and weight gain among the Jordanian adult population. *International Journal of Environmental Research and Public Health*, 19(3), p.1346.

Ho, J.T., 1997. Corporate wellness programmes in Singapore: Effect on stress, satisfaction and absenteeism. *Journal of Managerial Psychology*, *12*(3), pp.177-189.

Hood, M., Wilson, R., Corsica, J., Bradley, L., Chirinos, D. and Vivo, A., 2016. What do we know about mobile applications for diabetes self-management? A review of reviews. *Journal of behavioral medicine*, 39, pp.981-994.

Hsiao, K.L., Shu, Y. and Huang, T.C., 2017. Exploring the effect of compulsive social app usage on technostress and academic performance: Perspectives from personality traits. *Telematics and Informatics*, 34(2), pp.679-690.

Huawei Developers (2023). *About Quick Apps*. Available at: https://developer.huawei.com/consumer/en/doc/development/quickApp-Guides/quickapp-introduction-0000001126786237

Jeong, D.C. and Lee, J., 2017. Snap back to reality: Examining the cognitive mechanisms underlying Snapchat. *Computers in Human Behavior*, 77, pp.274-281.

Jones, M.J. and Schumann, D.W., 2000. The Strategic Use of Celebrity Athlete Endorsers in Sports Illustrated: An Historic Perspective. *Sport marketing quarterly*, 9(2).

Kim, S.C., Yoon, D. and Han, E.K., 2016. Antecedents of mobile app usage among smartphone users. Journal of marketing communications, 22(6), pp.653-670.

Laudon, K. C., & Laudon, J. P. (2016). Management information systems: managing the digital firm. Pearson.

Lee, G. and Raghu, T.S., 2014. Determinants of mobile apps' success: Evidence from the app store market. *Journal of Management Information Systems*, 31(2), pp.133-170.

Liébana-Cabanillas, F., García-Maroto, I., Muñoz-Leiva, F. and Ramos-de-Luna, I., 2020. Mobile payment adoption in the age of digital transformation: The case of Apple Pay. *Sustainability*, *12*(13), p.5443.

Liu, X., Zhu, M., Zhang, R., Zhang, J., Zhang, C., Liu, P., Feng, Z. and Chen, Z., 2021. Public mental health problems during COVID-19 pandemic: a large-scale meta-analysis of the evidence. *Translational psychiatry*, 11(1), p.384.

Lowry, P.B., Wells, T.M., Moody, G.D., Humphreys, S. and Kettles, D., 2006. Online payment gateways used to facilitate e-commerce transactions and improve risk management. *Communications of the Association for Information Systems (CAIS)*, 17(6), pp.1-48.

Maalej, W., Kurtanović, Z., Nabil, H. and Stanik, C., 2016. On the automatic classification of app reviews. *Requirements Engineering*, 21, pp.311-331.

Mai, Y. and Hu, B., 2022. Optimizing free-to-play multiplayer games with premium subscription. *Management Science*.

Mano R. (2021) Mobile Health Apps and Health Management Behaviors: Cost-Benefit Modeling Analysis. JMIR Hum Factors. 2021 Apr 22;8(2):e21251. doi: 10.2196/21251. PMID: 33885372; PMCID: PMC8103300.

Mattke, S., Liu, H., Caloyeras, J., Huang, C.Y., Van Busum, K.R., Khodyakov, D. and Shier, V., 2013. Workplace wellness programs study. *Rand health quarterly*, *3*(2).

Marlatt, R. (2020). Capitalizing on the Craze of Fortnite: Toward a Conceptual Framework for Understanding How Gamers Construct Communities of Practice. *Journal of Education*, 200(1), 3–11.

McGorry, P., Bates, T. and Birchwood, M., 2013. Designing youth mental health services for the 21st century: examples from Australia, Ireland and the UK. *The British Journal of Psychiatry*, 202(s54), pp.s30-s35.

Mendiola, M.F., Kalnicki, M. and Lindenauer, S., 2015. Valuable features in mobile health apps for patients and consumers: content analysis of apps and user ratings. *JMIR mHealth and uHealth*, *3*(2), p.e4283.

Miller, C. J., Brannon, D. C., Salas, J., & Troncoza, M. (2021). Advertising, incentives, and the upsell: how advertising differentially moderates customer- vs. retailer-directed price incentives' impact on consumers' preferences for premium products. *Journal of the Academy of Marketing Science*, 49(6), 1043–1064.

Moustakas L, Szumilewicz A, Mayo X, Thienemann E, Grant A. (2020) Foresight for the Fitness Sector: Results from a European Delphi Study and Its Relevance in the Time of COVID-19. Int J Environ Res Public Health. 2020 Dec 1;17(23):8941. doi: 10.3390/ijerph17238941. PMID: 33271932; PMCID: PMC7730891.

O'Connor, K., Wrigley, M., Jennings, R., Hill, M. and Niazi, A., 2021. Mental health impacts of COVID-19 in Ireland and the need for a secondary care mental health service response. *Irish journal of psychological medicine*, 38(2), pp.99-107.

Oo, K.Z., 2019. Design and implementation of electronic payment gateway for secure online payment system. *Int. J. Trend Sci. Res. Dev*, *3*, pp.1329-1334.

OW2 Quick App Initiative (2021) *Quick app, OW2 Quick App Initiative*. Available at: https://quick-app-initiative.ow2.io/page/whitepaper/

Pal, D., Vanijja, V. and Papasratorn, B., 2015. An empirical analysis towards the adoption of NFC mobile payment system by the end user. *Procedia Computer Science*, 69, pp.13-25.

PricewaterhouseCoopers (2022) *Outlook for fitness 2022*, *PwC*. Available at: https://www.pwc.co.uk/industries/hospitality-leisure/insights/outlook-fitness.html

Reece, L.J., McInerney, C., Blazek, K., Foley, B.C., Schmutz, L., Bellew, B. and Bauman, A.E., 2020. Reducing financial barriers through the implementation of voucher incentives to promote children's participation in community sport in Australia. *BMC Public Health*, 20, pp.1-7.

Rondina, R., Hong, M., Sarma, S. and Mitchell, M., 2021. Is it worth it? Cost-effectiveness analysis of a commercial physical activity app. *BMC Public Health*, 21(1), pp.1-10.

Sashittal, H.C., DeMar, M. and Jassawalla, A.R., 2016. Building acquaintance brands via Snapchat for the college student market. Business Horizons, 59(2), pp.193-204.

Smith, M. and Puczkó, L., 2008. Health and wellness tourism. Routledge.

Smirmaul, B.P., Chamon, R.F., de Moraes, F.M., Rozin, G., Moreira, A.S.B., de Almeida, R. and Guimarães, S.T., 2021. Lifestyle medicine during (and after) the COVID-19 pandemic. *American Journal of Lifestyle Medicine*, *15*(1), pp.60-67.

Soliman, M., Rasheed, A., Hady, H. A., Jdaitawi, M., Khamees, A., & Abdelsalam, R. (2022). The impact of mobile phone fitness applications on the level of physical fitness and psychological well-being during covid-19: The case of university students. *Journal of education and health promotion*, 11(1), p.299.

Statista (2022) *App - worldwide: Statista market forecast*, *Statista*. Available at: https://www.statista.com/outlook/dmo/app/worldwide

Valcarce-Torrente, M., Javaloyes, V., Gallardo, L., García-Fernández, J., & Planas-Anzano, A. (2021). Influence of Fitness Apps on Sports Habits, Satisfaction, and Intentions to Stay in Fitness Center Users: An Experimental Study. *International journal of environmental research and public health*, 18(19), 10393.

Vinnikova, A., Lu, L., Wei, J., Fang, G., & Yan, J. (2020). The Use of Smartphone Fitness Applications: The Role of Self-Efficacy and Self-Regulation. *International journal of environmental research and public health*, *17*(20), p.7639.

Wilkowska, W. and Ziefle, M., 2012. Privacy and data security in E-health: Requirements from the user's perspective. *Health informatics journal*, 18(3), pp.191-201.

World Bank. 2014. Feasibility Assessment for Developing a Mobile Applications Sector in Afghanistan.

Xiong, J., Lipsitz, O., Nasri, F., Lui, L.M., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A. and McIntyre, R.S., 2020. Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of affective disorders*, 277, pp.55-64.

Zhao, J., Freeman, B. and Li, M., 2016. Can mobile phone apps influence people's health behavior change? An evidence review. *Journal of medical Internet research*, 18(11), p.e287.