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IMC and its impact on intention to use Mobile based fitness apps

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Abstract

Use of smart devices and mobile based fitness apps are new in India and people are hesitating to adopt it as a personal fitness coach or fitness guide. Little knowledge or known factors explored regarding determinants that affect intention to use of fitness apps, and role of Integrated Marketing Communication (IMC) on adoption of such fitness apps. We examine the intention to use fitness apps. We studied the effect of IMC on intention to use fitness apps and other relationships were also checked. Variables we took for the study are IMC, Usability, Trust, Experience and Intention to Use (ITU). The study has been conducted with the help of 263 respondents, those using fitness apps for their personal fitness goals. Administered questionnaire was used for data collection and partial least squares-structural equation modelling (PLS-SEM) technique has been used to analyze the model and hypotheses check. The model triggered that ITU has significance influenced by IMC, experience, trust directly, usability have indirect effect with help of positive experience, IMC has direct effect on usability and trust, IMC has indirect effect on experience with the help of usability. Overall, the fitness app intention to use has been positively influence by the other variables of the study.

Subject Classification: *M37.*

Keywords: *IMC, Intention to use, Fitness apps, Trust, Usability, Experience, Fitness goals.*

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Introduction

Smart phones allows people to connect with people, company and institution. ICT companies are exploring market with new products and services. Smart phones are rapidly adopted by people. Smart phones based apps are prevailing everywhere with new services. People are openly welcoming innovative apps. Fitness apps are quite popular in all age groups for their physical and mental health. Smart phone based apps take care of health and are managing health by providing valuable information about individual goals (Busch, Utesch, & Strauss, 2020). Adoption and intention to use fitness apps in market is high but we are here studying the effect of IMC on intention to use fitness apps by users and what other parameter influences the adoption and intention to use fitness apps. (Khoa, 2021). Fundamentals of IMC i.e tactical promotional elements, innovative marketing communication with the help of ICT, financial and cost effective integration with product or service and strategic alliance of product and service with user to enhance user satisfaction(Holm, 2006).

We framed integrated model with help of IMC and other components such as usability, trust, experience to measure intention to use these mobile based fitness apps among users.

Literature Review

"Physical Fitness" is very important for people. People are finding ways to track the physical activity they are performing. Everyone is tracking something. Recent innovation in technology also influences Health and Fitness perspective of human beings. It helps in evolution of new section and class of people those are fitness freak and willing to integrate with technology, this technology helps to track information like personal activity and physical fitness (Dogra, Dhiman, Aroro, & Gupta, 2019). Personal tracking in the form of steps count, heart beat rate, sleep tracking, calories burnt and consumed. Human trainers were replaced by Smartphone applications (apps) trainers and they became personal trainers of person which can assist and guide 24*7(Mollee, Middelweerd, Kurvers, & Klein, 2017).

Market size of global fitness app was around USD 4.4 billion in 2020. Expected growth rate is 21.6% from 2021 to 2028(Research Grand view, 2021). Prime utility of fitness apps are setting a fitness goals, enhancing fitness activity, weight loss, diet and nutrition plan and relaxation(Hu & He, 2020). Following factors majorly influence ***intention to use***(Zhou,

2012) of fitness app: ***IMC***(Finne & Gronroos, 2017; Valos, Maplestone, Polonsky, & Ewing, 2017), ***Usability***(Alturki & Gay, 2017; Kranz et al., 2012; Zapata, Fernández-alemán, Toval, & Idri, 2018), ***Experience***(Ju, Park, & Kyoung, 2017; Kim, Mirusmonov, & Lee, 2010; Wei, Vinnikova, Lu, & Xu, 2020) and ***trust***(Beldad & Hegner, 2018; Martin & Shilton, 2016). Apps have specified instructions and guidance to user, which helps in building friendly relationship between user and apps. It also helps in creation of positive behavioural intention to use the app(Sharma & Chintalapati, 2021). In our literature review we explore various causes that influence intention to use of fitness apps, those opted fitness apps as a fitness guide or fitness trainer, and after the literature review we identified important factors that influence the intention of user to use fitness apps.

Integrated Marketing Communication (IMC)

Modern communication media knows how to influence and persuade end user, so they follow strict disciplined and well planned communication process to persuade consumer, IMC has been constructed with help of advertising, sales promotion, sponsorship, direct marketing, public relation, personal selling, exhibitions and CRM(Sawmong, 2018). Social media marketing is a sub-element of IMC which influences and persuades smart phone users to download and use fitness tracking apps(Pinto & Yagnik, 2017).

H1: IMC has significant and positive relationship with usability of mobile fitness apps in achieving personal fitness goals.

H2: IMC and its components have positive relationship with experience.

IMC and its components have positive relationship on intention to use, a specific well planned IMC strategy focuses on needs of all users of the service, right strategic planning by integrating IMC which creates positive user experience, it further leads to continuance of intention to use(Barker, 2013)

H3: IMC has significant and positive relationship with intention to use of mobile fitness apps in achieving personal fitness goals.

IMC helps in managing knowledge and information with customer. It helps in creation of long term bond between the service provider and

customer which is the key to success by creating trust between service provider and user(Barker, 2013)

H4: IMC has significant and positive relationship with trust in mobile fitness apps in achieving personal fitness goals.

Usability

In terms of human and computer interaction usability is an important and key strategic indicator which has major role in success of an organization. It has positive influence on experience of services through digital communication platforms which is termed as perceived usability(Guinalíu, Casalo, & Belanche, 2012).

H5: Usability has significant and positive relationship with experience of mobile fitness apps in achieving personal fitness goal.

Trust

Trust brings faith in the product or service. User started believing in it which helps them to overcome uncertainty and fear which is associated with product or service. Trust helps in creating user believe which affects intention to use product or services(Ajzen & Fishbein, 1977).

H6: Trust has significant and positive relationship with intention to use mobile fitness apps in achieving personal fitness goals.

Experience

Fitness apps provide better experience by engagement with user rather than other physical form of service providers(Hsu & Lin, 2020). It provides a delight user experience that helps in creating of long term association and usability with fitness app(García-Fernández et al., 2020). Fitness app experience has positive effect on intention to use.

H7: Experience has significant and positive relationship with intention to use mobile fitness apps in achieving personal fitness goals.

Intention to Use

Intention to use is predefined term that shows direction either positive or negative acceptance. Intention to use depends on following Factors

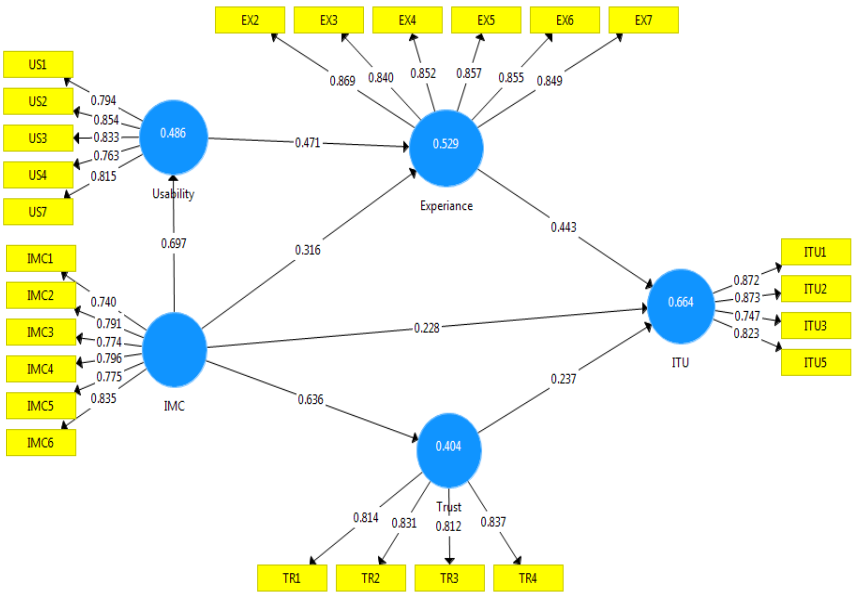

Figure 1

Research Model

mentioned in Figure 1 are performance expectancy, effort expectancy, social influence, and facilitating conditions (Chiu, Cho, & Chi, 2020).

Research Methodology

Context, Subjects and Data Analysis

The study was conducted in Eastern part of India limited to Jharkhand, Bihar and Odisha. Respondents were those using fitness App in their day to day activities. 780 questionnaires were distributed, 285 received and 263 data analysis was done. 90 were female and 173 were male. SmartPLS 3.0 software used to test the theoretical model and execute structural equation modelling(SEM). Model and Hypotheses were developed and tested by two-steps process (measurement model) and hypotheses testing. The scale has been constructed by variables of IMC, Usability, Intention to use, Trust and Experience(Khoa, 2021; Rupp, Michaelis, McConnell, & Smither, 2018; Zapata et al., 2018). Initially scale was constructed with the help of 33 Items out of which we deleted 08 items because of lower outer loading value or due to cross loading. Final study has been executed with the help of 25 items.

Model Measurement and Assessment

First we check the **reliability and validity** of the model. Cronbach's alpha and Composite Reliability of variables are above 0.70, Average Variance Extracted (AVE) is more than 0.50, which indicates good relationship strength. **IMC** (Cronbach's Alpha is 0.876, CR is 0.906 and Average Variance Extracted is 0.617), **Usability** (Cronbach's Alpha is 0.871, CR is 0.906 and AVE is 0.617), **ITU** (Cronbach's Alpha is 0.848, CR is 0.898 and AVE is 0.689), **Trust** (Cronbach's Alpha is 0.842, CR is 0.894 and AVE is 0.678), **Experience** (Cronbach's Alpha is 0.962, CR is 0.942 and AVE is 0.729).(Joseph F.Hair, Marko, Christian M, & Siegfried P, 2017).

Convergent and Discriminant Validities has been shown here for validity assessment of model. Here we cited convergent validity (CV) Average variance extracted (AVE) and factor loadings. Accepted values of these three items were as follows; factor loading must be equal to or greater than 0.07, AVE must be equal to or greater than 0.5, values of factor loadings, AVE are under acceptance range. Therefore our convergent validity is ascertained. For discriminate validity we checked Heterotrait – Monotrait ratio (HTMT) correlation has been examined in our study. It is found that HTMT values are less than 0.90, which is in the accepted range of HTMT co-relations(Joseph F.Hair et al., 2017).

Structural model result mentioned in Table 1, reflects that all framed hypotheses were accepted and justify relationships statistically. It is found that experience has a positive and significant influence on intention to use ($\beta = 0.443, p < 0.01$). IMC has a positive and significant influence on experience ($\beta = 0.316, p < 0.01$). IMC has positive and significant influence on Intention to use ($\beta = 0.228, p < 0.01$). IMC has a positive and significant influence on trust

Table 1
Hypothesis Testing

H	Relationship	Path coefficient	P Value	Decision
H1	**Experience -> ITU**	0.443	0.000	Supported
H2	**IMC -> Experience**	0.316	0.000	Supported
H3	**IMC -> ITU**	0.228	0.011	Supported
H4	**IMC -> Trust**	0.636	0.000	Supported
H5	**IMC -> Usability**	0.697	0.000	Supported
H6	**Trust -> ITU**	0.237	0.011	Supported
H7	**Usability -> Experience**	0.471	0.000	Supported

(β= 0.636, p< 0.01). IMC has significant and positive influence on Usability (β =0.697, p < 0.01). Trust has positive and significant influence on intention to use (β= 0.237, p< 0.01) and usability has positive and significant influence on experience (β= 0.471, p< 0.01). The R^2 value of dependent variables with their independent variable explains relationship strength. In our study R^2 value of Usability, Intention to use, trust and experience are 0.486, 0.664, 0.404, and 0.529 respectively. It reflects there is a moderate exploratory relationship between dependent and independent variables. All values are above acceptance value i.e. 0.10(Hair, J. F. Jr., Hult, G. T. M., Ringle, C. M., Sarstedt, 2014).

Discussion

Mobile based Fitness Apps change the pattern of how people are taking their health and placing efforts to make themselves fit(Chiu et al., 2020). Fitness apps provide deeper understanding of self fitness goals, personal data gathered from apps helps to make better plans for workout and diet intake for users. Fitness apps became personal trainers for users, they provide complete information regarding steps count, calories consumed, calories burnt, heart beat count, sleep monitor(Kang, Kim, & Kim, 2018). App supported mobile technology is new and increasing day by day. Now that people are becoming more health conscious, these apps have become a supporting tool or personal guide to make them fit(Kang et al., 2018). It is not possible to access a gym or fitness trainer or to give dedicated time for fitness activity, in such cases these apps are effective for individuals to guide and support (Yu, S., & Wang, J., 2020). In such circumstances our study investigates the user's fitness App intention to use and role of IMC, Usability, Trust and Experience

IMC is based on use of information and communication technology changes the nature of interaction with consumers which enhance usability of fitness Apps. IMC is significantly predicting the user experience of fitness apps. IMC influences the psychology of users by stimulating their intention to use and re-use fitness apps to gain fitness and health goals. IMC is significantly predicting trust. Trust developed when effective communication happened, IMC helps in communicating messages of faith and bond with user needs. This is how IMC helps in trust development regarding fitness apps. Usability is significant in predicting experience. Experience is the outcome of interaction with products or services. Fitness apps are more convenient, cost effective, fatigue free and available on finger tips. So, users have positive experiences with fitness apps in India.

Trust is significant in predicting intention to use. User trust brings faith on fitness apps and has direct connection with intention to use. Trust is a key component in formation of positive intention in the mind of the user. Experience predicts on intention to use. Experience can be classified by effort and performance. Achieving a fitness goal is a long term and continuous process. It is possible only when users have positive experience and continuous intention to use fitness apps.

Conclusion

Adoption and experience of fitness Apps are influenced by various factors. In this study we investigated the factors which influence intention to use a fitness app. Adoption and innovation is going on as smart phones, smart devices and new apps are coming into the market and people are adopting them happily. This is a first generation user of fitness apps as both smart devices and smart fitness apps are new for Indians. So, it is not explored properly and there is a literature gap regarding what factors affect use of fitness Apps broadly, what is the role of IMC and how other factors influence user experiences related to fitness Apps. Our study tries to fill this research gap regarding intention to use fitness apps in India among these first generation users.

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