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eSport in the digital era: Exploring the moderating role of perceived usefulness on financial behavioural aspects within reward-crowdfunding

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eSport and digital transformation: exploring financial behavioral aspects of reward crowdfunding

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Abstract

eSport is revolutionizing the video games and sport industry in the era of Digital Transformation. Applying the Theory of Planned Behaviour (TPB), this study aims to investigate the links between the eSport individual motivation and financial behaviour in reward-crowdfunding. A survey has been conducted among 327 people to understand their psychological and behavioural aspects on eSport and crowdfunding. The results from OLS analysis demonstrate a preponderant role of personal, non-financial, motivations in participating in reward-crowdfunding campaigns. The paper contributes to validating and applying TPB in the context of eSport and reward-crowdfunding.

Keywords

eSport, Digital Transformation, Crowdfunding, Theory of Planned Behaviour, Financial Behaviour

1. Introduction

eSport is become one of the most popular online entertainments in recent years. But what precisely is an eSport? A definition that fits the term perfectly was given by Segal (2014), and also reported by authoritative researches on the subject such as Jenny et al., (2017), "*A catchall term for games that resemble conventional sports insofar as they have superstars, playoffs, fans, uniforms, comebacks, and upsets.... But all the action in [eSports] occurs online, and the contestants hardly move*". The era of competitive video games has begun. For instance, The Dota2 eSports tournament, called "The International", was, in 2021, the event with the highest prize pool in the history of eSports: 40 million USD. According to Newzoo, a leading company in the analysis of eSports data, there are 500 million "eSport enthusiasts" in the world, more than double compared to 2017. An increase that opens up more and more new business opportunities

However, not all video games are eSports. Funk et al. (2018) identify the characteristics that videogames must have to be considered eSports: a well-defined structure of rules, an organization and being competitive, i.e. at the end of the game to have a winner and a loser. It is easier to define eSports than to understand the dynamics and motives that push individuals

to be so attracted to them. eSports can be seen as a consequence of the changes that digital transformation is having on humanity (Bertello et al.,2021; Bresciani et al.,2018; Scuotto et al., 2017; Scuotto et al., 2016). The digitalization of human life has seen an increase, and in part shifted (through the use of online platforms such as YouTube and twitch to name a few), the attention of millions of people from real to digital sports.

But what is most evident from a scientific point of view, regarding eSport in the era of digital transformation, is well described by Cunningham et al. (2018): "most studies are atheoretical in nature". Hence, the needs to give solid theoretical foundations, in the development of studies that try to understand eSport as a transition phenomenon in the era of digital transformation, is the theoretical gaps that this study seeks to fill. In particular, there are two aspects that are most overlooked in the current literature. The first is how eSports can be financially supported by "eSport enthusiasts", the second concerns their behavioural aspects.

In this study, we suggest reward-crowdfunding as the main financial source to support eSports. Crowdfunding can be defined as a form of project financing based on the collection of funds from multiple backers who participate with a small share (Belleflamme et al., 2014). While in equity crowdfunding the main objective of investors is to obtain a return on invested capital, in reward crowdfunding people are guided by different choices (Shneor and Munim, 2019), such as: helping others and personal gratification. However, following the Theory of Planned Behavior (TPB) there are psychological reasons that can influence an individual to financially support a reward-crowdfunding campaign (Shneor and Munim, 2019). Hence, this study attempts to understand the relationship between the motivations that make people "eSport enthusiasts" and their behaviour in supporting eSports through equity crowdfunding campaigns. Furthermore, to understand what can influence this relationship, based on the Technology Acceptance Model (TAM) (Davis, 1989), the role of the behaviour of individuals in the use of digital technologies is investigated (Davis et al., 1989; Venkatesh and Davis, 2000).

To achieve the objectives of this study, a survey was carried out on a sample of 327 people. The data obtained were analysed by developing multiple Ordinary Least Square (OLS) regression models. The results obtained confirmed that the psychological motives that lead people to be "eSport enthusiasts" are able to positively influence the financial behavioural aspects of reward crowdfunding. Furthermore, the results show that the personal attitude to digital transformation plays a mediator role in the relationship between motivations and financial behaviour.

On the basis of these original results this study contributes both from a theoretical and managerial point of view. First, we contribute on eSports literature (e.g., Funk et al., 2018; Jenny et al., 2017; Hallmann and Giel, 2018) with the study of personal psychological aspects associated with them. Second, we contribute to crowdfunding literature exploring the emotional aspects that lead people to decide to participate in crowdfunding campaigns (Battisti et al., 2021; Vrontis et al., 2020. Third, this research contributes to validating and applying TPB in the context of eSports and reward crowdfunding (Ajzen, 1991; Shneor and Munim, 2019). Fourth, we contribute to the literature on digital transformation by addressing two issues, eSports and Crowdfunding, generated by this phenomenon. In particular, addressing the psychological and behavioral aspects of people in reference to the digital transformation. Finally, we present two managerial contributions. First, we suggest crowdfunding as a successful tool to support employees and eSports participants. Furthermore, the psychological aspects related to digital transformation suggest paying attention to tools to make players more passionate about eSports.

2. Literature review and Hps development

2.1 eSport a quick review: definition, reasons and psychological aspects

It is fair to ask whether eSports can be defined as real sports (Cunningham et al., 2018). The applicability of certain theoretical constructs, more closely linked to the world of sports, is also to be found in the characteristics of eSports. For instance, are sports business management principles also applicable to eSports?
"Classic" sports have 5 distinctive features (Morgan, 2007): (i) physical activity, (ii) requiring skills, (iii) competitive, (iv) some level of stability and (v) organizations that regulate activities. Scholars agree that eSports are characterized by (e.g., Jenny et al., 2017; Hallmann and Giel, 2018): a necessary level of skills to compete, therefore they are competitive by nature. They are also characterized by stability, in fact the teams have sponsors, coaches and facilities; in addition to a management with distinctive skills. Finally, there are institutions and organizations[1] that create rules and protect organization employees and players.
A broader debate instead involves whether and how eSports are characterized by physical

[1] For instance, Eurogamer, at sports academy in London, in 1999 launched the Online Gamers Association. However, each state has its own rules. In fact, in some of them being considered sports allows access to funds to finance activities. For example, in Canada eSports are not considered real sports while in New Zealand there are organizations (e.g., New Zealand eSports Federation (NZESF)) that promote events and protect the interests of participants. In our research we focus on the characteristics of individuals, however, as will also be reported in future lines of research in the next pages, an institutional study approach could open new interesting lines of research.

activity component. The results provided by Funk et al. (2018) show that eSports have a motor and psychological activity similar to that of other sports, this may confirm the thesis that eSports could be considered in all respects as sports. There is no doubt the static nature of playing competitively videogames, but it is also true that there are sports considered as such while remaining static in their nature (Cunningham *et al.*, 2018). An example is archery, characterized by a prevalent psychological component compared to the physical one. However, it is considered a sport like soccer, basketball and volleyball. There are also sports that have an extreme physical and psychological component while remaining "seated", i.e. Formula 1.

Hence, the debate on whether activities related to the world of eSports are healthy is inevitable (Wattanapisit *et al.*, 2020). Staying in front of a screen for more than 10 hours, which translates into a sedentary lifestyle, may increase the risk of both physical and psychological illness (Ferguson, 2013; Leis and Lautenbach, 2020). But can they be a discriminating factor for not considering them as sports? These problems are capable of afflicting even the most traditional sports at high level of competition[2] (Hughes and Leavey, 2012). This makes the debate open, but one that must be addressed by authoritative colleagues in their field.

However, what can be questioned are the reasons and motivations that drive individuals to follow and compete in eSports. One of the reasons could be the search for greater satisfaction with the life you lead. Some preliminary studies have shown that participation in eSports, considering the social outcomes that they can generate, may has positive effects on social relationships (Powdthavee, 2008). They may translate into better psychological health and better life satisfaction (Orlowski and Wicker, 2015).

Another aspect that may be addressed is the possible loneliness, a reason that could distance people from videogames and therefore from the world of eSports. Drawing from sport literature, it was highlighted that team sports allows people to identify themselves with a group increasing the individual social well-being (Pels and Kleinert, 2016), thereby reducing certain forms of loneliness. It is possible, and not even so risky, to suggest that the same reasons that push people to participate in normal sports can push them to be eSport enthusiasts. For example, in the case of strategic eSports, participants can be expected to increase their social interactions by sharing and discussing the strategies implemented in that specific video game, exactly as it can happen in football.

[2] The practice of sporting activities, which is the basis of a healthy life, should not be confused with practicing sport at a competitive level. The studies reported refer exclusively to a competitive and professional level of sports.

A consumer behavioral approach may help to better explain individuals' motivation for playing eSports (Pizzo et al., 2018). In the sports literature, motivation is one of the most studied and debated topics to justify sport consuption (e.g., Funk et al., 2012; Wann, 1995). Several theoretical constructs have been developed around the topic of motivation in certain contexts, including: psychological needs (Goldstein, 1989), psychological involvement (Funk and James, 2001) and Maslow's hierarchy of needs (Maslow, 1943). Studies on eSports underline that motivation seems to be particularly driven by: the desire to compete, the challenges that players have to face and the development of unique set of skills (Weiss and Schiele, 2013). In particular, Pizzo et al. (2018) highlighted that such motivations in eSports are similar to those of traditional sports, allowing the application of similar theoretical constructs.

2.3 eSports Motivation and Crowdfunding through Planned Behaviour Theory

This study is mainly based on the psychological aspects of individuals. From this point of view, it has roots on Theory of Planned Behavior (TPB) (Ajzen, 1991) applied to the reasons that lead individuals to join crowdfunding campaigns. First of all, it is essential to define which type of crowdfunding our research is considering. Although largely treated in the literature, equity crowdfunding is not taken into consideration here (e.g., Battisti et al., 2021; Vrontis et al., 2020) but we consider the so-called reward crowdfunding. The reasons are essentially the following. In equity crowdfunding, the person is in effect an investor who invests in the risk capital of a company (Troise et al., 2020). This aspect causes people to be driven by a profit logic when they join such campaigns. Instead, in reward crowdfunding, people do not invest their money with the aim of obtaining a financial return, but because they are driven by other motivations and objectives (Shneor and Munim, 2019). 3 are the most common reasons: community belonging, support causes, and above all helping others (Ryu and Kim, 2016).

These are logic and behavioral aspects closer to charity than to pure financial investment. Natural consequence of these contrasting aspects was the need for a comparative study between the two models. Therefore, Cholakova and Clarysse (2015) have highlighted that the financial return is the main reason that causes an individual to join a crowdfunding campaign. The other motivations, characterized by helping someone more than earning them financial profit, play a secondary role. However, this is an aspect inherent in the human soul that is easily influenced by both the culture and the income level of each individual. For instance, people with higher income levels are more likely to spend on others and seeing their overall happiness increase (Dunn et al., 2008). It follows that it is theoretically possible to place people, based on their attitudes and preferences, in certain categories. Lukkarinen et al. (2017), in doing so, identify

3 distinct categories. The first, the so-called donate oriented supporters, who, just like those who do charity, are driven only by motivations related to helping others. The second category, the so-called return-oriented supporters, who want to help others but also look to a possible financial return. Finally, the so-called pure investors, guided exclusively by profit logic.
However, one aspect is almost totally overlooked which is the "passion" towards something. It is theoretically possible that the motivations that drive people to become passionate about eSports play a role in influencing their participation in reward crowdfunding campaigns. The TPB requires individuals to make decisions taking into consideration some aspects that could influence their decisions., In practice, people do not participate in crowdfunding campaigns without considering the risks, the level of commitment, and the time period in which the financial return (in the case of equity crowdfunding) or the reward (in reward crowdfunding) will manifest itself.
One of the first aspects to consider is the attitude that an individual has towards something. Considering the attitude as the innate disposition for certain activities, some studies have identified some aspects that can influence it when someone consideres to participate in crowdfunding campaigns (: perceived risk, trust, and commitment (Lukkarinen et al., 2017; Zhao et al., 2017). These are aspects that arise in a more or less evident way on the basis of the information in their possession, creating possible problems of information asymmetry (Shneor and Munim, 2019). However, individuals who have a passion for something are more likely to have better information about a particular phenomenon (Kaiser et al., 2007). The passion for eSports, one of the main reasons why individuals follow them, is potentially able to influence the attitude they have towards the crowdfunding campaigns connected to them. Based on these considerations, it is possible to hypothesize that:

HP1: Individual motivation on eSports positively impact attitude on crowdfunding campaign.

Another psychological aspect that can take place in the decision-making process of the individual is the intention to participate in a crowdfunding campaign. Another psychological aspect that can take place in the decision-making process of the individual is the intention to participate in a crowdfunding campaign. Drawing on self-presentation theory (Schlenker and Leary, 1982), an individual intends to participate in crowdfunding campaigns to give someone else a positive image of themselves. In eSports this aspect occurs when an individual participates in a campaign and the more he donates, the more rewards he is given. These gifts can be shown to other users by increasing their recognition within a community. Psychological

aspects that are also confirmed by Bretschneider and Leimeister (2017) which show that the intention to invest in certain projects is driven by the desire to improve individual's image. Linked to intentions is the behavior that an individual has towards a phenomenon. While the two appear extremely similar, there is a difference that sets them apart. As underlined by Shneor and Munim (2019) sometimes the intentions do not automatically result in a behavior that leads to the fulfillment of an action, that is the behavior. For instance, a person would have the intention to invest in a certain project but does not have enough information so his behavior is to refuse to financially support that project. Many researchers have dealt with this topic (e.g., Sheeran, 2002), and one of the aspects that can influence them are the motivations that lead a person to be passionate about something. In our study the motivations are those related to the world of eSports, which lead us, on the basis of what we have described, to hypothesize that:

HP2: Individual motivation on eSports positively impact financial intention on crowdfunding campaign.

HP3: Individual motivation on eSports positively impact financial contribution behavior on crowdfunding campaign.

2.4. Digital attitude as moderator in the eSport individual motivation and crowdfunding campaign

The video games industry is part of the so-called "creative industries" (e.g., architecture, art, TV, publishing), characterized by a high rate of innovation linked to the digital age (Li, 2020). For instance, the art world is experiencing a digital revolution given by non-fungible tokens (NFT) and the associated blockchain technology.

Nevertheless, the main goal of any business is to be financially sustainable (Lazonick and Tulum, 2011). From this point of view, the company needs to find new opportunities and ways either to generate new revenues or to decrease its costs. The companies that deal with eSports, in addition to relying on partners and sponsors, need a certain level of revenue to ensure that the competitive world of video games can create value for the companies and the people involved. This revenue can be supported through reward crowdfunding campaigns that flow into prize pools for professional players. This allows companies operating in this sector to be assessed for their stakeholder credibility (Laplume et al., 2008). However, to ensure that individuals (i.e. stakeholders) remain loyal and continue to support financially through potential crowdfunding campaigns, it is necessary that the motivations that drive them to be passionate about eSports do not fail.

As pointed out by Li (2020), in creative industries, one of the methods to make people passionate and loyal may be the use of digital technologies. The use of digital technologies allows users to personalize their experience and is able to increase the sense of exclusivity of a given activity. Furthermore, crowdfunding, considering it as a financing methodology born in the era of digital transformation (Gupta and Bose, 2019), and a digital tool to support businesses activities, allows people to decide how much they want to support a certain event, with possible positive consequences on his passion for a particular eSport.

Based on Technology Acceptance Model (TAM) (Davis, 1989), in which personal aptitude to use digital technology is influenced by perceived usefulness and perceived ease of use. When they arise, the person believes he is increasing his "performance" in any activity (Davis *et al.*, 1989; Venkatesh and Davis, 2000). Contextualizing the relationship between eSports and crowdfunding, it is conceivable that the more an individual has an aptitude for using digital technologies, the more he will have knowledge about eSports and any crowdfunding campaigns to support them (see Figure 1). Based on these conceptual and theoretical considerations we hypothesize that:

HP4: The attitude to the use of digital technologies positively moderates the relationship between individual motivations in eSports and the Attitude on Crowdfunding Contribution (ACC)

HP5: The attitude to the use of digital technologies positively moderates the relationship between individual motivations in eSports and the Financial Contribution Intention (FCI)

H6: The attitude to the use of digital technologies positively moderates the relationship between individual motivations in eSports and the Financial Contribution Behavior (FCB)

[Figure 1 near here]

3.Methodology

3.1Research Design and Sample

*T*o understand the relationship between individual motivation, funding intention, financial behaviur and digital transformation a survey was conducted through the Prolific platform

(Palan and Schitter, 2018). In particular, Prolific allows users to apply certain filters to decide who the questionnaire will be submitted to. In particular, an "eSport" filter was used in this study, which made it possible to identify people who have even minimal knowledge of this topic and not get results skewed by a lack of knowledge on the subject.

The questionnaire was briefly introduced to the participants through an introduction that explained the phenomenon of eSports, crowdfunding and, in general, digital transformation. The questionnaire consists of 45 questions, all based on previous studies (AppendixA), in order to properly identify the items necessary to measure the variables used in the econometrics models. The questions that were included are based on the literature described above and 7-likert, widely used in behavioral and management studies, was used as a measurement scale. The respondents were 326.

One of the main criticisms leveled at survey-based studies is the "bias findings" (Czarnitzki and Kraft, 2009). For example, studies based on multiple sectors risk being plagued by this issue. However, it can be argued that, by focusing exclusively on a single sector, this study should not suffer from this issue. In addition, individual psychological aspects are considered in this study, making the presence of such a bias even more unlikely (Santoro *et al.*, 2021).

In the construction of the variables we decided to use a single respondent and include the questions referring to both the dependent and independent variables in a single questionnaire. This choice, other choices would have led to other problems, may generate common method variance issues (Lindell and Whitney, 2001). To reduce this problem, the following steps were followed based on previous studies. First, as performed by Bullough et al. (2014), all items are collected following methodological approach adopted by previous studies, allowing a comparison in the answer obtained. Second, the questionnaire is anonymous, eliminating the problems of possible non-anonymity, which makes the participants more likely to lie (Santoro et al., 2021). Finally, all questions were constructed without including ambiguous or difficult terms which could confuse the participants.

3.2Variables

3.2.1 Dependent variable: Attitude on Crowdfunding Contribution (ACC)

Attitude can be defined as the innate disposition for certain activities, even as an object of evaluation for the purpose of orientation in certain activities. To measure the aptitude of individuals to participate in crowdfunding campaigns we have relied on the study by Shneor

and Munim (2019). It consists of 6 different items (AppendixA) adapted to the needs of our study. In particular, the items, and therefore the questions that were submitted to the participants, were developed with specific reference to eSports and the use of crowdfunding as a financing method to support the sector.

Confirmatory factor analysis (CFA) was used to confirm the reliability of the items. It allowed us to confirm that the variable thus constructed is capable of reflecting our conceptualization. Furthermore, Cronbach's Alpha for the variable "attitude" was found to be 0.91, higher than the accepted treshold of 0.7 (Bagozzi and Yi, 1988). Parameter that allows to further confirm the reliability of the measure used.

3.2.2 Dependent variable: Financial Contribution Intention (FCI)

To construct the "Financial Contribution Intention" variable we followed the methodology and definition of Shneor and Munim (2019). They define it as: “Individual’s intention to provide monetary backing to a crowdfunding campaign”. The variable is based on 5 different items (AppendixA). As with the "attitude" variable, the questions were adapted by including including the term eSport in their wording. Also, both CFA and Cronbach's Alpha were used to determine the reliability of the construct. The use of the CFA confirmed that the items used correctly reflect our conceptualization. Cronbach's Alpha has a value of 0.89, less than the value obtained from the "attitude" variable but still higher than the 0.7 necessary. Hence, the use of this variable does not risk to destabilize the reliability and validity of the developed models.

3.2.2 Dependent variable: Financial Contribution Behavior (FCB)

To understand the behavior of individuals, with reference to crowdfunding campaigns, we used the approach of Shneor and Munim (2019). In this case the items used were 2 (AppendixA) and adapted again for our research by including the term eSport in the development of the questions. As for the dependent variables described above, also in this case we proceeded to use the CFA and the Cronbach's Alpha test (0.78). The Cronbach’s Also the one with the lowest value of the 3 dependent variables, however the minimum value is exceeded, resulting in any issues in the development of the model. In this case the analyzes also allowed to confirm the reliability and validity of the constructs used.

3.2.4 Independent variable: eSports Motivation

The independent variable "motivation", that is the motivations that push people to be interested in eSports, is based on the study by Pizzo et al. (2018). They compared the motivations that push fans to follow sports and the motivations of those who follow eSports instead. The questions have been adapted by replacing only the word "sport" with the word "eSport". For example, Pizzo et al. (2018) used "I consider myself a fan of Sport", we adapted it to "I consider myself a fan of eSport". The practice of adapting questions is widespread in the literature and allows to expand certain concepts in similar searches (e.g., Shneor and Munim, 2019, Jaspers and Pearson, 2022). 7 different items were used that allow an important level of reliability and validity compared to the use of a single item. Details on the motivation variable are reported in Appendix A.

3.2.4 Moderator variable: Digital Transformation (DT)

To measure digital transformation on an individual level, we relied on the study by Jaspers and Pearson (2022). It was necessary to adapt the questions of each individual item to make them consistent with our study. For example, their study focused on the internet of things (IOT) and one of their questions asks participants if "Using IOT devices enable me to accomplish my tasks more quickly", in our study it has been adapted as follows: "Using digital devices enable me to accomplish my tasks more quickly ". The other 3 items (3 in total) that make up the variable are listed in appendix A. In our study the question "I find it useful to use IOT devices at home" was not used considering that digital devices are an integral part of life an individual's daily routine and it would have made little sense to add that question. To confirm the reliability and validity of the data collected, the CFA and Cronbach's Alpha were carried out, both giving positive results.

4.Analysis

4.1. Descriptive statistics

Table 1 shows the descriptive statistics, the reliability (Cronbach alpha) and the Variance Inflaction Factor (VIF) of each variable and table 2 shows the correlation matrix.

Regarding the dependent variables, the aptitude (ACC) showed an average value of 3.71 with a standard deviation of 1.47. The "intention" variable has a smaller value than aptitude, and has an average value of 2.52 and a standard deviation of 1.57. The last dependent variable, the Financial Contribution Behavior, has average values of 1.89 with a standard deviation of 1.55.

As far as the independent variable motivation is concerned, the average value among the respondents stands at 4.80 with a standard deviation of 1.55. Finally, the digital transformation variable, i.e. the interaction term, has average values of 5.89 and a standard deviation of 0.97. To avoid any multicollinearity problems, the Variance Inflation Factor (VIF) of each variable was calculated. The results obtained range from a minimum of 1.56 for the control variable age to a maximum of 2.21 for the FCB. As suggested by Hair (1995), the limit value to avoid possible multicollinearity problems, which would lead to an invalidity of the regression models applied, is 10. Some theorists are even more rigorous and establish the limit at 5. Taking valid, and shareable, both values defined by the literature it is possible to affirm, with a certain degree of certainty, that this research is not afflicted by any problem of multicollinearity.

[Table 1 near here]

[Table 2 near here]

4.2 Regression Results

To test the hypotheses of our study, we used the Ordinary Least Square models (e.g., Nirino et al., 2021; Santoro et al., 2020). In models 1,3 and 5 the effects of motivation on the three variables related to crowdfunding were tested. The results that emerged are positive and significant for all three models. In particular, in model 1 the motivations have a positive and significant impact ($b = 0.229$; $p < 0.01$) on the attitude (ACC) that individuals have on possible crowdfunding campaigns linked to eSports. In model 3, in which the effect of motivations on the intentions of individuals linked to campaigns was tested, the results remain positive and significant ($b = 0.568$; $p < 0.01$). Finally, model 5 tested motivations on the behavior of individuals. In the latter model the results were also positive and significant ($b = 0.222$; $p < 0.01$). On the basis of what has been obtained, it is possible to state that the first 3 hypotheses of this study (Hp1, Hp2 and Hp3) are supported by empirical analysis. More in-depth discussions and analysis of the implications are reported in the next paragraph.

In models 2,4 and 6 the moderating effect of digital transformation was tested from an individual point of view. Starting from model two, on aptitude, the results are generally positive ($b = 0.038$; $p < 0.1$). The interaction term in addition to being positive, even if with a significance level of 10%, increases the coefficient of the independent variable which goes from 0.229 to 0.460. Therefore, it is possible to confirm hypothesis 3. In model 4 we see a completely similar effect, the interaction term is positive and significant ($b = 0.033$; $p < 0.1$)

and its inclusion in the model causes an increase in the coefficient of the variable motivation. Based on these results it is possible to accept hypothesis 5 of our study. Finally, in the last model presented in table 3, we inserted the interaction term of the digital transformation in the relationship between motivation and Financial contribution behavior, and also in this case the results were positive and significant ($b = 0.021$; $p < 0.1$). Furthermore, the coefficient of motivation increases from 0.222 of model 5 to 0.289 of model 6. Therefore, it is also possible to accept hypothesis 6.

Finally, some considerations on the control variables. Income is positive and significant in all 6 models, which is not surprising considering it is plausible that at higher income the tendency to invest and spend one's money is higher. As far as education is concerned, it is significant and positive only in models 3,4,5 and 6. This result could be given by the fact that education is able to influence only certain behaviors and psychological aspects. On the other hand, as regards the gender and age of the individuals involved in the study, they did not show any significance.

[Table 3 near here]

5.Discussion and conclusions

Our study aims to investigate the relationships between eSports and reward crowdfunding in the context of digital transformation. In particular, based on the Planned Behaviour Theory, the psychological aspects that lead people to be passionate about eSports and the role that crowdfunding could play in this industry were investigated. The research used a quantitative approach based on 326 individuals with certain knowledge about the world of eSports.

The cognitive and behavioural aspects are the focus of this research, and have led to interesting results with important theoretical and practical implications. First of all, the individual motivations that lead people to be passionate about eSports seem to be able to influence their attitude, their intentions and their behaviour in participating in crowdfunding campaigns. More generally, this would suggest that people who are motivated and passionate about something are more likely to financially support certain activities. The second aspect is the role that digital transformation has in the relationship described above. In particular, based on the Technology Acceptance Model (TAM) it was possible to verify that individuals with a greater digital aptitude are more involved in the world of eSports and consequently more likely to support them through reward crowdfunding. Based on these results, the theoretical contributions are manifold.

First, this research contributes to the emerging literature on eSports (e.g., Funk et al., 2018; Jenny et al., 2017; Hallmann and Giel, 2018). Specific studies seeking to investigate the individual characteristics of people who are passionate about eSports were and will still be needed. In particular, our contributions are to be identified on the psychological aspects of individuals that lead to being passionate about such activities. Furthermore, adopting a consumer behavioural approach (Pizzo et al., 2018) the motivations that drive people to become passionate seem to be able to influence even potential activities connected to them, in our case the reward crowdfunding campaigns. Based on the results obtained, motivations appear to be able to influence: (i) Attitude on Crowdfunding Contribution (ACC); (ii) Financial Contribution Intention (FCI) and Financial Contribution Behavior (FCB). It is possible to hypothesize that the motivations that lead to being passionate about eSports are also able to influence the attitude, intentions and behaviors of other activities, including non-financial ones, related to eSports.

The second main contribution is on the crowdfunding literature (Battisti et al., 2021; Vrontis et al., 2020), in particular on the behavioral and psychological aspects of individuals. In particular, our research considers specifically the reward crowdfunding, topic overlooked in the current literature. From this point of view, it would seem that people participate in reward crowdfunding companies if they are passionate about the activity that crowdfunding is trying to finance. However, the passion for something does not always have to be considered in its positive sense. What we are unable to say is whether they participate in a reward crowdfunding to help others, to increase their gratification or because they are addicted (in a negative sense) to the game.

The third contribution is on the Theory of Planned Behavior (Ajzen, 1991; Shneor and Munim, 2019), in particular on the attitude, intention and behavior of individuals regarding financial decisions related to reward crowdfunding. The paper also contributes to validating and applying TPB in the context of eSport and reward-crowdfunding. The reasons that push individuals to be passionate about eSports seem to be the antecedents that push individuals to participate in crowdfunding campaigns connected to them. In particular, Shneor and Munim (2019) were the first to validate and apply the TPB to the context of reward crowdfunding. We, taking inspiration from them, have applied the TPB identifying the motivations and the passion towards a specific event or activity as the cause of the financial decisions of individuals in reward crowdfunding. Finally, with our work we have contributed to the literature on digital transformation (Bertello et al.,2021; Bresciani et al.,2018; Scuotto et al., 2017; Scuotto et al., 2016). In particular, considering the digital attitudes of individuals as mediators in the

motivational and behavioral aspects of individuals, in particular in the context of eSports and reward crowdfunding. The more individuals are "digital" the more their propensity to support eSports through crowdfunding seems greater.

The results also made it possible to obtain important managerial contributions. It is important to point out that not all eSports are supported through crowdfunding campaigns (a successful example is Dota2, which leads this eSport to have the highest prize pool in a video game competition, over 40 million dollars), it is therefore possible to suggest that crowdfunding could be a useful tool to support professional players and employees of the companies involved. Furthermore, it is essential to be able to make casual players more passionate about the video game which can translate into greater future financial sources.

This research is not limitless. First, it does not consider the cultural characteristics of individuals. For example, certain cultures appear to be more digital than others (e.g., Japanese) and also aspects such as religion could have influences in certain contexts. These aspects should be taken into consideration in future studies. Furthermore, as the main motivation for being "eSport enthusiast" we have considered almost exclusively the passion. However, there may be other psychological aspects, both positive and negative, that could push individuals to participate in reward crowdfunding campaigns. Future studies should investigate these other psychological aspects. Regarding the mediating effect, we considered the "digital attitude" of individuals, but other effects could influence the main relationship. For example, how does eSports communication affect the behavior of individuals?

Appendix

AppendixA: Variables, Items and sources

Variables	***Items***	***References***
Attitude on crowdfunding contributions (ACC) (Dependent1)	I think I would like contributing to eSport crowdfunding campaigns.	Adapted and added eSport in the question (Shneor and Munim, 2019)
	I am likely to feel good about contributing to eSport crowdfunding campaigns.	Adapted and added eSport in the question (Shneor and Munim, 2019)
	I think contributing to eSport crowdfunding campaigns is good for me	Adapted and added eSport in the question (Shneor and Munim, 2019)
	I think contributing to eSport crowdfunding campaigns is appropriate for me.	Adapted and added eSport in the question (Shneor and Munim, 2019)

	I think contributing to eSport crowdfunding campaigns is beneficial for me.	Adapted and added eSport in the question (Shneor and Munim, 2019)
	I have a positive opinion about contributing to eSport crowdfunding campaigns.	Adapted and added eSport in the question (Shneor and Munim, 2019)
Financial contribution intention (FCI) (Dependent 2)	Given the chance, I intend to financially contribute to eSport crowdfunding campaigns.	Adapted and added eSport in the question (Shneor and Munim, 2019)
	Given the chance, I predict that I would financially contribute to eSport crowdfunding campaigns in near future.	Adapted and added eSport in the question (Shneor and Munim, 2019)
	It is likely that I will financially contribute to eSport crowdfunding campaigns in the near future	Adapted and added eSport in the question (Shneor and Munim, 2019)
	I have the intention to financially contribute to eSport crowdfunding campaigns.	Adapted and added eSport in the question (Shneor and Munim, 2019)
	I intend to actively contribute to eSport crowdfunding campaigns financially.	Adapted and added eSport in the question (Shneor and Munim, 2019)
Financial contribution behaviour (FCB) (Dependent3)	I frequently contribute financially to crowdfunding campaigns.	Shneor and Munim, 2019
	I spend much effort in financially contributing to crowdfunding campaigns.	Shneor and Munim, 2019
eSport Motivation (Motivation) (Independent)	I consider myself a fan of eSport	Adapted and modified “sport” in “eSport” (Pizzo *et al.*, 2018)
	I feel a sense of accomplishment when my favorite eSport team/player wins	Adapted and modified “sport” in “eSport” (Pizzo *et al.*, 2018)
	I find eSport matches very exciting	Adapted and modified “sport” in “eSport” (Pizzo *et al.*, 2018)
	The main reason I attend eSport matches is to cheer for my favorite player/team	Adapted and modified “sport” in “eSport” (Pizzo *et al.*, 2018)
	Successful plays and strategies performed by the players are an important component of eSport being enjoyable	Adapted and modified “sport” in “eSport” (Pizzo *et al.*, 2018)
	eSport players inspire me	Adapted and modified “sport” in “eSport” (Pizzo *et al.*, 2018)

	I can increase my understanding of strategy by watching eSport matches.	Adapted and modified "sport" in "eSport" (Pizzo *et al.*, 2018)
Digital transformation (Moderator)	Using digital devices enable me to accomplish my task more quickly	Adapted and modified the question by replacing "IOT" with "digital devices" (Jaspers and Pearson, 2022)
	Using digital devices improve my productivity in my daily life	Adapted and modified the question by replacing "IOT" with "digital devices" (Jaspers and Pearson, 2022)
	Using digital devices enhance my effectiveness in daily tasks	Adapted and modified the question by replacing "IOT" with "digital" (Jaspers and Pearson, 2022)
	Using digital devices make my life easier	Adapted and modified the question by replacing "IOT" with "digital" (Jaspers and Pearson, 2022)
Gender	Dummy variable (0=man; 1=woman)	Santoro et al. (2021)
Age	Respondent's age	Santoro et al. (2021)
education	Respondent's education dummy (1 = bachelor or master degree; 0= less than bachelor's degree)	Santoro et al. (2021)
Income	Respondent's monthly income (1= higher than 1499 Euro; 0= less than 1499 Euro)	

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Figure1: Conceptual framework

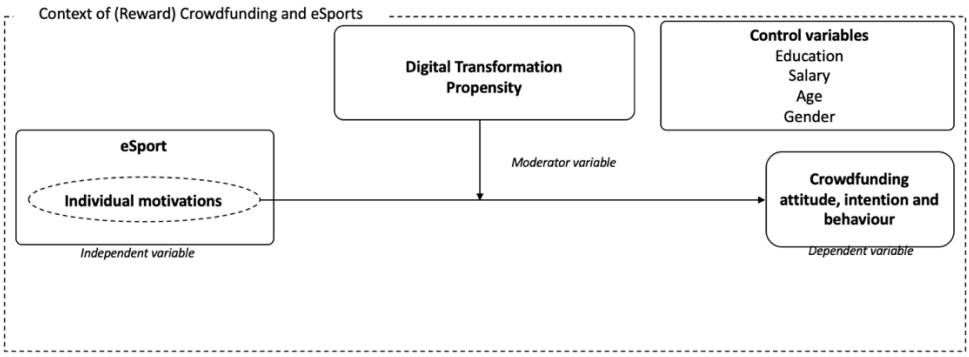

Table1: Descriptive statistics, Cronbach alpha, and Variance Inflation Factor (VIF)

Variable	***N***	***Mean***	***S.D.***	***Cronbach***	***VIF***
ACC	326	3.71	1.47	0.91	1.84
FCI	326	2.52	1.57	0.89	2.08
FCB	326	1.89	1.18	0.78	2.21
Motivation	326	4.80	1.55	0.92	2.04
DT	326	5.89	0.97	0.82	1.91
Gender	326	0.19	0.39	/	1.74
Age	326	24.86	5.72	/	1.56
Education	326	0.57	0.45	/	1.78
Income	326	0.28	0.45	/	2.11

Table2: Correlation Matrix

Variables	**ACC**	**FCB**	**FCI**	**Motivation**	**DT**	**Gender**	**Age**	**Education**	**Income**
ACC	1								
FCB	0.3953	1							
FCI	0.5166	0.6244	1						
Motivation	0.2411	0.2725	0.5115	1					
DT	0.0576	0.0033	0.0942	0.1908	1				
Gender	-0.0035	0.0237	0.0345	-0.1572	0.0343	1			
Age	-0.0888	-0.0133	-0.1079	-0.1970	0.0178	-0.1099	1		
Education	0.0014	0.1205	0.0431	-0.1080	0.0183	0.0863	0.3779	1	
Income	0.0825	0.1591	0.0836	0.0834	0.1276	-0.0701	0.2582	0.2137	1