# UNIVERSIDADE CATÓLICA PORTUGUESA

SUSTAINABLE CROWDFUNDING AND BACKERS:
INFORMATION PROCESSING AND THE ROLE OF SOCIAL
MEDIA FATIGUE

Dissertation to Universidade Católica
Portuguesa to obtain a Master's Degree in Psychology in
Business and Economics

By

Ana Margarida Firmo Ferreira

Faculty of Human Sciences

September 2022

# SUSTAINABLE CROWDFUNDING AND BACKERS: INFORMATION PROCESSING AND THE ROLE OF SOCIAL MEDIA FATIGUE

Dissertation to Universidade Católica
Portuguesa to obtain a Master's Degree in Psychology in
Business and Economics

By

Ana Margarida Firmo Ferreira

Faculty of Human Sciences
Under the supervision of Professor Rui Costa
Lopes

September 2022

**Acknowledgments**

To my family, especially my parents, for not allowing me to give up and for keeping me focused.

To Professor Rui Costa Lopes, for your guidance, motivation, and sharing of knowledge during the semester.

To you, Pedro, for always being at my side, especially during the dissertation writing process.

To my friends, especially Daniel, Inês and Rafael, thank you for all the good times and help.

A particular gratitude to my manager, Joana, and my coworkers for the understanding they demonstrated during this phase.

**Abstract**

To establish a successful project and achieve the financial target, entrepreneurs must collect supporters to endorse their initiative. Considering the increasing difficulty of launching a new business or brand and securing the necessary financing, entrepreneurs often use crowdfunding. Crowdfunding has piqued the interest of academics from a wide range of areas of study, such as economics and psychology due to the nature of the process and the demand for social circles. Psychology can provide a specific contribution to the study of crowdfunding by assessing how and why crowdfunding profiles can be more appealing to potential supporters, through the study of how potential backers process information contained in those profiles.

This work looks at how individuals digest information about sustainable crowdfunding projects by focusing on how different features of the profiles presenting these projects appeal to the different cognitive systems every individual use, i.e. system 1 (more intuitive, supported by heuristics) vs. system 2 (more thorough and supported by cognitive resources). Furthermore, this study also assesses how social media fatigue affects the preference for crowdfunding profiles and whether it interacts with the use of the different systems.

The study sample consisted of 88 individuals, and the results reveal that people are more prone to financially support sustainable crowdfunding profiles that appeal to system 1, regardless of the levels of social media fatigue.

**Keywords:** Information Processing; System 1; System 2; Crowdfunding; Social Media Fatigue

## Resumo

Para estabelecer um projeto de sucesso e atingir a meta financeira, os empreendedores devem coletar apoiantes (investidores) para endossar os seus projetos. Considerando a dificuldade crescente de lançar um novo negócio ou marca e garantir o financiamento necessário, os empreendedores começaram a usar crowdfunding. O crowdfunding tem despertado o interesse de acadêmicos de diversas áreas de estudo, como economia e psicologia, devido à natureza do processo e à demanda por círculos sociais. A psicologia pode dar um contributo específico para o estudo do crowdfunding ao avaliar como e porque os perfis de crowdfunding podem ser mais apelativos para potenciais apoiantes, através do estudo de como os potenciais financiadores processam as informações contidas nesses perfis.

Este trabalho analisa como os indivíduos digerem informações sobre projetos de crowdfunding sustentáveis, concentrando-se em como as diferentes características dos perfis que apresentam esses projetos atraem os diferentes sistemas cognitivos que cada indivíduo usa, ou seja, sistema 1 (mais intuitivo, suportado por heurísticas) vs. sistema 2 (mais completa e apoiada por recursos cognitivos). Além disso, este estudo também avalia como a fadiga das redes sociais afeta a preferência por perfis de crowdfunding e se ela interage com o uso dos diferentes sistemas.

A amostra do estudo foi composta por 88 indivíduos, e os resultados revelam que as pessoas são mais propensas a apoiar financeiramente perfis de crowdfunding sustentáveis que apelam ao sistema 1, independentemente dos níveis de fadiga das redes sociais.

**Palavra-chaves:** Processamento de Informação; Sistema 1; Sistema 2; Crowdfunding; Fadiga das redes sociais

# Contents

**Introduction**

Crowdfunding has piqued the interest of academics from a wide range of areas of study, such as economics and psychology due to the nature of the process and the demand for social circles. Crowdfunding can be seen as the process that allows an entrepreneur to assemble the capital which they need to transform their concepts into tangible projects. All of this through a vast network of people, via social media or crowdfunding websites. Those who decide to contribute, the lenders, or backers, act as investors beyond the traditional circle of business owners and venture capitalists (Crowdfunding Definition, 2022). This can be a solution that the entrepreneurs may consider as the difficulty of launching a new business or brand and securing the necessary financing is increasing. To establish a successful project and achieve the financial target, entrepreneurs must collect supporters to endorse their initiative. Most backers are prepared to spend money to back it up in the early stages in exchange for late monetary rewards or other types of rewards, direct and indirect (Chen et al, 2015). The inventive force of those enterprises, though, is the true beacon that people are seeking. Because entrepreneurship may aid in the transition of economic systems toward sustainability. However sustainable and green projects are scarier to the traditional sources of loaning, so the entrepreneurs had to find a new source to gather capital and they saw that crowdfunding could help them.

Sustainable crowdfunding has inherent characteristics that are distinguishable from other types of crowdfunding. Firstly, the main goal of these projects is to help the environment and consequently the individuals. For example, a project whose major goal is to provide clean water in areas where it is scarce, impacts the environment and wildlife. However, it also impacts the individuals as it allows them to use water for their necessities, something that was not a possibility before. Secondly, because of their emphasis on social and environmental issues, they are likely to pique the interest of a wide number of supporters who are motivated to invest in the social good[1]. When discussing sustainable crowdfunding, it is important to consider the likelihood of individuals investing their

---

[1] A social good is anything that helps people and the environment in the most efficient way possible, such as clean air, clean water, healthcare, and literacy. It is also known as "common good" and serves as the foundation for charitable or philanthropic action (Social Good Definition, 2021).

money if they currently have a sustainable behaviour. This passes through a green consumerism but also the values and personality which may make them more inclined to desire to help the environment (Kim & Hall, 2021). Finally, because the lenders believe it is vital to contribute to the project's success and benefit the environment, they may be from beyond the project's geographical location and yet feel linked to it.

One thing to keep in mind is that we live in a digital age, thus it is only natural that contact between entrepreneurs and supporters often occurs online. Social media is a prominent element of our daily lives; therefore, it is the best way to share the project as it can reach the most people. The communication can be through text, visual or in video, when developing the message, it must be simple to understand but must appeal to the consumer and be personalized (Moisseyev, 2013), as it helps the lender to feel more confident about providing money and gives the impression that they are helping the environment. However, when the entrepreneur is advertising the project, they must be careful, as it can appear as a green washing company. Greenwashing is the process that creates a false impression or providing misleading information about how a company's products are more environmentally friendly and sustainable than competitors' products (Szabo & Webster, 2020). Many firms are earning this label because they do not disclose how they are greener than previously, which everyone knows is merely a marketing ploy. So, without some simple details about how green the product/service is, the entrepreneur can give a false impression that it is not as environmentally friendly as it sounds (Rossilini, Predrazzoli & Ronconi, 2021). As a result, great communication is an important component of a successful project since it may simulate conventional face-to-face conversation and assist to reach more lenders (Wang et al., 2018).

Although social media is at its pinnacle, its usage is constantly expanding, and it is an essential tool for crowdfunding, people are losing interest due to social media fatigue. Social media fatigue is characterized by the tendency to withdraw or diminished the use of social media, a feeling of anxiety, the constant sentiment of being bored and overwhelmed with the gigantic quantity of content and the need for the individuals to post content about themselves (ŚWiątek et al., 2021). This area of secondary effects of social media is not being studied in how it can influence the success of a crowdfunding project. As social

media is the best way to transmit the project it is essential to understand how to deal with the secondary effects of social networks usage.

Furthermore, it is critical to comprehend how people cope with information overload and the methods they use to process it. Because, in addition to processing everything that social networks display, they must also process the specifics of crowdfunding campaigns. In which, it can persuade them to adopt a behaviour or not. In the last instance is what helps the backer to decide if they lend the money to the project or not.

This research aims to investigate how people process information regarding sustainable crowdfunding projects and how social media fatigue plays a role in it. The theoretical framework introduces the previous main findings regarding the studies on information processing (system 1 and 2), social media fatigue, and, also, the concepts of crowdfunding and how it can help the environment. It aims to answer questions such as why we give more money to one project than another, why we are more likely to choose one over the other, why social media fatigue can be an impediment in crowdfunding. The methodology section will then present our experimental study on crowdfunding, where we aim to study how people process the information displayed on the crowdfunding profiles, the role of social media fatigue in information processing and how it affects the support given to sustainable crowdfunding projects. This study offers a theoretical contribution to the literature regarding sustainable crowdfunding, how people process information written on the profiles and social media fatigue. The results contribute to the literature on the sustainable crowdfunding as well as acknowledging the barriers that exist in the way the projects are presented to the potential lenders and the role of social media fatigue.

<center>**Literature review**</center>

## Crowdfunding: what is it?

There are several challenges to starting a business, but one problem stands out in the minds of entrepreneurs who have gone through it: money. Capital is difficult to come by for entrepreneurs these days and finding a way to raise funds for a start-up or emerging company is the first move, which has become difficult. Entrepreneurs have started to look forward to crowdfunding as a more unconventional approach to gathering funds to make their dreams a reality. The ability to raise capital on the Internet has helped small business owners be able to get going on their projects or take them further without worrying about reaching out to an investor who may not have the same goals or ideas that they do.

Crowdfunding may be viewed as an innovative open call to fundraising which tries to harness the power of the community to support various types of initiatives (Shneor et al., 2020a). This kind of project combines entrepreneurship with social network involvement as the consumers play the role of backers/lenders or more well-known investors. (Lu et al., 2014). Entrepreneurs use social media to share their projects, which not only increases awareness but also helps them to access and extend their pool of sponsors. Additionally, it is an effective method for testing the public's reaction to the notion. It allows estimating the future financial aspects and market growth of a new concept, service, or product. If people are eager to invest, it is a good indication that the idea has a chance of succeeding outside the internet.

Before establishing an online crowdfunding campaign, project creators select a minimum financial goal and a deadline not just for receiving the funds, but also for completing the project (Chen et al, 2015). A range of steps are required to start the crowdfunding process. If all those phases are not previously outlined, it may be more difficult to launch the campaign. First and foremost, it must have a target[2], namely the investors that the entrepreneur wishes to approach with his new initiative and concept.

---

[2] A target market is a group of people who share certain characteristics and have been identified by a company as potential customers for its products. Identifying the target market helps a company make decisions as it designs, packages, and markets its product. (What Is Target Market? ,2021)

Second, it must be a time-constrained project; given that if it takes too long, it is more likely to fail and not acquire the necessary money. As previously said, it requires a monetary target that allows to reach the characteristics set by the entrepreneur. Then there are the investors and promoters, known as backers, both of which are crucial to the project's success (Lu et al., 2014). Investors play an important role in a business, even though they benefit from the project success as well, they act as the entrepreneur's backbone. The project's promoters are those who use social media to share information about it with their personal networks. They are so engrossed with the project that they want to assist the entrepreneur in securing the required funding and therefore create the new product or service. The majority of backers and funds arrive when the project is launched. Building a well-established social network and creating a relationship with the backers is critical for the entrepreneur. Because they are the ones that approve the proposal and provide financial assistance (Chen et al, 2015). They also act as promoters by sharing the project in their own social media platforms or giving feedback on the project (Kuppuswamy & Bayus, 2018). So, the roles of investor and promoter are not exclusive; an investor can act as promoter and a promoter can also be an investor.

When launching a crowdfunding campaign, the entrepreneur has the option of selecting more than one method of crowdsourcing. The one utilized is contingent on the type of product or service offered and the development goals. Lending Crowdfunding, Equity Crowdfunding, Reward-based Crowdfunding, and Donation Crowdfunding are the four most common varieties.

Peer-to-peer lending, also known as lending crowdfunding, is a direct substitute for bank loans and the bureaucracy involved. Therefore, peer-to-peer lending allows businesses to borrow money from willing lenders directly rather than from a single source. Many fresh entrepreneurs with creative products, services, or business ideas use it today when they need funding. This alternative finance model has the ability to provide access to credit which had previously been declined, excluded or marginalized by traditional lending practices (Serrano-Cinca et al. 2015 cited in Shneor et al., 2020d). With the help of such a model, borrowers can get a loan without the involvement of a financial institution as the main intermediary between borrowers and lenders and possibly at better conditions than those provided by conventional credit providers. The model offers lenders better returns

than some of the existing products or services that they can buy stocks while providing new investment and portfolio diversification opportunities where risk was correlated with loan credit ratings (Shneor et al., 2020d).

Equity crowdfunding has swiftly acquired traction as an equity financing option for early-stage entrepreneurial businesses around the globe. It enables entrepreneurs to raise capital for development and expansion of their projects, and some ventures have seen significant growth as a result of their equity crowdfunding campaign, but not all of them had success with this type of loaning (Schwienbacher 2019 cited in Shneor et al., 2020c). Equity crowdfunding passes through selling a stake, a percentage of the business, to a group of investors in exchange for money. Equity investment is widely established, with private equity[3], venture capital[4], and angel investing[5] long playing a part in company development. The primary difference between equity crowdfunding and traditional approaches is that it is provided to a broad variety of potential investors, some of whom may also be present or future consumers, rather than building a one-to-one connection. Unaccredited, like family and friends, and accredited investors, as well as professional investors make up the investor base, which is obtained online. The investors also win when helping this kind of project as it gives them a high level of visibility as they are seen supporting the small businesses (Shneor et al., 2020c).

Reward-based crowdfunding can be defined as a model where people contribute to projects without any monetary returns (Mollick 2014 cited in Shneor et al., 2020e). However, they can anticipate a recompense which may be in the form of a pre-order, service, and/or recognition. For example, entrepreneurs can put their items through a pre-order process, giving backers early access to the merchandise. In addition, backers can review the goods as part of the process providing important comments on how the items can improve to be more in line with the market needs. Very similar to the process of a

---

[3] Private equity is a sort of alternative investment that invests in or purchases private enterprises that are not publicly traded on a stock market. (Chen, 2022)

[4] Venture capital is a sort of private equity and a type of funding provided by investors to startups and small enterprises that are thought to have long-term development potential. (Hayes, 2022)

[5] An angel investor is a wealthy individual who offers financial support to small businesses or entrepreneurs in exchange for ownership stock in the firm. Angel investors are frequently found within the entrepreneur's circle such as relatives and friends. (Ganti, 2022)

market study, however it does not take place in a controlled environment. Also, a thank you note or the placement of their name on the website might be used as recognition remuneration. As a reward for backers, the entrepreneurs may also deliver exceptional services rather than actual things. Some good examples are private concerts and screenings, training and educational experiences like workshops or online courses, free use of commercial services in development (Shneor et al., 2020e).

Donation crowdfunding has emerged as a new channel of providing financial support for non-profit, prosocial, and other groups seeking to alter the world. It can be seen as a modern philanthropy (Gerber and Hui 2013, cited in Shneor et al., 2020b) that is more freely accessible due to the online share and may be used for a variety of purposes, including sustainable initiatives. Crowdfunding organizers may quickly disseminate their campaigns to a broader spectrum of potential donors and form social interactions with such audiences (Liang and Turban 2011 cited in Shneor et al., 2020b). There is a large pool of contributors which some can be from another geographical region and tap into more active donors who are eager to join in these initiatives. This sort of donor is a good match as they are the ones that promote crowdfunding due to liking the project. Donors are motivated to contribute not just by their empathy for specific causes (Gerber et al. 2012, quoted in Shneor et al., 2020b), but also by their attitudes and beliefs that drive their behaviour. These contributors are more concerned with the project's final objective and if the cause is worthy of their support.

The form of crowdfunding to utilize will be determined by the project's qualities. The entrepreneur needs to find the right approach for their project needs. One approach is sustainable crowdfunding, which focuses on environmental conservation and climate change mitigation. As entrepreneurs struggle to access capital in the traditional manner, crowdsourcing became increasingly popular.

**Sustainable crowdfunding**

Modern society is being confronted with several sustainability concerns, which are projected to grow in importance in the future as the problems are aggravating and becoming even more deathly with consequences that are already manifesting. Currently, the issues can be roughly categorized into (1) social, economic, and political sustainability;

(2) environmental issues, such as pollution and climate change; and (3) resource limitations in terms of water, land, and energy. By May 28, 2022, humanity had consumed all that the world can produce, and the remainder of the year will be spent using "credit". In other words, at a rate that has never occurred before in history, humanity is consuming the world's resources. In a metaphorical sense, 1,75 earths would be needed to sustainably meet the needs of the population (Lusa, 2022). People are starting to understand that they must start "living green" if they do not want to suffer the negative consequences of misuse and abuse of the earth. As seen by recent climate change protests and wake up calls from scientists, the prominence of the sustainability theme in public conversation, offline and online, and scientific research has become one of the primary objectives on today's agenda, public and private.

Sustainable entrepreneurship goes beyond economic success as it tries to balance economic, social, and environmental objectives as it considers the future ramifications of the entrepreneurship practices and prioritize the long-term health of society at large in all its domains. When they are met an entrepreneur can say that had success in their business (Maehle, 2020). However, they need capital to start their business ideas and to somehow start off, so they seek crowdsourcing to raise the required funds. This is known as sustainable crowdfunding, and there are many aspects to it, but the final purpose is to balance economic health, social equity, and environmental resilience. The focus of the project is to solve societal and environmental problems but with economic sustainability as the future generations are consider (Laurell et al., 2019). Since their objective is to focus on socially significant and contemporary topics, they are likely to attract a big number of backers in which the theme piques their interest.

Sustainable entrepreneurs often experience problems getting funding from traditional sources due to the higher complexity of their value propositions (Ortas et al. 2013 cited in Shneor et al., 2020) that leads them to find finance through crowdfunding. The main goal of sustainable entrepreneurship is to contribute to sustainable development of the market and society by combining both performances and making an influence on society (Shneor et al., 2020). When we consider the heterogeneous nature of the concept of sustainability, which includes the development of new products or services that are a more sustainable alternative to traditional market offerings as well as the delivery of products or

services to address a social absence (e.g. the creation drones to prevent fires) (Vismara, 2018).

As for sustainable projects, the idea behind it is more important than the economic characteristics, bearing in mind that what is important is for the backers to identify with the project. The concern with the actual state of the environment has a lot of weight but also the protection of the future of the world. When approaching this matter, it is important to consider pro-environment behaviour. In this context it translates to having environmentally friendly consumption. Macht (2014) believe that a strong impression of similar values, particularly of an environmental type, between entrepreneurs and supporters improves trust in a relationship and can help to crowdfunding success.

As mentioned before, funding is a critical phase of any sustainable entrepreneurship, so the backers have an important role to make this happen. A more environmental attitude plus perception of shared values can influence the lender to invest their money on the project. One point to keep in mind is that backers lend validity to the project as a result of the democratic selection process by the public, since there are far too many sustainable initiatives awaiting funding. People starting to pay money to one indicates that it is a good concept (Maehle, 2020). However, without good communication on the part of the creator and a good social media share it may be more difficult to obtain success.

### How Do Backers Decide Who to Fund?

Aside from good and clear communication, what motivates a person to support a project from an online stranger? If the entrepreneur evokes favourable sentiments in the investors and their initiatives, it typically results in positive investment decisions as well (Moritz et al. 2015). Backers may be inspired to support a project for a variety of reasons, including wanting to be a part of the community, being for a good cause, identifying with the project because they have an interest in it, or being driven by tangible incentives earned from donating to the project (Bretschneider & Leimeister, 2017).

However, when it comes to sustainable crowdfunding initiatives, the intentions of the backers might vary. According to research, there is more than one way, more than a

theory, to understand to an extent what drives the individuals to help these projects, since there are various dimensions and ways through which a behaviour can be influenced.

One of the theories focuses on the values of the person - Value-Attitude-Behaviour theory -, as it has been proven that beliefs and norms can lead to a greener economic behaviour. According to VAB theory, the impact of values on specific behaviour is mediated by attitude toward the activity. If a person already has a positive attitude towards eco-social benefits and environmental issues, which have been talked about a lot in the media, it can influence the purchasing of more green products. (Cheung and To, 2019 cited in Kim & Hall, 2021).

Another dimension equally important is the personality traits as they have been found to have a relationship when it comes to sustainability and crowdfunding. These traits are connected to environmental concern, behaviour through sustainability, connection to nature, engagement with more sustainable behaviours and attitudes (Kim & Hall, 2021). Personal norms, together with agreeableness and openness personality qualities, play a favourable effect in predicting attitudes and behaviour, alongside environmental action (Hirsh, 2014 cited in Kim & Hall, 2021). Both these theories show the importance of the connection of the lender with the environment which leads to wanting to participate in monetary terms in crowdfunding.

However, to gain the necessary lenders and have the money but also moral support, an entrepreneur needs social media as it plays the necessary role of promoting to social circles.

**The role of social media in crowdfunding**

Crowdfunding campaigns, like social movements, rely on the collective help of a dispersed audience. It is through an online campaign that the lenders obtain all the information, which is usually dispersed by social media. This is achieved through the textual descriptions, images and, sometimes, video pitch. When constructing their online campaign, the entrepreneurs should investigate the narrative and must consider the language they use but also how they frame the product or service as it may influence the individual's judgment (Levin et al, 1998 cited in Rossilini, Predrazzoli & Ronconi, 2021).

Since adopting the strategy of crowdfunding is open to anyone, the entrepreneurs can have some difficulty to pass their message (Wang et al., 2018). They should evoke the social consciousness of wanting to protect the environment, but not in much detail, just enough so the backers can understand the goal of the message and the product or service (von Selasinsky & Lutz, 2021).

Considering that any crowdfunding project is promoted through social media, the success of the project is determined by the number of shares, likes, and the size of the entrepreneur's network. However, the narrative and a compelling plot are also crucial factors (Laurell et al., 2019) because effective copywriting is a powerful weapon. Already having a social presence within a big network is the first step which can make the crowdfunding project successful, as it increases the popularity of the project. Usually, the shares and likes come first from family, friends, and acquaintances and consequently they share with their own networks (Laurell et al., 2019). This type of individuals are called the promoters as they disseminate information about the project (Lu et al., 2014). Of course, any promoter can be a backer and any backer can be a promoter, both things are not mutually exclusive, and it is better when the roles act together.

On the one hand, the launch of the projects sparks a burst of interest (Lu et al., 2014) as it is something new and people are curious of what will happen. It is when most of the funds arrive, so promotional communication is essential. Every like and every share are equally important to spread the message even further. The positive word-of-mouth can help to reach people that are not immediately associated with the project or the implementation area (Maehle, 2020). On the other hand, as the process of fundraising extends it is more difficult to receive money support. That is where it enters the need to communicate directly with the backers.

Likes and shares have a vital role but, besides that, it is also important to the creator to try to communicate and have social interactions with the backers. Those interactions, through messages and comments, influence and motivate the backers to participate, strengthen the connections and create more awareness for the goal of the project. In addition, to faster broadcast information, the entrepreneur can choose to use more than one social media platform (Kaur & Gera, 2017). As each platform has a different typology of user, posts and algorithm, the crowdfunding project can reach out to more people that

aligns with the project and therefore bring further investment. No doubt the message needs to be adequate for each platform, for example, Instagram should focus on the photography pitch, Facebook the balance between image and description, on twitter create a small but catchy message, on TikTok a catchy video pitch and on LinkedIn besides the balance between image and description it also needs to have a balance between professionalism and concrete data. All of this because the backers' evaluations of environmental claims focus on the details of the project and how it is presented through social media (Wang et al., 2018).

The fact that the communication is done through online channels has a very positive point that can help the entrepreneurs. As people can comment and leave ideas on the project, this allows the entrepreneur to receive useful insights in real time about the success of the project, if their idea for a product or service has merit, rather than only after the project is concluded (Lu et al., 2014). Real time insights allow the entrepreneur to make small changes that can be more welcoming and make their idea more plausible in the real world. So, it influences the progress and the success of the crowdfunding campaign because the backers will be more attracted to the idea due to the changes accomplished (Wang et al., 2018).

Even though social media is an important part of everyone's life since it allows individuals to engage with everyone, including corporations and brands, some individuals are beginning to lose interest, which can put crowdfunding projects at risk.

**Social media fatigue: a threat to crowdfunding**

If the internet is an essential aspect of modern life, social media is an unavoidable component, especially for those with no time to spare and who rely on it for even the tiniest updates. Which can be about friends, relatives, or stay up to speed on world events like politics, economy, environment, and the lives of famous people. However, because social media is relatively recent and it is always updating and changing, determining its long-term positive and negative impacts can be more challenging. Multiple studies and researchers, nonetheless, have found a substantial link between extensive usage of social

media platforms and an increased risk of depression, self-harm, anxiety, loneliness, eating disorders and fatigue.

One thing that is happening, even more with individuals saying whatever they want on-line about any subject without proof, is that people are starting to experience a lack of trust and being more cynic towards the information they find online (Moisseyev, 2013). Due to always need to check the sources of information or the need to distinguish what is reality and what is false, people are starting to feel tired towards social media and its overload of information. So, the consumption of social media is changing as people are starting to doubt what they see. Unfortunately, as crowdfunding needs social media this can affect the success of the project. Indeed, social media, when compared to other kinds of media, provides more chances to influence business and create consumer engagement with the products or services created by entrepreneurs (Moisseyev, 2013).

Social media fatigue leads people to go less and less to social media platforms due to the information displayed, the quantity of different social media platforms and websites, the numerous types of different content and the need to be always updating even the tiniest change in their life. This feeling of being exhausted can influence the confidence and perception of the ability to deal with social media and have higher concerns with privacy and trustworthiness towards what is written on the internet (Bright, Kleiser and Grau, 2015). There are other emotions also related such as irritation, anger, disappointment and reduce motivation (Świątek, Szcześniak & Bielecka, 2021).

With people reaching an overcapacity to grasp the messages displayed on the internet this can lead people to not engage with crowdfunding projects. This happens because high levels of tiredness and low levels of interest can undermine the thorough processing of the information making the ideas of the project more difficult to occur, and therefore, leading people not to act as lenders to the crowdfunding project (Zhang et al., 2021). In sustainability-oriented campaigns the entrepreneur's job becomes even more difficult as the topic of sustainability is reaching people already preoccupied with the environment and not the general public (Laurell, Sandstrom & Suseno, 2019).

So, to have a successful project the entrepreneurs need lenders to comprehend and share their project on the internet. But by not wanting to interact with social media the

individuals that can act as backers cannot see the project and consequently, they will not participate by lending the money. If the entrepreneurs do not understand that social media fatigue is a reality in these days, the practice of crowdfunding can go into the wrong direction and not get the results they usually have. Hence, the entrepreneurs should be careful with the message they deliver and how they deliver so the people do not get overwhelmed by it.

Therefore, it is also important to understand how people analyse the information they are presented with. With high levels of fatigue in relation to social media and consequently the internet, the thought process can be different when reading crowdfunding projects than when one does not feel it.

**Processing information: system 1 vs system 2**

The world of social media brought a problem to society: overload of information. When people are presented with information overload, they struggle to cope, transform and turn into knowledge. This inability to cope might not only lead to exhaustion, but it can also impact how people perceive crowdfunding projects and their decision to participate. As a result, understanding how individuals receive information and interact with it is critical, because the manner a person processes information can have an impact on the individual's engagement. So, it may influence the adoption of a behaviour, in this case lending money to the entrepreneurs. Nonetheless, the processing of information change from individual to individual even if they do not present signs of fatigue and exhaustion.

It is challenging to assimilate all the knowledge received, and much more difficult to know how to apply it. Information not only is a concept that requires perception but also cognitive learning (Estes, 1976 cited in Cutting, 1987) and memory in certain contexts (Kahneman et al 1982 cited in Cutting, 1987). Individuals can think about information not only from the bottom up, data-driven method, but also from the top down, based on the pre-existing knowledge structures they bring to a given environment. Our perceptions are moulded by a top-down application of knowledge obtained from previous experiences, as well as bottom-up sensory experience, expectation, and motivation (Chaiken and Ledgerwood, 2012). Bottom-up processing is virtually always deductive since all premises

are derived from sensory information and perceptual system design elements. If the mapping from proximal stimulus to distal item is guaranteed, no probabilistic linkages or cognition are necessary. If perception is inductive, however, certain premises originate from memory and cognition; hence, perception has top-down components (Cutting,1987).

The information retention is controlled by the brain and is dependent on a person's mental resources. The human cognition is described as being divided into two systems: one faster and more intuitive (system 1) and other slower and more analytic (system 2). Therefore, the individual may "choose" to take a path that is more based on shortcuts, heuristics and involves less resources, or instead the individual evaluates the material more thoroughly which requires a greater deal of mental resources. (Kahneman, 2013). The key to persuade a person to change their behaviour is to appeal to the system they use the most and to provide information in a way that better suits the system that the individual is expected to be using at the time. Both types of processing can lead people to be persuaded but in different circumstances and in different ways.

System 1 is essentially an autopilot system which efficiently filters away elements in the surroundings that are unimportant at the time (Dale, 2015). It operates more automatically and quickly and occurs with little or no sense of control (Kahneman, 2013) which can lead to some cognitive biases and uses of heuristics. Nonetheless, this fast thinking is what allows us to respond to uncertain situations which do not allow us to make a more analytical reasoning (Kannengiesser & Gero, 2019). Therefore, system 1 can govern daily life as it is a system that is autonomous, fast, non-conscious, does not require working memory and it is independent of cognitive ability (Kannengiesser and Gero, 2019). A special characteristic of system 1 is that it is something that is born with us and that we share with other living beings as we are born ready to perceive the world (Kahneman, 2013). With the ability to recognize objects and orient attention in a manner to perceive our surroundings, system 1 has learned associations between ideas but also important skills like reading and nuances of being a social animal (Kahneman, 2013). As previously stated, this system employs heuristics, which are mental shortcuts that allow us to make decisions and judgments rapidly without having to spend a significant amount of time investigating and analysing information. As a result, they play critical roles in both

problem solving and decision-making. While heuristics might help us solve problems and make decisions faster, they can also add mistakes and prejudice (Dale, 2015).

On contrary, the system 2 is slower, serial, hard, and purposefully managed, making it somewhat flexible and possibly rule-governed (Dale, 2015). However, these different activities have something in common: they all demand attention and are interrupted when that attention is diverted (Kahneman, 2013).  System 2 is more analytical and more demandable as it needs more cognitive resources like working memory[6] and is a conscious process with an orderly series of steps (Kannengiesser & Gero, 2019). System 2 is also attributed with continual monitoring of your own behaviour—the control that keeps you courteous while furious and aware when driving at night. When System 2 recognizes an impending mistake, it mobilizes more effort (Kahneman, 2013). Therefore, it needs more resources to act, it also means it has a lower capacity and when not in use it is in a low-effort mode. Nonetheless, it is this system that allows abstract hypothetical thinking of future possibilities that is an important part of human life (Evans, 2013) Even though system 2 can produce bad outcomes, it is the one that monitors system 1 thoughts and filters out the automatic instincts and biases.

Although these two systems appear to function independently, they interact extensively and are employed concurrently in our daily lives. When System 1 encounters a problem, it invokes System 2 to provide more thorough and processing that may fix the situation at hand. When a question arises for which System 1 does not have a solution, System 2 is activated (Kahneman, 2013). Because system 2 corrects and modifies the perceptual blindness caused by system 1, since it offers for greater flexibility, delicacy and accuracy are more important (Dale, 2015). However, until System 2 intervenes, or System 1 willingly defers to System 2 (in circumstances where System 1 regards the issue as difficult), the decision maker will be forced to accept System 1's judgment. However, System 1 does not always perceive complicated circumstances as such and proceeds to make a judgment, nonetheless (Otuteye & Siddiquee, 2015). In addition, System 1 constantly provides recommendations for System 2 in the form of sensations, intuitions, intents, and sentiments. If confirmed by System 2, perceptions and intuitions become

---

[6] Working memory is the small amount of information that may be held in mind and employed in the performance of cognitive activities. (Cowan, 2013)

beliefs, and impulses become intentional acts. When everything works smoothly, which is most of the time, System 2 adopts System 1's proposals with little or no adjustment (Kahneman, 2013).

This distinction between System 1 and System 2 exists in an array of cognitive phenomena such as impression formation. When it comes to making an impression, it is crucial to remember that individuals use biases and prejudices to simplify the work of processing information. They strive to reduce mental effort by categorizing the information into conceptual categories they already have, and they act based on that information (Fiske and Neuberg, 1987) which can lead to inaccurate outcomes. For this to occur, a perceiver must have (1) merely a category label for a target subject, (2) a category label and characteristic information judged to be compatible with that label, or (3) a category label and attribute information perceived to be irrelevant to the judgment (Fiske & Neuberg, 1987). When a person is motivated to explore more information and go beyond the fast classification and labelling of an impression, they might adopt a more individuating procedure. The perceiver begins by classifying the existing information, the features of the information, and the label. However, if the information does not fully conform to the qualities of such a label, they recategorize it to another, which might be a subcategory or the construction of a new one. Although these recategorization processes are quite similar to the category-based processes previously outlined, they can be called individuating in the sense that the new category is mostly controlled by the target's specific traits and motivation to do so (Fiske & Neuberg, 1987). Alternatively, when a perceiver has (1) no overarching category label immediately available for a target individual or (2) information that is interpreted as inconsistent with an available category label, category-based processing appears to be undercut and impressions formed through more individuating processes (Fiske & Neuberg, 1987). According to additional study, in order to successfully undermine category-based impression creation, this conflicting information must be not only relevant to the category but also directly relevant to the judgment at hand (Heilman, 1984 cited in Fiske & Neuberg, 1987).

This dual-systems approach is also present in persuasion literature. According to dual-process theories, if receivers are capable and sufficiently motivated, they will elaborate, or carefully evaluate, persuasive signals. If the message is well-reasoned, data-

driven, and rational, it will persuade; otherwise, it will fail. If message targets are uninspired (or unable) to analyse a message, they will employ auxiliary characteristics known as biases or heuristics to bypass the more laborious elaboration process in developing an attitudinal reaction. As a result, source and message may play unique roles in determining the results of persuasive contacts, along with motivation and ability to digest information (Crano & Prislin,2006).

The heuristic-systematic model is a persuasion theory that suggests attitudes can shift in two distinct ways. This model posits that information processed by the individuals is done through a combination of systematic and heuristics cues (Chaiken 1980 cited in Lee & Bian, 2018). The systematic processing involves attempts to thoroughly understand all available information with attention, deep thinking, and reasoning. Therefore, consider the arguments provided, the person arguing, and the causes of the person's conduct carefully. Heuristic processing can be viewed as relatively automatic as it is less demanding in terms of the mental work required and much less dependent on having the ability and motivation to think carefully about information since heuristics can influence judgments and impressions without self-awareness (Chaiken & Ledgerwood, 2012). So, the systematic entails the comprehensive, analytical, rigorous, and exhaustive review of information. The heuristic approach, on the other hand, relies on external signals such as source reliability, consensus opinion and the use of statistical data (Teng, Khong & Goh, 2015) and all of these are linked to well-learned rules (Chaiken & Ledgerwood, 2012). The HSM theorizes that two principles act together to determine how an individual should process information and to what extent. The first model, least effort concept, is based on the notion that people attempt to make judgments as efficiently as possible (Allport, 1954 cited in Chaiken & Ledgerwood, 2012) without using a lot of cognitive resources. Meanwhile, the sufficiency principle says that people are occasionally motivated to spend extra cognitive effort in order to achieve an accurate conclusion and satisfy their motivational apprehensions (Chaiken & Ledgerwood, 2012). HSM proposed that message recipients try to minimize cognitive efforts on the one hand while satisfying their concerns on the other by bridging the gap between what they want to know and what they know. This corresponds to a better sense of confidence while dealing with information (Teng, Khong & Goh, 2015). As a result, HSM may be used in a greater range of decision-making applications or judgmental domains, including the crowdfunding environment. Because

backers use the information at their disposal, such as the project description, to evaluate the campaign quality before making final financial selections. They decide if the project is excellent or bad based on the content and utilize heuristics such as source trustworthiness to make a conclusion. Following this, the financing choice requires greater cognitive effort, and it is at this point that they must determine if systematic heuristic signals are genuine or not in investment decision-making (Lee & Bian ,2018).

The Elaboration Likelihood Model of Persuasion assumes that differences in persuasive messages increase the likelihood that message recipients will elaborate on the information in the communication (O'Keefe 2002 cited in Teng, Khong & Goh, 2015). The central route of persuasion emerges from a person's cautious and serious examination of the genuine merits of the facts offered in favour of an advocate. The other sort of persuasion, the peripheral route, happens as a result of a simple signal in the persuasive environment (that induces change without requiring analysis of the underlying qualities and features of the material offered) (Petty & Cacioppo, 1986). The two distinct processes can depend on the level of elaboration, motivation, ability and cognitive resources to evaluate the information, impression and communication presented. It is hypothesized that humans have legitimate attitudes that are consistent with reality, which is why the amount of cognitive activity and consequence for two persons can differ when elaborating identical messages. Other factors, such as a person's mood, can influence processing in addition to their views and beliefs (Teng, Khong & Goh, 2015). When the cognitive elaboration process is high, the central route illustrates the persuasion mechanisms involved. It makes use of greater cognitive resources because the message is scrutinized to see if it is relevant. The peripheral route utilizes fewer resources as the elaboration is relatively modest and the information is evaluated using basic decision rules. One technique to change attitudes, according to Caccioppo and Petty (1986), is to modify the quality of the arguments in a persuasive message. Another theory is that in the absence of argument processing, a simple signal in the persuasive setting influences attitudes. In addition, motivational variables such as ego, issue, personal and vested interest can also persuade the individual as it has significant consequences for their own lives (Petty & Cacioppo, 1986).  So, the objective processor can determine the message's legitimacy, compelling arguments produce stronger persuasion. The biased processor, on the other hand, is either highly motivated or capable of generating a certain type of thinking, frequently in defence of an original attitude, thus

weak arguments induce persuasion owing to the existence of biases and heuristics (Petty & Cacioppo, 1986).

In the crowdfunding environment, the presentation of the project is critical to form a impression and persuade the individuals. The level of elaboration is what activates one of the paths. It can also activate other variables that may have an impact on the decision to donate or not donate money to the project.

## The present study: overview of aims and objectives

The current research seeks to dive deeper into the topic of sustainable crowdfunding, which is gaining steam as more firms turn to it as a financial answer. However, for a crowdfunding project to succeed and reach its money goal, it must attract backers. Social media has been argued to play an important part in crowdfunding efforts as it allows to reach a bigger audience (Laurell, Sandstrom & Suseno, 2019). Unfortunately, because the volume of online information surpasses the human capacity to process and understand it, people's interest in social media has waned to a degree where it affects how they cope with the information offered (Świątek,Szcześniak & Bielecka,2021). As described above, human mind is separated into two systems, one rapid and intuitive (system 1) and the other slower and analytic (system 2). As a result, the individual may pick a less fruitful path based on shortcuts, or a more complete examination of the facts, which requires more labour. Social media weariness can influence how information is digested. The backer's weariness with social media, scepticism, and lack of trust makes it difficult to comprehend information and read it thoroughly. As a result, people must rely on heuristics and biases to better assimilate the information. Specifically, this work seeks to test how different types of profiles (appealing to different types of information processing) are appreciated by potential donors and, additionally, to see how those preferences interact with the individuals' level of social media fatigue.

So, the overall goal of this study is to better understand 1) why people prefer one profile over another 2) how people absorb the information provided on the profiles 3) how social media weariness works, and 4) how it works in this crowdfunding paradigm. The first objective of the study is to understand how people react towards sustainable crowdfunding. As this type of crowdfunding has its own characteristics it can be perceived as less attractive to participate. So, in this case the individual will have the opportunity to choose a crowdfunding project that has sustainable clothes and other which allows the reduction of plastic water bottles. Secondly, to occur the lending on a crowdfunding project it is necessary to understand how they process their information. By employing a more heuristic process or a more systematic one, if they use system 1 or 2, it will influence how people deal with the crowdfunding information and how will persuade them to invest.

The third objective is to understand how social media fatigue works in this environment and how it affects the result of a crowdfunding campaign.

## Methodology

### Study design and procedure

The current study is a quantitative controlled experimental study that was carried out online using Qualtrics. The crowdfunding profiles, which were manipulated within individuals, are the independent variable. The moderator is the level of social media fatigue, while the dependent variable is funding attribution. Data collection occurred between July 6th and August 4th.

A profile of sustainable crowdfunding was initially created and was then rewritten to appeal more or less to the preferences of system 1 and 2, separated and together, which resulted in three profiles. Those were the manipulated ones, there was a fourth one that acted as a filler and was repeated to every participant. So, each participant saw two profiles, one reflecting the experimental condition – Profile A – that appeal more to system one, Profile B – with features that appeals to both system, and Profile C – appeals to system 2.

Participants were informed at the start of the study that they were taking part in a study investigating cognitive and processing skills. By participating and answering the questions correctly, or not, they would earn credit. As the credit could not be given directly, they had the opportunity to choose to support (or not) several crowdfunding ideas of young entrepreneurs through an organization that is a partner of this research center. The questionnaire was broken into two parts.

In the first phase, participants answered eight multiple-choice questions that used brain teasers to measure their mathematical and logical ability. After completing the first section of the study, participants were notified of their success on the logic questions and that they had been rewarded with credit, which they may use to support one or both crowdfunding initiatives. Participants were advised that if they did not invest in the firm concepts, they would forfeit the research credit. To allow for the assessment of funding attributions, all participants got the same number of credits (30€), regardless of their performance on the reasoning test (though they were not aware of this). In the second part, after being presented with two crowdfunding profiles (one experimental and one filler), people were asked to fill out the social media fatigue scale which refers to a user's proclivity to retreat from social media use because they are overwhelmed. The third part contained the demographic questions about the individuals and their everyday use of social media.

**Instruments and materials**

Three (experimental) sustainable crowdfunding profiles[7] were developed to appeal to system 1 or system 2. *Profile A* features bullet points, short and flashy phrases with superficial information (which is built to appeal to System 1 but not for those who use system 2). *Profile B* has bullet points and flashy sentences but using serious content that was logically developed (which should appeal to both systems). Finally, *profile C*, is written in the form of an extensive text with serious content that was logically developed (which should appeal to system 2, but not to system 1).

The participants answered 5 items of the social media fatigue using a 7-point Likert type scale (1 = Strongly disagree to 7 = Strongly agree) with items such as "I find that social media sites do not have enough detail to quickly find the information I am looking for" or "I am likely to receive too much information when I am searching for something on social media sites" (Bright et al., 2015).

The hypotheses are constructed around the format of the crowdfunding profiles, if they appeal more to system 1 or system 2, and the level of social media fatigue a person has.

**H1:** The first hypothesis is exploratory as it is not clear what profiles are to be preferred. One can expect either the superficial features or the content or both to be the drivers of funding attribution. If both matter, profile B will be the one receiving more funding. If only content matters, there should be no differences between profile B and C (and they should get more funding than profile A). If only superficial features matter, there should be no difference between profile A and B.

**H2:** The second hypothesis regards the role of social media fatigue. Indeed, the exploratory approach regarding the general preferences for the different types of profiles that elicit different types of processing is related with the interaction that is expected to occur with the levels of social media fatigue. As such, with high levels of fatigue the individual will have access to less mental resources, which means they will be more likely to read anything online diagonally without paying attention to the information presented and its details. In this case, this will mean that, if profiles with valid content (profiles B and

---

[7] See attachments one to four

C) are preferred in general, then an interaction should emerge showing that this is only true for individuals with low levels of social media fatigue. The opposite should occur for individuals with high levels of social media fatigue.

**Data collection and analysis**

A worldwide online questionnaire was used for the study. The survey was created in Qualtrics and distributed on social media. Participants were recruited using email and social media platforms such as Facebook, Instagram, LinkedIn, and WhatsApp. The initial sample included 200 participants above the age of 18, however only 88 responded to all of the study's questions regarding the aim of the study. Participants were notified before the survey began that the information obtained would be used purely for research purposes, with no information that may conceivably identify a participant being included in the analysis and/or outcomes. The steps of the study were discussed to the participants; but, due to the nature of the study assessing information processing, the participants were not informed of the investigation's actual goal before the end of the study.

Participants were told that by taking part in the study, they could earn study credit based on their performance. Participants would be able to use their earned credits to support (or not support) the crowdfunding projects. The profile's structure and information were changed between participants, so each individual only saw one of the profiles matched to one of the systems plus the filler one. Following accomplishment of the logic tasks, participants were randomly allocated to one of three profiles: Profile A, Profile B or Profile C.

Then, the participants answered the questions regarding the social media fatigue scale using a 7 Likert-scale. In the end, the participants answered questions regarding demographic and social media usage.

Following that, the SPSS database was generated utilizing the money split of the profiles as well as the SMF scale responses in addition to the demographic answers. Before beginning the analytic methods, some of the data that was not required for the analysis, such as the logic question responses from the initial section of the survey, was deleted. Following these database modifications, the statistical analyses were carried out in SPSS (version 28).

**Sample**

The study included 200 participants, but only 88 were qualified for the analyses, with 49.4% women, 49.4% males, and 1.3% identifying as other gender, and with ages 18 to 65, the majority being between 18 and 25.The users (92%) have been using social media for more than 5 years and spend between 1 and 5 hours online (63%) every day. Instagram (49.4%), YouTube (19.5%), and Tiktok (5.2%) are the platforms they use the most. 27 people viewed Profile A, 28 people viewed Profile B, and 33 people viewed Profile C.

<center>**Results**</center>

**Funding attribution[8]**

  The first hypothesis, though mildly exploratory, proposed that the manner in which the profile is written is related to funding attribution. If writing in a specific style, appealing more to one brain system than another or both, predicts funding attribution and hence project success.

  The first phase was to evaluate the credit attribution amongst profiles: Profile A earned an average of 17,30€, Profile B received 16,61€, and Profile 3 received 12,73€. Because the financing for the profiles differed, a generic linear model was used to create a linear link, in this case, between the way the profiles are written and the funding attribution.

  When Profile C is compared to Profile A, there is a significant difference ($p= 0.037$) in terms of financing attribution. That is, individuals seem to prefer to use system 1 when analyzing sustainable crowdfunding's online. Which means, individuals are more likely to employ heuristics and biases to build their impression, and features that appeal to system 1 are more likely to encourage someone to contribute with money to crowdfunding initiatives.

  As Profile C is compared to Profile B, there is a significant difference in terms of monetary attribution ($p=0.036$). This result could mean either that people prefer to use system 1 and 2 together than only system 2, or it could mean that people prefer to use system 1 regardless of content. Considering the difference between profile C and profile A is in the same direction, it does seem that people prefer sustainable crowdfunding profiles that appeal to system 1 regardless of content. To further support this idea, no significant difference was found between profiles A and B. This indicates that individuals like to read material that is simple to understand and does not demand a lot of mental effort. Because bullet points make information simpler to read than condensed text and allows to use cues and heuristics.

---

[8] Other variables such as potential success and quality of the project were measured. However, no significant differences were found (except for the potential success of profile A being perceived as higher than profile C.

However, it also demonstrates that consumers are unconcerned about the content of the information given.

*Table 1 – Mean levels of funding attribution by profile*

|  | Mean | Standard deviation |
|:---:|:---:|:---:|
| **Profile A** | 16,8a | 1.56 |
| **Profile B** | 16,7a | 1.44 |
| **Profile C** | 12,5b | 1.32 |

*Different letters indicate significant differences at p<.05

**Social media fatigue**

The second hypothesis was to determine if an individual's social media fatigue influences funding attribution when encountering a certain type of crowdfunding profile. So, even if individuals are more prone to attribute more funding to profiles that appeal to system 2, will that still be the case if their level of social media fatigue is high. On the contrary, if they have a low degree of weariness, they are better prepared to digest information, and it makes no difference if the profile calls out system 1 or system 2, the information is the most essential as they have the resources to do the mental work.

The analysis done to investigate the second hypothesis was a moderation analysis, which is used to determine whether the relationship between the two variables, type of profile and funding attribution, is moderated by the value of the third, social media fatigue. It was added "time spent online" as a covariate[9] to control the influence that social media fatigue might have on any of these relationships which can bring more accurate results. Due to the fact that if a person spends a lot of time online is possible to have more social media fatigue and therefore fewer mental resources. So, the aim is to assess the effect that social media fatigue might without the confound of other variables.
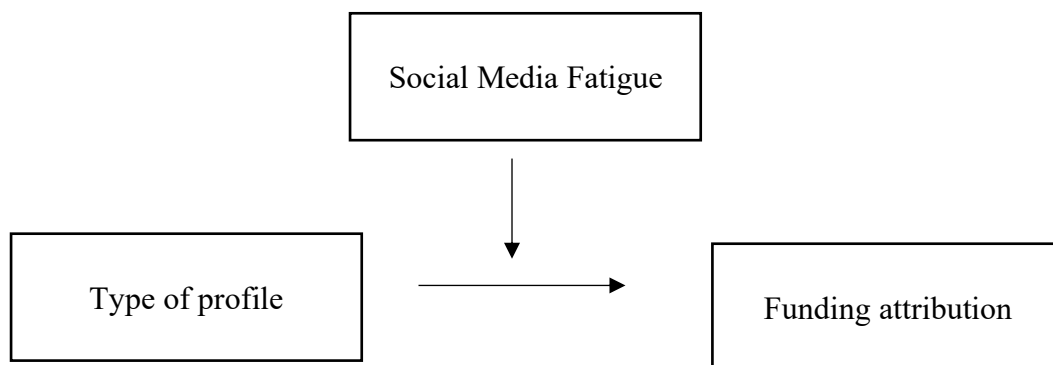


*Figure 1 - Conceptual model*

---

[9] Covariates are characteristics of the participants in an experiment which can influence the outcome. (APA Dictionary of Psychology, n.d.)

To determine if social media fatigue moderates the relationship between type of profile and funding attribution, Andrew F. Hayes' PROCESS macro[10] for SPSS was used, which offers essentially a regression model. In this situation, the model is significant (p=0.0231) overall, with a $R^2$=.146. This accounts for 14.6% of the variation of funding attribution in this data set. However, when examined attentively, neither variable is statistically significant (p>0.05), which means social media fatigue does not act as a moderator and does not influence money attribution.

---

[10] See attachment F

**Discussion**

We learned through the literature research not only how beneficial sustainable crowdfunding is to society, but also how important social media is in our daily lives. However, in certain cases, it is impossible to grasp all of the information on social media, including the information displayed on accounts. However, research on the information processing of crowdfunding profiles and how social media may impact it is scarce. Our study's goal was to discover how individuals digest information, and whether presenting crowdfunding profiles that appeal more to system 1 or 2 makes a difference in terms of funding attribution. Moreover, it was also a goal to see if social media weariness has an impact on it.

This study's first major contribution regards the way the crowdfunding profiles should be presented. To be successful, a project must be shared online in order to reach the biggest number of individuals. However, as previously said, it is critical to consider how the entrepreneurs articulate their concept. They should examine not only the narrative, language, and text structure, but also how they frame the product or service, since this may impact how the individual processes information and produces an impression (Rossilini, Predrazzoli & Ronconi, 2021). As a result of the information given, the individual may pick one of two pathways. One that is more automatic, based on shortcuts and heuristics, and uses less resources, or one that is more effortful, requiring a higher number of mental resources (Kahneman,2013). So, if a person chooses system 1, they are more likely to select profiles that are easy to read, such as with bullet points, and accessible to remember heuristics. However, if a person likes, has the drive, and the mental resources to comprehend information regardless of how it is expressed, they will be able to do so. Nonetheless, both systems interact (Kahneman, 2013), thus individuals may desire to be influenced by simple reading but can also analyze information. The outcomes obtained add on the literature concerning digital information processed as they had a significant result and showed that when talking about funding attribution the way that the profile is framed has an influence. Therefore, when the content of the crowdfunding project is written in a way that appeals more to the system 2 will not have as much success as one written that appeals more to only system. Therefore, when the content of the crowdfunding project is written in a way that appeals more to the system 2, it will not have as much success as one that appeals more to system 1 . Therefore, the entrepreneur must give more attention to the

features that appeals to system 1. And the fact that there were not any differences between profile A and B shows that the content is not as important as the way in which is written. The findings contribute to the literature on digital information processing since they produced a substantial result and have shown that, when discussing funding attribution, the way the profile is framed has an effect. As a result, when the content of the crowdfunding project is written in a way that appeals more to system 2, it will not be as successful as one written in a way that appeals more to system 1 or both at the same time.

The second contribution regards social media fatigue. As previously stated, in order for a project to be successful, it must meet its financial objectives, which necessitates the contribution of funds from backers. They need to process the information in order to grasp the information behind the project and assign money to it. However, individuals are beginning to lose faith and become more cynical about the information they discover online (Moisseyev, 2013), as well as demonstrating exhaustion and a lack of willingness to remain online. People may avoid participating in crowdfunding campaigns if they are unable to comprehend the contents offered on the internet. With high degrees of exhaustion, people may have minimal mental resources and only engage with profiles that offer information that is more system 1 oriented. This suggests that social media fatigue can have an impact on funding allocation. However, we found no indication of social media fatigue altering funding attribution in our findings. That is, individuals will process information in accordance with the system they want to utilize. Nonetheless, social media fatigue must be managed while discussing crowdfunding since if a large number of users depart social media owing to high levels of fatigue, the crowdfunding initiatives will fail.

However, the fact that there is not any significant result can be due to the fact that the population studied have medium levels of fatigue since the mean is 5.20 and the lowest rate was 1.80 and the biggest 7.00 meaning that that this could be affecting the moderation. Nonetheless, the generalized use of social media makes everyone feeling overwhelmed due too much information therefore the mental resources to processing information is already low. Which means that they could already have a predisposition to information written with features that appeal to system 1.

Crowdfunding platforms should ponder about assisting entrepreneurs in writing information about their businesses and products so that investors have enough information. As observed, profiles written in plain text are less likely to acquire funding, but those

written in bullet points and invoking heuristics and signals are more likely to receive funding. As a result, entrepreneurs have a higher chance of securing fair funding possibilities and flourishing with their firm.

## Limitations and Future Recommendations

While this study has revealed significant new insights on the importance of information processing in crowdfunding, considerable limitations must be noted. First of all, the reduced sample size. While a significant sample was initially collected (i.e. 200), only 88 participants filled out the survey entirely which may have rendered some statistical analyses underpowered. Furthermore, the amount of people who saw each profile was not uniformly divided even though these were randomly assigned.

The type of profiles used in the experimental manipulations (and filler) were limited in both layout (i.e. to reflect a real website commonly used for crowdfunding) and content (i.e. limited to only one specific environmental issue). This raises an important question about the generalizability of the findings, because most crowdfunding platforms allow users to choose from hundreds of different profiles. Furthermore, the profiles examined both gave something in return, a sustainable fashion company and a water fountain, implying that they prioritize the consumer above the environment, whereas crowdfunding platforms promote business concepts that prioritize the environment over the people. To be confident in the conclusions, the study needs be replicated with additional sustainable business ideas.

Finally, at the end of the survey, participants did not invest their own money, but instead used the study credit obtained in the first portion of the study as a means of investment. Even while working on the activities in the first part of the survey is likely to give them a sense of ownership over the study credit given to them, it is conceivable that if they had been using their own money, they would have made different and potentially more conscientious investment selections.

According to research, an individual must have prior green behavior to be a lender in a sustainable crowdfunding, thus it may be good to study how individuals interpret the profile information of economic crowdfunding's. According to some studies, economic crowdfunding is becoming more common and easier to lend money. Thus, a potential future study subject may be to investigate how the information process differs in economic crowdfunding.

**Conclusions**

In a controlled experimental context, our study looked at how information processing and sustainable fictitious crowdfunding profiles affect fundraising outcomes and if social media weariness has any bearing. Our findings showed that participants had various perceptions of the information on profiles, favoring those that commonly appeal to system 1. These findings are consistent with current literature since it is simpler and requires less mental effort for people to form an automatic impression. However, System 1 continually makes suggestions to System 2, and if those suggestions are accepted by System 2, impulses turn into purposeful behaviors with little to no modification. According to the findings, a profile that activates system 1 is therefore more likely to acquire funding.

As a result, crowdfunding specialists must seek to make company ideas easy to understand in order to avoid donor weariness. Because the profiles are shared online, people may already be overloaded with the information with which they engage on a regular basis. A profile that is difficult to read has a lower likelihood of success since it needs more cognitive resources. Therefore, when writing the profile, the entrepreneur must give more attention to the features that appeals to system one and concentrate less on the content displayed on the profile.  It was also investigated if social media fatigue had a relationship with funding attribution. However, the findings did not reveal a significant interaction. As a result of social media fatigue not interfering with funding attribution, individuals will process information in line with the method they "choose" to use. However, social media fatigue must nonetheless be controlled while addressing crowdfunding because a huge percentage of users abandon social media due to high levels of fatigue caused by the volume of information available online. So, while it may not affect in terms of a differentiated reaction to crowdfunding profiles appealing to different systems, it affects in a generic manner by making people less available to consider these issues altogether due to be overwhelmed with all of the information.

## References

American Psychological Association. (n.d.). Inferiority complex. In APA Dictionary of Psychology. Retrieved September 29, 2022 from https://dictionary.apa.org/covariate

Bretschneider, U., & Leimeister, J. M. (2017). Not just an ego-trip: Exploring backers' motivation for funding in incentive-based crowdfunding. *The Journal of Strategic Information Systems*, *26*(4), 246–260. https://doi.org/10.1016/j.jsis.2017.02.002

Bright, L. F., Kleiser, S. B., & Grau, S. L. (2015). Too much Facebook? An exploratory examination of social media fatigue. *Computers in Human Behavior*, *44*, 148–155. https://doi.org/10.1016/j.chb.2014.11.048

Chaiken, S., & Ledgerwood, A. (2012). A theory of heuristic and systematic information processing. *Handbook of theories of social psychology*, *1*, 246-266.

Chen, J. (2022, July 28). *What Is Private Equity?* Investopedia. https://www.investopedia.com/terms/p/privateequity.asp

Chen, S. Y., Chen, C. N., Chen, Y. R., Yang, C. W., Lin, W. C., & Wei, C. P. (2015). Will your project get the green light? Predicting the success of crowdfunding campaigns.

Cowan, N. (2013). Working Memory Underpins Cognitive Development, Learning, and Education. *Educational Psychology Review*, *26*(2), 197–223. https://doi.org/10.1007/s10648-013-9246-y

Crano, W. D., & Prislin, R. (2006). Attitudes and persuasion. Annual review of psychology, 57, 345.

*Crowdfunding Definition*. (2022, May 31). Investopedia. https://www.investopedia.com/terms/c/crowdfunding.asp

Cutting, J. E. (1987). Perception and information. *Annual review of psychology*, *38*(1), 61-90.

Dale, S. (2015). Heuristics and biases. *Business Information Review*, *32*(2), 93–99. https://doi.org/10.1177/0266382115592536

Evans, J. (2003, October). In two minds: dual-process accounts of reasoning. *Trends in Cognitive Sciences*, *7*(10), 454–459. https://doi.org/10.1016/j.tics.2003.08.012

Ganti, A. (2022, March 22). *Angel Investor*. Investopedia. https://www.investopedia.com/terms/a/angelinvestor.asp

Hayes, A. (2022, May 31). *What Is Venture Capital?* Investopedia. https://www.investopedia.com/terms/v/venturecapital.asp

Kahneman, D. (2013). Thinking, Fast and Slow. In *No Title* (1st ed.). Farrar, Straus and Giroux.

Kannengiesser, U., & Gero, J. S. (2019). Design thinking, fast and slow: A framework for Kahneman's dual-system theory in design. *Design Science*, *5*. https://doi.org/10.1017/dsj.2019.9

Kaur, H., & Gera, J. (2017). Effect of social media connectivity on success of crowdfunding campaigns. *Procedia computer science*, *122*, 767-774.

Kim, M. J., & Hall, M. (2021, February). Do value-attitude-behavior and personality affect sustainability crowdfunding initiatives? Journal of Environmental Management, 280(1), 111827. https://doi.org/10.1016/j.jenvman.2020.111827

Kuppuswamy, V., & Bayus, B. L. (2018). Crowdfunding creative ideas: The dynamics of project backers. In The economics of crowdfunding (pp. 151-182). Palgrave Macmillan, Cham.

Lu, C. T., Xie, S., Kong, X., & Yu, P. S. (2014). Inferring the impacts of social media on crowdfunding. *Proceedings of the 7th ACM International Conference on Web Search and Data Mining*. https://doi.org/10.1145/2556195.2556251

Laurell, C., Sandström, C., Suseno, Y., & Laurell, C. (2019, April). Assessing the interplay between crowdfunding and sustainability in social media. Technological Forecasting and Social Change, 141, 117–127. https://doi.org/10.1016/j.techfore.2018.07.015

Lusa. (2022, July 28). Humanidade esgotou recursos do planeta para este ano e viverá a crédito até ao final de 2022. *SIC Notícias*. https://sicnoticias.pt/mundo/2022-07-28-Humanidade-esgotou-recursos-do-planeta-para-este-ano-e-vivera-a-credito-ate-ao-final-de-2022-9980c995

Maehle, N. (2020). Sustainable crowdfunding: insights from the project perspective. *Baltic Journal of Management*, *15*(2), 281–302. https://doi.org/10.1108/bjm-02-2019-0079

Macht, S. (2014). Reaping value-added benefits from crowdfunders: what can we learn from relationship marketing?. *Strategic Change*, *23*(7-8), 439-460.

Moisseyev , a. (2013, March). *EFFECT OF SOCIAL MEDIA ON CROWDFUNDING PROJECT RESULTS* . College of at DigitalCommons@University of Nebraska - Lincoln. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1043&context=businessdiss

Moritz, A., Block, J., & Lutz, E. (2015). Investor communication in equity-based crowdfunding: a qualitative-empirical study. *Qualitative Research in Financial Markets*, *7*(3), 309–342. https://doi.org/10.1108/qrfm-07-2014-0021

Neuberg, S. L., & Fiske, S. T. (1987). Motivational influences on impression formation: Outcome dependency, accuracy-driven attention, and individuating processes. *Journal of Personality and Social Psychology*, *53*(3), 431–444. https://doi.org/10.1037/0022-3514.53.3.431

Otuteye, E., & Siddiquee, M. (2015). Overcoming Cognitive Biases: A Heuristic for Making Value Investing Decisions. *Journal of Behavioral Finance*, *16*(2), 140–149. https://doi.org/10.1080/15427560.2015.1034859

Rossolini, M., Pedrazzoli, A., & Ronconi, A. (2021). Greening crowdfunding campaigns: an investigation of message framing and effective communication strategies for funding success. *International Journal of Bank Marketing*, *39*(7), 1395–1419. https://doi.org/10.1108/ijbm-01-2021-0039

Shneor, R., Zhao, L., & Flåten, B. (2020a). Crowdfunding Sustainability. In *Advances in Crowdfunding: Research and Practice* (1st ed. 2020, pp. 393–423). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-46309-0

Shneor, R., Zhao, L., & Flåten, B. (2020b). Donation Crowdfunding: Principles and Donor Behaviour. In *Advances in Crowdfunding: Research and Practice* (1st ed. 2020, pp. 145–161). Springer Nature. https://doi.org/10.1007/978-3-030-46309-0

Shneor, R., Zhao, L., & Flåten, B. (2020c). Equity Crowdfunding: Principles and Investor Behaviour. In *Advances in Crowdfunding: Research and Practice* (1st ed. 2020, pp. 93–119). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-46309-0

Shneor, R., Zhao, L., & Flåten, B. (2020d). Lending Crowdfunding: Principles and Market Development. In *Advances in Crowdfunding: Research and Practice* (1st ed. 2020, pp. 63–93). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-46309-0

Shneor, R., Zhao, L., & Flåten, B. (2020e). Reward-Based Crowdfunding Research and Practice. In *Advances in Crowdfunding: Research and Practice* (1st ed. 2020, pp. 199–145). Springer Nature. https://doi.org/10.1007/978-3-030-46309-0

*Social Good Definition*. (2021, June 1). Investopedia.

https://www.investopedia.com/terms/s/social_good.asp

Świątek, A. H., Szcześniak, M., & Bielecka, G. (2021). Trait Anxiety and Social Media Fatigue: Fear of Missing Out as a Mediator. *Psychology Research and Behavior Management*, *Volume 14*, 1499–1507. https://doi.org/10.2147/prbm.s319379

Szabo, S., & Webster, J. (2020). Perceived Greenwashing: The Effects of Green Marketing on Environmental and Product Perceptions. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-020-04461-0

Vismara, S. (2018). Sustainability in Equity Crowdfunding. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3135935

von Selasinsky, C., & Lutz, E. (2021, May 27). The Effects of Pro-Social and Pro-Environmental Orientation on Crowdfunding Performance. Sustainability, 13(11), 6064. https://doi.org/10.3390/su13116064

Wang, N., Li, Q., Liang, H., Ye, T., & Ge, S. (2018). Understanding the importance of interaction between creators and backers in crowdfunding success. *Electronic Commerce Research and Applications*, *27*, 106–117. https://doi.org/10.1016/j.elerap.2017.12.004

*What Is Target Market?* (2021, September 10). Investopedia. https://www.investopedia.com/terms/t/target-market.asp

Zhang, S., Shen, Y., Xin, T., Sun, H., Wang, Y., Zhang, X., & Ren, S. (2021, January 22). The development and validation of a social media fatigue scale: From a cognitive-behavioral-emotional perspective. PLOS ONE, 16(1), e0245464. https://doi.org/10.1371/journal.pone.0245464

**Attachments**

**Attachment A – filler profile**

*Clothes that can save the world*


**tags**: fashion / reforestation / environment


**story**: One of the most polluted industries is, unfortunately, the fashion industry. This occurs because of the use of endangered and non-reusable resources, the fact that some materials and methods of manufacturing are pollutants themselves, the emission of greenhouse gas and vast overproduction. This overproduction leads to textile waste which is growing into a major component of our landfills. By knowing this I decided to take action and join the revolution of a more sustainable fashion industry.


**service**: Sustineri does not rely on seasonal collections. We care for everyday clothes that fit everyday needs. That's why we have one single collection and try to make it permanently available.
- Quality over quantity. The result is a growing collection of organic and natural materials in which all of our suppliers have a GOTS Certification, which stands for Global Organic Textile Standard.
- The thing that sets us apart from any sustainable brand is the fact that 20% of each purchase will be donated to reforestation to save the ecosystem.


**funds raised will be used for**:
- costs related to the manufacturing of the clothes pieces
- promotional costs

**Attachment B – profile A**

*Water fountain*

**tags**: water / commute / recycling / environment

**story**:
- Every day thousands of individuals like me use public transport to commute to everywhere and it is difficult to remember to bring everything with us.
- So sometimes we forget our reusable water bottles or to fill it up and need to resort to vending machines to buy water bottles.
- Water plastic bottles are very easy and convenient, however they are tremendously hard to recycle.
- The **5 biggest advantages of reusable water bottles** are:

    1) They reduce plastic waste

    2) They last longer

    3) They are prettier

    4) They have more designs

    5) They keep it from spilling

service:
- The answer is…WATER VENDING MACHINE!
-At some transport stops, there are several food vending machines which usually have plastic water bottles.
- My idea is based on those machines, it would only sell reusable water bottles and allow people to fill their water bottles.
- Of course this type of machine already exists, like in supermarkets, but there are none on transport platforms.
- This machine would allow you to fill your own water bottle or if you forget one you can buy a new reusable one.

**funds raised will be used for**:
- create a prototype

- find some sponsorships

- promotional costs

**Attachment C – profile B**

*Water fountain*

**tags**: water / commute / recycling / environment

 **story**:

 *10 reasons to support this idea!*

1) **11.1%** of people in Porto and **15.8%** in Lisbon use public and/or collective transport to commute to everywhere.

2) So sometimes the little things, like a water bottle, are forgotten, so they need to resort to vending machines to buy plastic water bottles.

3) When it comes to storage and usage, plastic water bottles are quite convenient.

4) However, when you consider the negative impacts of plastic on your health and the environment, the enormous prices are clearly not worth the minor convenience.

5) A year's supply of throwaway water bottles requires **17 million barrels of oil**.

6) Approximately **8 million tons of plastic** are in the oceans, mostly microplastics.

7) The situation may appear grim, but the reusable stainless water bottle is a safer and more ecological alternative to plastic water bottles.

8) When you use a reusable water bottle on a regular basis, you are preventing hundreds of plastic water bottles from ending up in the seas.

9) Also reusable water bottles are safe to use because they don't contain BPA and other chemicals that are commonly found in plastic water bottles.

10)They allow you to reduce your carbon footprint and helps reduce the plastic burden on landfills

 **service**:

- The solution is a water vending machine.

- At some transport stops, such as subways, bus stops or train stations, there are several food vending machines which usually have plastic water bottles.

- The idea is based on those machines, but instead of selling numerous types of food and beverages would only sell reusable water bottles and allow people to fill their water

bottles.

- Nonetheless, this type of machine already exists, like in supermarkets, but there are none on transport platforms.

- It would allow you to fill your own water bottle or if you forget one you can buy a new reusable one.

 **funds raised will be used for**:

- create a prototype
- find some sponsorships
- promotional costs

**Attachment D – profile C**

*Water fountain*

**tags**: water / commute / recycling / environment

**story**: 11.1% of people in Porto and 15.8% in Lisbon use public and/or collective transport to commute to everywhere. These people have to carry a lot of baggage which can be difficult to remember to bring with them. So sometimes the little things, like a water bottle, are forgotten, so they need to resort to vending machines to buy plastic water bottles. When it comes to storage and usage, plastic water bottles are quite convenient. They give quick hydration and can be placed in the recycle bin when you're done. However, when you consider the negative impacts of plastic on your health and the environment, the enormous prices are clearly not worth the minor convenience that plastic bottles may offer. According to an infographic prepared by Printwand, a year's supply of throwaway water bottles requires 17 million barrels of oil and approximately 8 million tons of plastic in the oceans, which mostly consisted of microplastics. The situation may appear grim, but the reusable stainless water bottle is a safer and more ecological alternative to plastic water bottles. One of the most significant advantages of utilizing a reusable water bottle is that it helps to limit the usage of plastic, which is one of the most environmentally damaging materials. When you use a reusable water bottle on a regular basis, you are preventing hundreds of plastic water bottles from ending up in landfills or the seas. Another one is that reusable water bottles are better tasting water and other drinks, they are safe to use because they don't contain BPA and other chemicals that are commonly found in plastic water bottles. Also, they allowed you to reduce your carbon footprint.

**service**: The solution is a water vending machine. At some transport stops, such as subways, bus stops or train stations, there are several food vending machines which usually have plastic water bottles. The idea is based on those machines, but instead of selling numerous types of food and beverages would only sell reusable water bottles and allow people to fill their water bottles. Nonetheless, this type of machine already exists, like in supermarkets, but there are none on transport platforms. It would allow you to fill your own water bottle or if you forget one you can buy a new reusable one.

**funds raised will be used for**:

- create a prototype

- find some sponsorships

- promotional costs

**Attachment E – Social media fatigue scale**

<u>Social media fatigue</u>

I am likely to receive too much information when I am searching for something on social media sites

I am frequently overwhelmed by the amount of information available on social media sites

I find that social media sites do not have enough detail to quickly find the information I am looking for

The amount of information available on social media sites makes me feel tense and overwhelmed

When searching for information on social media sites, I frequently just give up because there is too much to deal with

## Attachment F – PROCESS macro

```
Run MATRIX procedure:

****************** PROCESS Procedure for SPSS Version 4.1 ******************

          Written by Andrew F. Hayes, Ph.D.        www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3

*************************************************************************
Model  : 1
    Y  : profiles
    X  : perfil_s
    W  : Fadiga_f

Covariates:
 Q46

Sample
Size:  76

*************************************************************************
OUTCOME VARIABLE:
 profiles

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3817      .1457    49.1307     3.0270     4.0000    71.0000      .0231

Model
            coeff         se          t          p       LLCI       ULCI
constant    8.3366    11.9060      .7002      .4861   -15.4034    32.0765
perfil_s     .4615     5.0005      .0923      .9267    -9.5093    10.4324
Fadiga_f    2.3477     2.4384      .9628      .3389    -2.5144     7.2098
Int_1       -.7279     1.0526     -.6916      .4914    -2.8267     1.3708
Q46          .7571      .7376     1.0265      .3081     -.7135     2.2278

Product terms key:
 Int_1    :          perfil_s x        Fadiga_f

Test(s) of highest order unconditional interaction(s):
      R2-chng          F        df1        df2          p
X*W      .0058      .4783     1.0000    71.0000      .4914

********************** ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

WARNING: Variables names longer than eight characters can produce incorrect
output
when some variables in the data file have the same first eight characters.
Shorter
variable names are recommended. By using this output, you are accepting all risk
and consequences of interpreting or reporting results that may be incorrect.

------ END MATRIX -----
```