

# Employer branding as a tool to increase start-ups' attractiveness

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## Executive Summary

The thesis studied the employer branding process as a way to increase start-ups attractiveness for potential employees. Start-ups, unlike larger and more established corporations, face challenges when it comes to recruiting talented personnel. Employer branding concerns the different strategies that a company can employ to increase the employer's attractiveness. Thus, to investigate how this would be possible in a start-up environment, few steps needed to be taken. First, the job attributes, later defined as employer brand attributes, which make the company attractive for the candidates, needed to be studied. Secondly, the behavioral characteristics of young and talented applicants, also called in the thesis entrepreneurial behaviors, were analyzed to identify their potential effects on employer brand attributes and employer's attractiveness.

The study involved a mixed method. First, a qualitative study was performed where 5 semi-structured interviews with start-ups managers or founders helped to understand the start-up employers' perspective on the subject. From the content analysis of the interviews, five different employer brand attributes were found: financial package offered, responsibility functions, growth and learning opportunities, work environment, and serious games. As a next step, a quantitative study was employed where the (potential) employees' perceptions were studied through an electronic questionnaire which collected 94 respondents among students and young professionals. Using conjoint analysis and regression analysis, the results revealed that the preference order for the attributes was: financial package offered (26,86%), growth and learning opportunities (24,12%), responsibility functions (19,20%), work environment (15,16%), and serious games (14,66%). At the same time, a positive relationship was found between responsibility functions (0.845,  $p < 0.05$ ) with innovative behavior. A negative correlation was instead verified between proactive behavior and responsibility functions (-0,506,  $p < 0.05$ ), and between risk-taking behavior and responsibility functions (-0.399,  $p < 0.05$ ) and growth opportunities (-0.362,  $p < 0.05$ ). Thus, the propositions advanced by this thesis for the academics was to continue the research on employer brand attributes and entrepreneurial behaviors enlarging the sample of the study to guarantee more generalizable results. For practitioners, especially for start-up employers, the qualitative and quantitative study revealed their weakness, mainly the financial package, which should be reinforced to improve the employer's attractiveness. Moreover, a different strategy should be thought of for each of the employer brand attributes, such as growth opportunities, work environment, responsibility functions, and serious games, because all of them presented a positive relationship towards employers' attractiveness.



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# 1 Introduction

## 1.1 Background

The relevance of branding activities among entrepreneurial firms has been recognized by the literature that now considers the creation and establishment of brands as one of the most valuable assets for the firms [Backhaus and Tikoo, 2004]. Corporate branding refers to the way that firms try to translate the corporate identity into their marketing activities, employees, behavior, and different forms of planned communications [Blombäck and Brunninge, 2009]. The objective of corporate branding for the company is to conquer and maintain an advantaged position and reputation to both their external stakeholders and the organization's staff. Corporate branding becomes a powerful tool when it creates a sense of commitment and individuality for the organization. The result is a source of competitive advantage being each corporate identity different for each organization and difficult to replicate if successful [Foster et al., 2010]. Even if the usual focus of these companies is toward the development of products and corporate brands, recent human resource management tools are being employed to attract and recruit talented and qualified personnel whose values fit with an organization [Hatch and Schultz, 2003]. That is why the role of the employee becomes relevant in the field of corporate branding, which can be divided into internal and employer branding. Internal branding focuses on existing employees, internal stakeholders, while employer branding concerns the future potential employees of the company, external stakeholders [Foster et al., 2010].

Internal branding aims at the adoption of those concepts derived from the corporate identity inside the organization to make sure that the employees can bring and represent the brand promise. The employment of internal resources to improve internal service quality can bring higher customer satisfaction, thus organizational performance, and profitability [Foster et al., 2010]. Even if the concept of internal branding has already been recognized by the literature more than employer branding, the latter presents an effective organizational strategy for the company to

acquire a competitive advantage by attracting high-quality employees [Theurer et al., 2018]. The goal of employer branding comes from corporate branding which shows how to attract a larger customer base by communicating the firm's goals and values [Tumasjan et al., 2011]. In employer branding the firm's objective is to ensure and to attract the right recruits and that current employees are engaged in the culture and strategy of the company. The importance of recruiting the right people who will fit with the corporate values becomes necessary when there is the purpose of creating a specific perception of the corporation as a more desirable workplace than the competitors. The source of competitive advantage that a company can gain with corporate branding relies on an effective employer branding campaign where firms compete to attract applicants with their same values who are the promises for future added value to the organization [Martin et al., 2011]. The internalization of company values by employees and an efficient employee integration forms a mix of heterogeneous attributes and skills which are difficult to replicate by other competitors given the unique core values of each company [Backhaus and Tikoo, 2004].

Employer branding starts with the creation of an "employer brand" that has the purpose to establish the perception of the organization as a desirable place to work in the eyes of the external labor market [Foster et al., 2010]. The image put forward by the employer brand creates an advantage for the entrepreneurial firm; that is why many companies are now developing formal employer branding strategies or are interested in developing such programs [Backhaus and Tikoo, 2004]. However, despite the growing interest in employer branding practices, there is still a knowledge gap in the academic research on the topic, more in particular with respect to smaller companies, such as new ventures or start-ups. These companies usually lack the resources and experienced organizational practices to develop a tailored employer branding strategy [Tumasjan et al., 2011]. Moreover, it is not foregone that start-ups might need and should even engage in the first place in an employer branding strategy. In fact, if on one side, larger corporations are almost obliged to create their branding image to compete in the market, smaller companies, on the other side, like start-ups usually face challenges in the early stages that hinder their interest in the subject.

Thus, in this thesis, the employer branding concept, given its potential for competitive advantage, will be studied and the possibility for start-ups to enhance its benefit in recruiting talented employees will be explored.

## 1.2 Problem Definition and Research Objective

Employer branding, being part of corporate brand building, has been recognized as a potential effective strategy for entrepreneurial firms, in particular start-ups, to communicate the firm's goals and values and to gain advantages in the developing stages [Tumasjan et al., 2011]. As a matter of fact, it is in the early stages in which start-ups face several competitive disadvantages; mostly because they present a high level of uncertainty, suffer from limited public recognition and legitimacy, and lack of organizational awareness [Moser et al., 2017]. As a consequence, early-stage start-ups face the challenge of recruiting talented employees, which is one of the most important success factors in firm development. On the other hand, larger and more established organizations represent a more mature player in the market, being more visible and appealing to potential candidates, and putting the start-ups at a competitive disadvantage [Tumasjan et al., 2011]. The candidates usually might prefer the benefits guaranteed by the large and established entrepreneurial firms, such as bigger reputation, better compensation, and faster career advancement, that start-ups usually cannot guarantee in the early stages [Tumasjan et al., 2011]. That is why the attraction of talented personnel has been identified as the biggest challenge for start-ups, and they confirm that in 89% of the cases they do find the recruitment process challenging [Moser et al., 2017].

This thesis investigates the recruitment challenges of start-ups and makes use of employer branding to market employer values to attract a larger pool of prospective applicants. As a matter of fact, employer branding can be a powerful tool especially for start-ups in order to raise their image, help them gain legitimacy and public recognition to attract talented employees. However,

the limited literature on employer branding is even more narrow with respect to small firms such as start-ups. Moreover, being the challenges of start-ups different from bigger enterprises, the employer branding approach should be tailored to start-ups' characteristics [Tumasjan et al., 2011]. In fact, start-ups not only want to attract qualified employees but should aim for specific human capital which brings a higher person-organization (PO) fit to compensate for their liabilities of newness and smallness [Moser et al., 2017]. To raise the person-organization fit start-ups should target entrepreneurially-minded people. Moser (2017) explains that entrepreneurially-minded people are those potential applicants who show three different kinds of behavior, innovative, proactive, and risk-taking behavior, which are early indicators of future high productivity, job satisfaction, and interest in the start-up success.

Thus, the objective of the thesis is to understand how can start-ups raise employer's attractiveness with the employment of an employer branding process. As already explained, on one hand, the research will focus on the characteristics of start-ups that make them attractive for prospective applicants. On the other hand, the second objective is to attract a specific kind of candidate, defined before as entrepreneurially minded employees.

The thesis will be divided into the following sections. First, a literature review will introduce the academic concept of corporate branding with a specific focus on one of its branches, which is employer branding, the main subject of the analysis. The literature review will then concentrate on previous work of employer branding done exclusively on start-ups narrowing the scope of the study. After developing the basis of employer branding in start-ups, the research questions and the conceptual framework will be presented in the subsequent dedicated section. In this chapter, the variables investigated in the thesis will be described. Next, the research design will be explored and the thesis will be divided into a qualitative and a quantitative study. For both the qualitative and quantitative study a dedicated section will explain the research methodologies and the tools employed for the study together with the results obtained. Finally, in the discussion section, the research questions will be answered and in the conclusion section, some practical

implication, limitations, and directions for future research will be given based on the results obtained from the thesis.





## 2 Literature Review

### 2.1 Search Criteria and Description

The literature research for this research was focused on the recent literature concept of employer branding as a human resource management tool. Thus, the starting point of the research has been a broad understanding of the notion of employer branding in connection with human resource management. The next step of the search process had the purpose of researching into the core part of the literature research, the connection between employer branding and start-up. In this last part of the research, only a limited number of papers were found to be pertinent to this research. Here the main keywords used when looking at the resources were "employer branding", "start-ups", "SME" and "branding".

### 2.2 Corporate Branding

The concept of corporate branding has been described as a valuable navigational tool for a variety of corporations to involve their stakeholders and accomplish objectives in fields such as employment, investment, and, most importantly, consumer buying behavior [Balmer and Gray, 2003]. Corporate branding proposition identifies as “the systematic planned management of behavior, communication, and symbolism in order to attain a favorable and positive reputation with target audiences of an organization” [Foster et al., 2010, p. 401]. This concept is the result of corporate identity which represents something purely internal, unique, and that distinguishes one firm from another. Corporate branding is the way through which the company tries “to translate corporate identity through market offers, employees, behavior, symbols, and various forms of planned communications” [Blombäck and Brunninge, 2009, p. 407]. As a matter of fact, the corporate brand has the objective to improve not only the customer-based images of the organization, but to the images formed and associated with all its stakeholders, including employees,

customers, investors, suppliers, partners, regulators, special interests, and local communities [Hatch and Schultz, 2003].

Due to the unique multi-stakeholder character, corporate brands differ greatly from product brands, which are mainly consumer-oriented, and should not be confused with it [Hatch and Schultz, 2003]. Product brands are built around the core product or service to be perceived as a benefit by the consumer and to maintain a distinctive position in the market [Knox and Bickerton, 2003]. As outlined by Hatch and Schultz (2003) there are some differences:

- The branding effort's focus changes from the product to the corporation, which now becomes more transparent and open than ever.
- Product brands mainly target consumers, while corporate brands target a broad range of stakeholders.
- Corporate branding requires more complicated organizational practices rather than just marketing support which handles product branding.
- Product brands live in the present, focusing on short-term goals. Corporate brands live both in the past and future stimulating connections between heritage and future strategic vision.

Corporate branding has become of such interest due to the dynamic nature of the modern market which drives companies to change their strategy towards a corporation re-positioning [Hatch and Schultz, 2003]. That is why corporate branding becomes important as the key elements of the corporation, such as culture, values, and employees, move to the center stage. The development of a corporate brand can become an advantage for the corporation. In fact, a heterogeneous mix of resources and capabilities represents a source of competitive advantage and superior performance. Corporate branding is a sustainable resource in the long-term as it satisfies the following characteristics defined by Balmer and Gray (2003):

- Valuable: a brand name increases the success of a product launch and decreases its costs.
- Rare: it is a unique result of the cultural identity and symbolism specific to the company.
- Durable: corporate brands have greater longevity than products brands
- Inappropriable: the intangible character of corporate brands makes it difficult to be bargained or stolen.
- Imperfectly inimitable: difficult to replicate due to brands symbols patents and the intangible character of corporate brands.
- Imperfectly substitutable: the threat to be overcome by a competitor can be managed with continuous commitment and improvement.

There are three main reasons why corporate branding has received so much interest by the literature first and consequentially by companies and practitioners [Hulberg, 2006](#):

- Differentiation: the fierce competition between market players and the increasing index of imitated and copied products by competitors confuse the consumer. Thus, the promotion of the corporate brand is an improved way to separate the company from the competition.
- Transparency: Corporate branding requires the company to be transparent and engage the consumer socially via different profiles. Thus, the company reaches a greater level of openness which establish trust in the consumer.
- Cost Reduction: rather than promoting different product brands, the company creates synergies between brands and promotes itself as a whole bringing down communication costs.

Usually, in product branding the market division must be efficient and effective; however, in corporate branding, the management executives have this important role to transmit the brand's

values and make them at the center of the corporate branding process [Hankinson, 2007]. That is why different guiding principles for the corporate branding theory have been established. First, a strong and visionary leadership needs to establish a set of core values that will represent the vision and the promise provided by the corporate brand. Through a process of training and mentoring, these core values associated with the brand should be integrated by the employees creating a corporate culture. The third and fourth suggestions are respectively to connect the corporate branding to the other departmental activities and processes and facilitate the communication of it across the different stakeholders. Finally, corporate branding can enable increasing performances through the creation and management of a network and partnership with compatible enterprises [Hankinson, 2007].

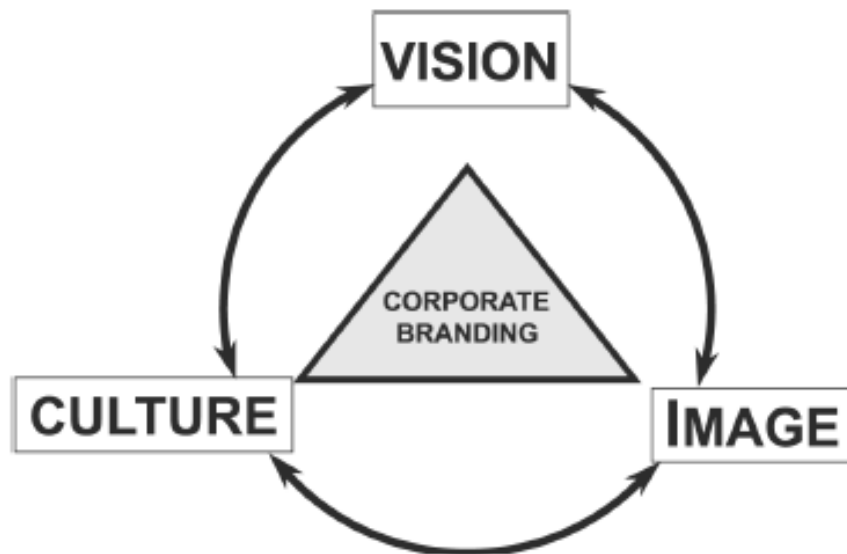


Figure 1: Corporate Branding Framework by [Hatch and Schultz, 2003]

This can be summarized in the work of Hatch and Schultz (2003) which shows a corporate brand framework divided in:

- Strategic vision: the central idea behind the company that embodies and expresses top

management's aspiration for what the company will achieve in the future.

- Organizational culture: the internal values, beliefs, and basic assumptions that embody the heritage of the company and communicate its meanings to its members; culture manifests itself in the ways employees all through the ranks feel about the company they are working for.
- Corporate images: views of the organization developed by its stakeholders; the outside world's overall impression of the company including the views of customers, shareholders, the media, the general public, and so on.

The first insight on corporate branding shows how the focus is not centered over the products or service provided by a company, but over the environment internal to the corporation, thus the field of human resource management. For this reason, it is crucial to investigate the role of the organization personnel, who are “the interface between the internal and external environments and help build and maintain the corporate brand” [Balmer and Gray, 2003, p. 979]. As a matter of fact, at the center of the corporate branding, there is “the idea of nurturing existing employees as well as attracting and recruiting the right candidates” [Foster et al., 2010, p. 402]. The analysis of the existing organization's staff under the lenses of corporate branding is defined as internal branding, while the attraction and recruiting processes are the objects of employer branding studies.

### 2.3 Internal Branding

Internal branding goes beyond the idea of the brand as a simple logo or an advertising campaign, but it concerns the “cluster of functional and emotional values that enables an organization to make a promise about a unique and welcoming experience” [Chernatony and Drury, 2006, p. 616] through which the employees have the duty of delivering them to the customers. This

objective can be achieved with the practice of internal marketing. Two are the main tools for which internal marketing can be effective: internal communication, for an enhanced employees' commitment and behavior, and human resource practices, for continuous motivation thanks to training and reward systems [Punjaisri et al., 2008].

From the previous argumentation, it is possible to define internal marketing as the set of activities employed by corporations to cultivate and secure both intellectual and emotional involvement by the staff to promote the corporate culture and brand. This idea of internal branding presents three main characteristics [Mahnert and Torres, 2007]:

- Internal marketing to internal costumers: there should be a reflection of values between the corporate identity and the employees.
- Internal marketing in internal markets: the realization of the brand promise should be consistent with the internal environment in terms of intellectual and emotional buy-in.
- Internal marketing as a strategy and change facilitator: internal branding should be adapted to all organization's levels to find alignment between management and staff behavior and value.

The literature has extensive work on how internal brand management procedures can be successful. Punjaisri and Wilson (2011) define two relevant constituents for it:

- Brand Commitment: it is the psychological attachment of employees to the brand. It means that the staff is willing to put extra effort to reach the brand's goals.
- Brand Citizenship behavior: it concerns a variety of employees behaviors that usually enhance the brand identity which are voluntarily exhibited also outside of the formal and working environment.

These two dimensions affect and improve the brand strength, which can be defined as the degree to which the brand is able to differentiate and be preferred with respect to competition by

customers [?]. From the research on brand commitment and brand citizenship behavior four different dimension: willingness to help, brand enthusiasm, propensity for further development, and identification and internalization [?].

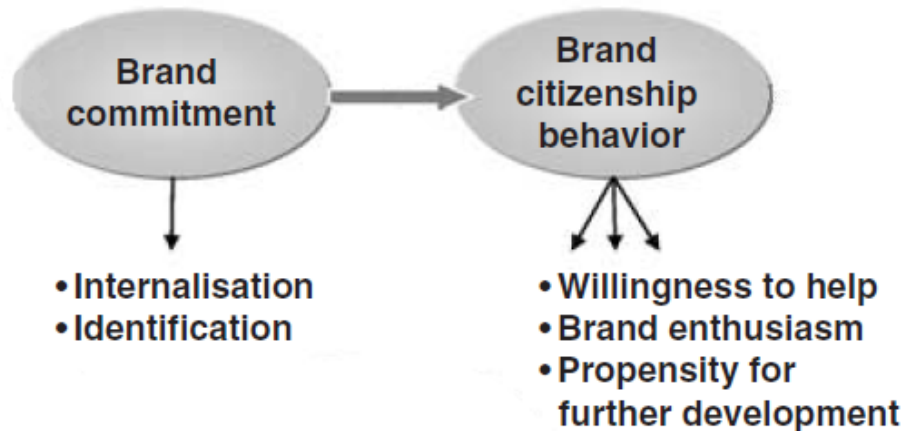


Figure 2: Internal Branding Dimensions [?]

Furthermore, the role of top management is considered strongly by the literature as, for successful internal brand building, leadership is a crucial factor [Vallaster and Chernatony, 2006]. In particular, Balmer(2006) says that leaders have the duty to establish corporate structures, such as corporate culture, corporate design, corporate communication, and corporate behavior, which bring coherent and consistent brand-related messages to the staff. From this study, it is possible to define some guidelines for leadership management in internal branding [Vallaster and Chernatony, 2006]:

- Successful leaders act as integrators between the elements of corporate identity structures in order to develop a powerful brand image.
- Leaders act as mediators between corporate branding structures and individuals during the process of internal brand building.
- Leaders facilitate employee brand commitment by acting as a role model, communicating in a manner supporting the desired brand identity.

- Leaders should design “permeable” corporate branding structures which allow for regular check-ups between internal and external brand building.

Finally, the different influences on the process of internal branding are numerous. The common base is a joint collaboration between internal communication and training. The first is a key to enhance the brand idea in the employees while training is thought to educate the staff to enact the brand values in their work [Burmam et al., 2009]. The framework is concluded some side factors which affect Brand Commitment, Brand Identification, and Brand Loyalty. These factors are both personal and work environment factors [Burmam et al., 2009].

Employee progression can be done only through internal branding activities which create the brand commitment and the brand behaviors. However, besides finding a new and specific way to reinforce the motivation and commitment of an employee, the corporation should dedicate its effort to recruiting activities to pass its corporate brand idea to possible candidates and attract their potential value to the company. That is why together with internal branding, the more recent concept of employer branding has been chosen as the thesis main subject.

## 2.4 Employer Branding

The internal branding analysis has revealed that a shift towards employer branding is needed whenever the corporate branding idea must be translated into how it is possible to transmit and then attract valuable human capital. The literature has shown a recent interest to understand organizational culture and employees’ behaviors as demonstrated in corporate branding; in fact, the employees, and potential ones as well, are key to building relationships and added value with all the company’s stakeholders [Hatch and Schultz, 2003]. As a consequence, through employer branding, the research of gainful human capital is an effective organizational strategy to obtain a competitive advantage in the market [Theurer et al., 2018].

The main strength of the corporation applying a successful branding campaign is the way



(potential) employees perceive the brand, which is consequentially reflected in how they approach their work and the consumers. The mix of knowledge and skills in a working environment that stimulates and transmits the corporate brand to the employees can turn into an economic value to organizations [King and Grace, 2008]. This is represented in the Employee Brand Commitment Pyramid (EBCP) created by King (2008) which shows how for an employee technical information becomes a commitment to the job, then brand-related information, and finally a commitment to the brand.

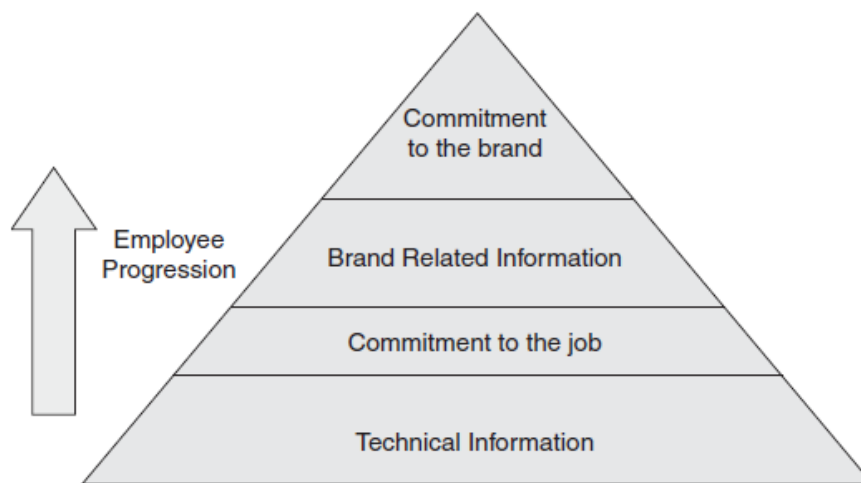


Figure 3: Employee Brand Commitment Pyramid [King and Grace, 2008]

The employee brand commitment pyramid shows how the growth path of an employee can be directed by the corporation. Subsequently, the creation of an employer brand has exactly the purpose of shaping the perception of the organization to make it an attractive and appealing workplace within the external labor market. That is why when defining employer brand, it is right to say “it is the package of functional, economic, and psychological benefits provided by employment, and identified with the employing company” [Foster et al., 2010, p. 403]. The work developed by Knox (2003) for the consolidation of corporate brands can be translated for employer brands. There are some practical guidelines, also called the six conventions, which should provide suggestions for human resource management:

- Convention 1: brand context – setting the coordinates: The employer brand should be integrated with a competitive context that connects two temporal dimensions: the current image of the organization, the current culture of the organization.
- Convention 2: brand construction – the employer brand positioning framework: the organization’s current brand strength and the desired future position are the starting point to bring employer value.
- Convention 3: brand confirmation – articulating the employer brand proposition: the positioning developed during the brand construction phase is consolidated and articulated to the rest of the organization and external audiences. This calls for the development of a series of agreed statements that describe the employer brand proposition.
- Convention 4: brand consistency – developing consistent corporate communications: stakeholder communications are crucial and both informal and formal communication channels should be used.
- Convention 5: brand continuity – driving the brand deeper into the organization: managers need to adopt a more holistic approach to employer branding, which also encompasses the business processes associated with value delivery.
- Convention 6: brand conditioning – monitoring for relevance and distinctiveness: the final stage of employer brand management identified in the study focuses on the ability of an organization to review its employer brand continuously.

The results of a successful employer brand are added values in terms of human capital which can be considered as the employer brand equity. The psychological contract between employer and employees installed by the employer brand should guarantee that both rational and emotional benefits coming from the employer are met by the employees’ expectations

[Backhaus and Tikoo, 2004]. Then, the focus can be moved towards how it is possible to align the employer and employee perspectives. First, it is relevant to come up with an effective way of how the organizations externally communicate their corporate brand to the potential recruits. Then the integration of internal branding can help the recruits, who should already be aligned with the corporate brand, with training activities and rewards on persevering with the corporate culture [Backhaus and Tikoo, 2004].

In the development of an employer brand, it is possible to identify three different steps. In the beginning, the corporation develops the value proposition providing the core value of the brand, which in this case means what the firm has to offer to its employees. This value proposition should be then marketed, during the second step, to target potential employees and recruiting agencies. This way, the company is both targeting the external market for potential human capital and enhancing the value of its corporate and product brands increasing its brand image. Finally, the process should be integrated with internal branding to make sure the recruits will be carrying the corporate brand values as part of the organizational culture [Backhaus and Tikoo, 2004]. The same article by Backhaus (2004) presents some guiding principle after analyzing employer branding, focusing on the importance of employer brand associations that shape the employer image changing its appeal to the external market:

- Employer brand associations affect the image of the firm as an employer.
- Employer brand image mediates the relationship between employer brand associations and employer attractions.
- Employer brand associations enhance the process of person-organization value matching.
- The employer brand presents information that contributes to the formation of a psychological contract between employer and employee.
- Accurate information portrayed in the employer brand reduces employee perception of

breach or violation of the psychological contract.

- Employer branding messages that fail to adequately provide a realistic job preview will contribute to intentions to quit and turnover.
- If the employer brand provides an incomplete picture of organizational culture, employees may be more likely to seek to leave the organization.

The analysis of employer branding has also been studied by Theurer et al. (2018) which divides the employer branding process into four dynamics.

- 1. Employer knowledge and investment: the first stage in which the company evaluates how to develop (potential) employees' employer knowledge. The company should find an employer value proposition (EVP) and then market the EVP with both external and internal marketing.
- 2. Applicant/employee mindset: the second stage acts on the employees' perception of the employer brand. Here employer reputation and brand associations play the biggest roles.
- 3. Firm performances and competitive advantage: an effective application of the first two-stage brings to a better pool quality in recruitment activities. Together with reward systems, the employer brand can generate an appreciated working environment bringing employees' performance to an improved level.
- 4. Financial market performances and shareholder value: the employer branding efforts should be connected to the financial outcomes to see whether it is profitable. Here financial tools like stock price and overall market capitalization can be used.

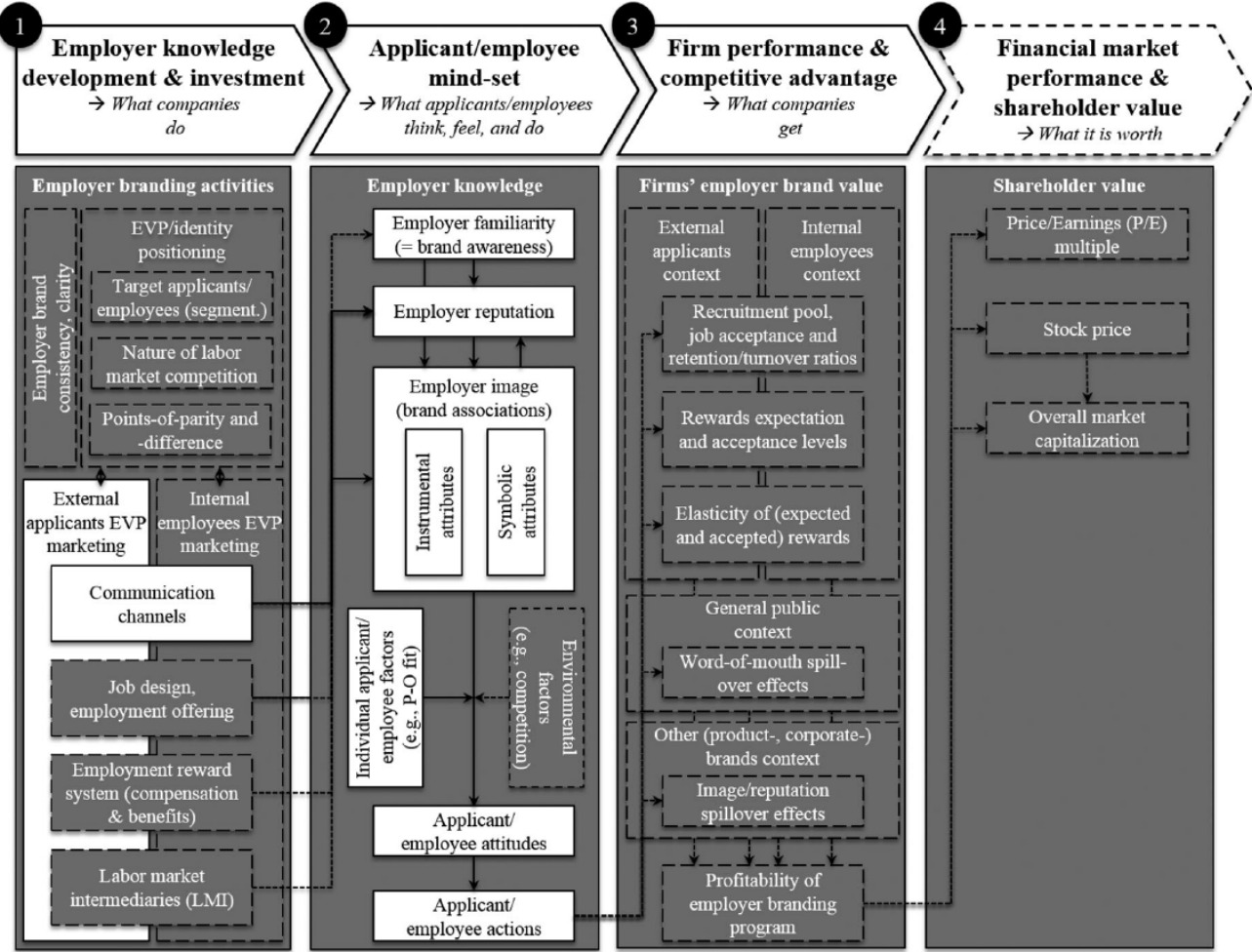


Figure 4: Employer Branding Value Chain model (Theurer et al., 2018)

From the proposed framework, the most important sections are represented by the employer knowledge and the applicant/employee mindset. As a matter of fact, these two dimensions are crucial for the attraction of potential employees via the definition of specific factors, later introduced as job attributes, which enhance the employer brand and the perception of the brand for the applicants.

### 2.4.1 Employer Branding Job Attributes

Thanks to the employer branding value chain, the potential of an effective employer branding process have been underlined. However, the literature presents few and limited studies highlighting the ideal brand attributes that might be provided by a real employer [Bonaiuto et al., 2013]. In fact, brand attributes are the linking bridge between potential applicants and the company promises. The job search is like a matching game where the applicants and the potential employer make decisions based on the similarity between the perceived values and personality: on one hand, the employer is looking for someone who reflects the company's values and can bring advantages to the firm, on the other hand, the job seeker is looking for an employer able to satisfy his expected benefit. Brand attributes can either be tangible or symbolic and [Bonaiuto et al., 2013] clarifies the five dimensions of them:

- The interest value, which evaluates how an individual is attracted to an employer who creates a work environment stimulating creativity in order to achieve a product of high quality.
- The social value, which measures the degree to which an individual is attracted to an employer that creates an entertaining and positive environment and promotes relationships between colleagues and superiors.
- The economic value, which evaluates the way in which one attracts a potential candidate through remuneration, safety in the workplace, and promotions.
- The development value, which tries to determine how the personal and professional development of a career contributes to the employer's attractiveness.
- The application value, referring to an organization offering the opportunity to use one's own knowledge and transmit it to others.

The relevance of job attributes becomes crucial when it simplifies the recruitment process and find a match between applicant and employee. From the study of Bonaiuto (2013), a preliminary set of relevant job attributes for the ideal employer brand are found.

- Capacity to innovate.
- Capacity to value diversity.
- Capacity to value abilities and knowledge.
- Offer different careers path.
- Ensure freedom of opinion.
- Ethically responsible profile.
- Promoting the well-being of employees.
- Good work climate.
- Stimulation of motivation and creativity.
- Reward system.
- Technical competence of the company.
- Flexible hours.

The obtained brand attributes relate to a hypothetical ideal company that has the aim of attracting talented candidates [Bonaiuto et al., 2013]. However, employer branding literature confirms how this scenario might change when the company is not an established player in the market, but a recently developed start-up.

### 2.4.2 Employer Branding in Start-ups

Start-ups, or recently developed companies, present a different working environment with respect to established entrepreneurial firms [Moser et al., 2017]. First of all, start-ups present a lower organizational awareness, making them less visible to potential applicants, have less or no reputation at all and usually cannot compete with the career advancement nor compensation and benefits offered by bigger firms [Tumasjan et al., 2011]. As a consequence, the attraction of qualified personnel has become a challenge for start-up firms. Tumasjan et al. (2011) and Moser (2017) argue that start-ups should employ an employer branding strategy and that it would be efficient to market their employer values for employees' attraction. However, due to the different connotations of start-ups, the usual literature regarding employer branding, which mainly focuses on large companies with solid resources and years of expertise, cannot be taken as consolidated for start-ups too. Before looking at the distinctive employer branding approach suggested for start-ups a brief explanation on the main differences between start-ups and entrepreneurial firms is presented [Tumasjan et al., 2011]:

- Formal structures and bureaucracy: Large companies usually present a high bureaucratic system that does not allow a single employee to take part in the realization of the firm's strategic orientation. On the contrary, small and emerging businesses, thanks to a more informal and looser organizational structure, encourages employees to be actively involved in shaping the company's future and its decision-making.
- Hierarchy: the already defined hierarchic are dominant in established firms, whereas in small firms there is a higher chance of career advancement due to flat hierarchies where structures are yet to be formed.
- Relationships: interpersonal communication is mostly informal in start-ups. Thus, the possibility to be engaged in interpersonal relationships between colleagues, managers or



even owners is higher in small firms.

- Responsibilities: employees responsibilities differ in a larger business, where they usually perform narrow tasks, and in start-ups, where employees need to be responsible of a broader range of tasks.
- Desirable employee behaviors: the expected and also consequentially rewarded behaviors are different. In small firms, it is preferred a creative, innovative, and risk-taking behavior than in larger firms.
- Compensation: small firms usually cannot afford competitive salaries, but they can also provide different forms of compensation such as company shares in order to be more attractive.

The differences here described are the starting point to promote the employer brand to the potential employees. In fact, they are exactly these unique characteristics of small firms that can make them different and appealing to talented human capital [Tumasjan et al., 2011]. From this is possible to recover the job attributes that are specific to the start-ups recruitment process [Tumasjan et al., 2011]. In Fig.5 the job attributes are listed including the two levels possibly present in a start-up. It has been discovered that for developing companies, the most significant factors include the possibility for the employees to have flexible working hours and to be engaged in a communal team climate. Moreover, the hierarchy is not rigid as in large corporations and the amount of responsibility is increased. At the same time, different kind of payment systems are introduced, such as the possibility to be paid in company shares to increase the personal effort of each employee, the variety of task changes largely, and the employees have more chances of building entrepreneurial knowledge and learn faster than in established firms. Finally, the start-up usually comprises the opportunity to get more leadership functions from the beginning. The two levels for each attribute will be important when the potential applicants will have to

decide between different start-ups offering a job with different levels for the different attributes.

Attribute	Attribute levels (detailed description)
1 Flexibility of working schedule	The start-up has flexible working hours The start-up has regulated working hours
2 Hierarchy	Hierarchy in the start-up is rather flat Hierarchy in the start-up is rather steep
3 Team climate	The team climate in the start-up is rather communal, with a strong sense of community among members The team climate in the start-up is rather formal, with a rather weak sense of community among members
4 Company shares	The start-up offers company shares as payment The start-up does not offer company shares as payment
5 Responsibility/empowerment	Working in the start-up comprises rather high responsibility and early empowerment of employees Working in the start-up comprises rather low responsibility and no empowerment of employees
6 Task variety	Working in the start-up comprises multiple various tasks Working in the start-up comprises few specialized tasks
7 Leadership functions	The start-up offers the opportunity to get leadership functions from early on The start-up offers the opportunity to get leadership functions only after an extended time period
8 Learning curve	Working in the start-up comprises a steep learning curve Working in the start-up comprises a flat learning curve
9 Entrepreneurial knowledge building	The start-up offers the opportunity of gathering knowledge for own entrepreneurial activity by close contacts to founders The start-up offers only sparse opportunity of gathering knowledge for own entrepreneurial activity because contacts to founders are rare

Figure 5: Employer Brand Job Attributes [Tumasjan et al., 2011]

The completeness of the employer brand attributes can be reached including in the studies the employment of serious games. Serious games are a recent human resource management tool, now employed by different companies, for employer branding purposes to raise the brand knowledge in the candidates [Küpper et al., 2021]. That is why a proper introduction to this concept, later considered as one of the study employer brand attributes, has been dedicated.

### 2.4.3 Employer Branding and Serious Games

Recent literature has introduced the relevance of gamification and serious games as additional recruiting tools for companies looking to raise their organizational attractiveness [Küpper et al., 2021].

"A serious game is a digital game that aims at educating players. It uses game elements to create an educational and entertaining game experience and promotes cognitive lower- and higher-order thinking skills as well as affective learning, to induce positive behavioral changes in players" [Küpper et al., 2021, p. 3]. The employment of serious games represents an alternative employer branding activity that becomes promising in human resource management to attract, motivate, and retain talented applicants. In fact, playing digital games is a leisure activity already adopted by a large portion of society, not limited to age constraints; thus, the opportunity to utilize people's attraction for gaming has been used to pursue goals other than pure entertainment by different established companies [Küpper et al., 2021]. The players are educated in an entertaining way and are given information about the company and its employment offerings in order to attract them to the job offer. Serious games usually have the same different components:

- Goals: set at the beginning of the game. They offer motivation to the players and give feedback based on the in-game decisions and achievements of the player.
- Rules: limits on possible actions for the players.
- Choices: the set of options and decisions a player must go through. It motivates the player to assume a leadership role and to take responsibility for its game storyline.
- Challenges: the task the player must accomplish before reaching any achievements.
- Fantasy: the set of themes and stories behind the game to enhance the game experience for the player and provide motivation, meaning, and guided action.

The common ground between serious games and employer branding is reached because of the

same goal of facilitating the learning process about the company with the purpose of creating employer knowledge to favor the employer's attractiveness to potential employees [Küpper et al., 2021]. Moreover, the possibility to employ serious games in the start-up employer branding process is favored by some of the proposition advanced by Kupper (2021).

- Serious games are more effective on players showing higher self-perceived innovativeness and a higher stimulation level. People who perceive themselves as highly innovative are more open to new information search strategies and are more willing to engage in exploratory behavior, variety seeking, and risk-taking decisions. This means it might be a relevant tool to attract the entrepreneurially-minded people start-ups look for.
- Prior employment brand knowledge or prior application/work experience has a negative effect on the serious game learning process. This means that start-ups present the optimal environment for serious games due to their low level of notoriety and their low work experience employee's target.

Given the opportunity for a serious game to be implemented in the employer branding strategy of start-ups and the deployment of specific job attributes by the company, the start-ups might overcome the challenge of attracting entrepreneurially-minded employees.

#### 2.4.4 Entrepreneurial Orientation and Entrepreneurial Behaviors

Entrepreneurial orientation can be explained as the willingness for a company to be innovative concerning their market operations, to take risks to improve their products or services, and to be more proactive than competitors [Wiklund and Shepherd, 2005]. Various studies found that companies who engage in a focused entrepreneurial orientation have better performances [Zahra and Covin, 1995, Wiklund, 1999, Zahra, 1991]. In fact, entrepreneurial orientation is a source of competitive advantage for businesses because it brings them the ability to investigate and actuate new opportunities to differentiate from other firms. Moreover, the stud-

ies made by Wiklund and Shepherd (2005) underlined that EO might be even more effective when the company is operating in less favorable condition. For example, this is the case for small companies and start-ups when firms face different constraints and limited access to capital [Wiklund and Shepherd, 2005]. That is why entrepreneurial orientation can be a turning point for start-ups in order to be superior to their competitors. However, the starting point for companies to embody an entrepreneurial orientation is to bring in human capital that show entrepreneurial behaviors.

Start-ups companies, as previously stated, not only have the challenge to be attractive with respect to established corporations but also to be attractive for a specific kind of entrepreneurial human capital that the start-up should aim to hire to raise the quality and talent inside the organization [Moser et al., 2017]. These specific kind of employees, who exhibit higher productivity, job satisfaction, and interest in contributing to the start-up success, are crucial to overcome start-up limitations. These employees are characterized by three entrepreneurial behaviors [Moser et al., 2017, Wiklund and Shepherd, 2005]:

- Innovative behavior: Innovative behavior refers to the introduction and application of new ideas, products, processes, and procedures to a person's working role, working unit, or organization.
- Proactive behavior: Proactive behavior involves acting in advance of a future situation, rather than reacting. It refers to taking control of a situation and making early changes, rather than adjusting to a situation or waiting for something to happen.
- Risk-Taking behavior: Risk-taking is any consciously or non-consciously controlled behavior with a perceived uncertainty about its outcome, and/or about its possible benefits or costs for the physical, economic or psycho-social well-being of oneself or others.

Concerning innovative behavior, the working environment is crucial; usually a strong focus on monetary incentives to work creatively encourages innovative behavior [Scott and Bruce, 1994].

On the other hand, high levels of pro-activity are signs of a better well-being and less (financial) comfort requirements [Avey et al., 2011].

Finally, on risk-taking behavior it is important to establish and maintain a trustful relationship between employees and employer [Coyle-Shapiro and Shore, 2007].

Recent entrepreneurial studies underlined the importance of the rooted entrepreneurial behaviors in individuals personality [Holland and Shepherd, 2013]. As a matter of fact, new ventures are interested in hiring entrepreneurial people because they show a higher fit with start-ups' employer's offerings and could increase the firm strategic human capital [Kristof-Brown et al., 2005, Oh et al., 2015]. The literature indicates how entrepreneurial behaviors, thus innovative, proactive, and risk-taking, are both relevant for both academic and practitioners research to investigate their effects on specific employer brand attributes, as well as on the organizational attractiveness of start-ups.

## 3 Research Questions and Conceptual Framework

### 3.1 Research Questions

The literature review has highlighted the importance of employer branding as a way for organizations to increase their attractiveness. In particular, due to the different challenges faced by the recruitment process, start-ups may take advantage of an employer branding approach. However, these young companies not only want to attract a larger pool of applicants but usually want to target specific high-quality candidates. The possibility to identify talented applicants is a challenge for companies; however, the employment of unique and attractive employer brand attributes might be a solution. Given the above premises, the thesis aims at investigating the employer brand attributes attractive to potential talented candidates. That is why the main research question for the thesis is:

***Q: How can start-ups attract talented employees through employer branding job attributes?***

The research question recalls the two main objectives of start-ups. On one hand, the goal is to be perceived attractive by the applicants, while on the other hand the attraction of talented human capital, that might show entrepreneurial behaviors [Moser et al., 2017]. The little availability of the literature on employer branding strategy calls for a detailed analysis on how can firms, in this case start-ups, create an employer image able to attract the applicants. For this reason, both the available literature and the qualitative study performed in this thesis become relevant on the identification of specific job attributes which applicants perceive as important during the recruitment process. Thus, the thesis firstly will try to answer the question:

***S1: What are the job-attributes start-ups can develop to attract potential employees?***

These job attributes will present the starting point to understand the employer branding process behind start-ups' recruitment process. Moreover, the other challenge of attracting specific

human capital will be faced with a quantitative study based on the employer brand attributes. Here, the objective is to investigate the influence of employees' entrepreneurial behaviors. As a consequence, the second sub-question to be answered is:

*S2: How the entrepreneurial behaviors affect the relationship between employer brand attributes and employer attractiveness?*

In this second part of the thesis, the focus will be on the identification of these kinds of entrepreneurial behaviors, namely proactive, innovative, and risk-taking behavior, and their influence over employees' preferences, thus affecting employer's attractiveness [Moser et al., 2017].

Finally, given the recent emphasis received by serious games during the recruitment process, the research will try to determine whether the inclusion or not of serious games during the recruitment process might help raise the candidates' interest in the company.

### 3.2 Conceptual Model

The main focus of the paper will be the investigation on how the recruitment process in start-ups takes place and, in particular, how can these companies attract entrepreneurially-minded people via the employment of specific employer brand attributes. As initial independent variables for the conceptual model, the **employer brand attributes** will be taken as reference. These main variables represent the starting point for the analysis carried on in this paper. The objective, the dependent variable, is **employer attractiveness** which will be measured via the preferences of potential employees for the different employer brand attributes.

In Fig. 6 it was represented the initial conceptual framework developed in the thesis. As it was possible to notice the relationship between employer brand attributes and employer attractiveness was affected by entrepreneurially-minded behaviors. The model was inspired by the work of both Moser (2017) and Tumasjan et al. (2011). However, this study became relevant for both academic and practical purposes as the connection between this kind of employer brand attributes and



entrepreneurially minded behaviors was not deeply researched.

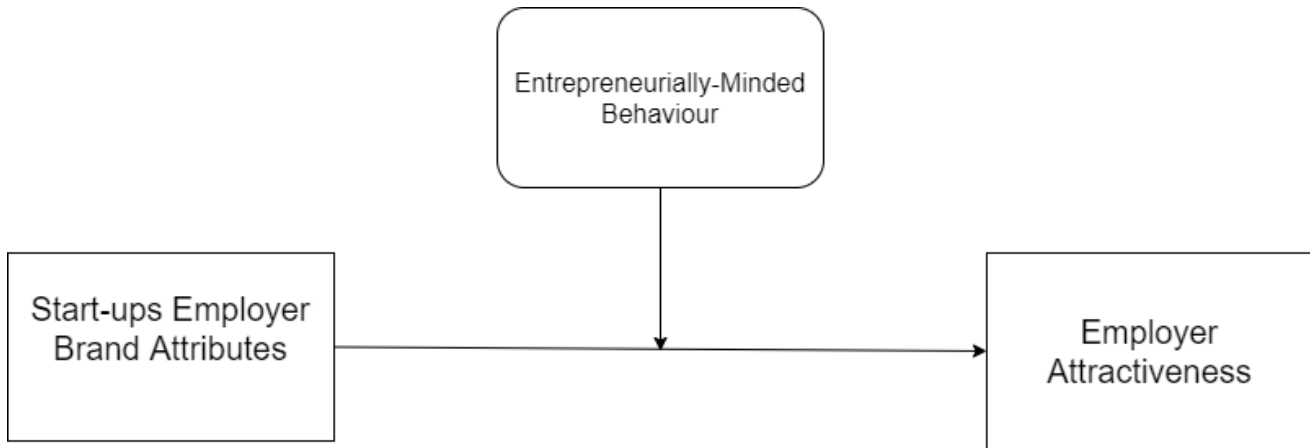


Figure 6: Initial Conceptual Model Framework

In the initial conceptual model showed in Fig. 6 the different employer brand attributes are yet to be defined. That is why the research methodologies will begin with a qualitative and exploratory study that has the objective of reducing and simplifying these employer brand attributes. Furthermore, a quantitative study will give a more detailed focus on employees' perspectives to determine the employer brand attributes preferences.

### 3.3 Research Methodologies

The methodology utilized during the thesis employed mixed methods research and made surveys the main collection tool for the data gathered. Surveys are data collection systems able to describe, compare and explain knowledge, attitudes, and behavior [Sekaran and Bougie, 2016]. The advantage of using survey strategy in business research is that it allows the researcher to collect both quantitative and qualitative data for the research questions on hand. The exploratory purpose of this research was perfectly matched by survey characteristics which could enhance the applicants' decision-making process and employer brand strategies of start-ups. Surveys usually include [Sekaran and Bougie, 2016]:

- Setting objectives.
- Administering the survey.
- Manage and analyze the data.
- Report the results.

This thesis employed two different kinds of instruments of surveys that were: semi-structured interviews and mail/electronic questionnaires. The thesis presented first the qualitative study where the semi-structured interviews were the main data collection tool, and secondly the quantitative study was performed, where the electronic questionnaire was used as the main research instrument. For each section regarding the qualitative and quantitative study this was the outline:

- Research Design
- Sampling
- Data Results

## 4 Qualitative Study

### 4.1 Research Design: Semi-Structured Interviews

The preliminary survey data collection tool employed in the thesis was semi-structured interviews [Sekaran and Bougie, 2016]. These interviews are usually conducted when it is known what type of information is needed. However, in a semi-structured interview, some freedom is left to the interviewee as the researcher is still in an exploratory phase where the information required is known, but not yet completely defined. In the case of this thesis, semi-structured interviews were conducted with two connected objectives:

- Determine the relevant employer brand job attributes promoted by start-ups to applicants.
- Determine if and how start-ups look for entrepreneurially-minded people during the recruitment process.

The interviews were prepared in advance and were divided into different sections. First, an introduction where the researcher introduced himself, explained the purpose of the analysis and assured confidentiality. Questions were presented in a logical order to the interviewee from warm-up questions to main questions. Finally, some follow-up questions were prepared in order to clarify possible unclear previous answers [Sekaran and Bougie, 2016].

The introduction of the interview had the purpose to introduce the researcher to the interviewee and explaining what kind of research is proposed. In this case, the importance of employer branding and the challenges for start-ups regarding the recruitment phase were highlighted. Afterward, some warm-up questions were asked in order to start the dialogue. First, the interviewee was asked a brief introduction on his professional experience, his company, and its main business, followed by his duties. The main body of the interview came when these main questions were brought to the interviewee:

- What makes a start-up attractive as an employer?

- Are there any other advantages brought by employer branding rather than employer's attractiveness?
- What kind of candidates are you looking for when recruiting?
- Have you used or thought of using serious games in the recruitment process?

The questions for the semi-structured interviews were developed from the literature study of this thesis. As a matter of fact, the work done by Tumasjan et al. (2011) and Moser (2017) gave insights on employer brand attributes and entrepreneurially-minded people. In this regard, both these authors defined different employer brand attributes which might increase applicants' interest in the company. In this case, because start-ups were involved, different employer brand attributes might have been relevant and the employer perception was fundamental. Moreover, the research done on serious games by Kupper (2021) proposed ideas on serious games' usefulness which could be tested in the interviews. In this case, because of the possible implementation of serious games, the specific employer perception of this recruiting tool was helpful to determine its possible attractiveness. Each of these questions was accompanied by some follow-up questions to clarify what the interviewees responded. In Appendix A is possible to find a copy of the interview questions setup.

## 4.2 Selection of Participants

For the qualitative study interviews, the researcher approached various start-ups, requesting an exploratory interview. The companies targeted for the semi-structured interviews qualitative study were start-ups. However, start-ups too early in their development stages were not ideal because they usually have no interest in recruiting yet. Thus, start-ups that were already expanding and in a scale-up phase were considered for the interviews. A total number of 21 start-ups were contacted to schedule an interview. Out of 21 companies, 19 replied to the email sent to

approach them. 11 companies were not available or did not have an interest in participating in the study. This leaves 8 companies that were interested in helping with the research. However, 3 companies replied too late when the interview data collection round was already finished, and the interview was not scheduled due to time management and thesis writing purposes. The final 5 interviewees were approached during the month of May 2021 via email asking to collaborate for the development of the preliminary data collection for a TU Delft thesis. The final sample included three CEOs or Founders/Co-Founders, one COO & CFO, and one responsible for the Human Resource Management in the start-up. Four out of five interviewees had more than 10 years of professional experience both in large corporations and in start-up development, while only one had less than 10 years of experience.

<b>Respondent</b>	<b>Role in the Start-Up</b>	<b>Company Sector</b>	<b>Years of Professional Experience</b>	<b>Start-ups Experience</b>
<b>A</b>	CEO & Co-Founder	Consultancy	>10 years	15 years, with 2 start-ups sold
<b>B</b>	CEO	Finite Element Analysis	>10 years	1 start-up sold
<b>C</b>	Managing Director & Founder	AI platforms	<10 years	Founder of 1st start-up
<b>D</b>	COO & CFO	Data Science Platforms	>10 years	Start-up incubator experience
<b>E</b>	HR, Legal, Financial, and IT Responsible	AI Platforms	>10 years	Worked in numerous start-ups

Figure 7: Semi-structured Interviews Respondents

It was possible to define four out five interviewees as serial entrepreneurs. In fact, four of them had previous experience in start-ups environment, defining them as highly qualified for the research. Respondent A and Respondent B already founded and then sold start-ups in the past gaining knowledge regarding this world. Moreover, Respondent D and Respondent E had previous experience in start-ups environment such as incubators. The only one without previous

start-ups working experience was Respondent C, who was at his first start-up experience being the founder of it. The decision to include Respondent C in the research was to bring a novel perspective to the study which might give interesting insight with respect to broader experience interviewees.

All the start-ups targeted were already out from the early stages and were starting, or had already started, to expand looking for high-end candidates and recruiting more employees. This was an important trait during the selection process of the interviewee's company as for the purposes of the thesis, to study employer branding and employer's attractiveness, the company selected needed to be active in recruitment. Two start-ups were working in the AI platforms sectors, one was in the finite element analysis business, one in data science platforms, and one in tech start-ups consultancy. Every interview was conducted one-to-one via zoom with the participants, and each of them was recorded and transcribed. The duration of the interview was between 20 - 30 minutes. In Fig. 7 the key characteristics of the interviewees were listed.

## 4.3 Data Analysis

### 4.3.1 Content Analysis

The analysis of the semi-structured interviews was conducted with the method of content analysis. The content analysis makes use of specific characteristics and messages found in the transcription records of the interviews and lets the researcher make inferences about their content [Holsti, 1969]. In content analysis, the text is divided into content analytic units which then can be systematically analyzed. There are seven major elements in texts which content analysis defines: words, themes, characters, paragraphs, items, concepts, and semantics [Berg, 2004]. The content analysis of the semi-structured interviews reported in this thesis was a combination of words, themes, and concepts as content units. When talking about the words content unit, it usually concerns the frequent use of relevant words or terms, marking them together in a

theme; while for concepts they usually represent the variables for the conceptual model and include grouped terms in forms of clustered ideas. The content analysis of the five semi-structured interviews revealed four different concept elements:

- Employer Brand Attributes Concept
- Serious Games Concept
- Entrepreneurial behaviors Concept
- Outcomes other than Organizational Attractiveness Concept

For each of these concepts, the following sections will show the analysis of words and/or themes that were developed in the interviews' transcription.

#### 4.3.2 Perceptions on Employer Brand Attributes

The employer brand attributes concept was the first relevant topic and one of the objectives of the semi-structured interviews. The five interviews suggested some interesting qualitative results which gave insight on what kind of employer brand attributes start-ups companies usually find attractive for potential employees. However, before going deeper in the analysis of the attributes, a special mention should be made for one attribute, which was identified as the main cause of negative influence over employer's attractiveness by these five interviewees. As a matter of fact, all the respondents admitted that it was a challenge for start-ups to compete with larger corporations, especially with respect to the financial package offered. The financial package is the first theme that emerged from the content analysis of the employer brand attributes concept. Different words said by Respondents A, B, C, and E, such as "package of benefit", "financial package", "financial basis", and "salary pay", were grouped and formed the theme of *Financial Package Offered*. The term "Financial Package Offered" included the salary pay, the monetary benefits, and pensions schemes usually offered with a job proposition. When it comes

to comparing an offer between start-ups and established corporations, there is a substantial gap which is disadvantageous for the start-ups. Four out of five interviewees stated that their financial package was something usually not capable to attract potential candidates. For example, according to Respondent B, "the financial package is generally the thing you don't want to talk about" during the recruitment process, it was enough to "just say it is good enough". Moreover, Respondent A even suggested that a start-up "should not even consider competing with the (financial) package of benefit larger companies offer". The negative influence of the financial package on employer's attractiveness evidenced by the interviewees was only when compared to larger companies; it did not mean the salaries offered by startups were below the average for the market job openings. In fact, Respondent A affirmed that they always make sure the salary is leveled with the local working conditions in order to support a comfortable living. Given this first challenge regarding the financial package offered, start-ups, as stated by Respondent A, should "play their strengths always".

The findings of the interview revealed various strengths on which start-ups usually play their strategies in order to attract the candidates applying for a job position. The first one presented here, which was labeled with the theme name of *Responsibility Functions*, found confirmation in three out of five respondents. The content analysis performed on this theme included words and expressions such as "room to contribute", "massive opportunity to take ownership", "contribute to something big", and "higher individual contribution". The theme of "Responsibility Function" was heightened in the interviews conducted during this qualitative phase as in the start-ups, as declared by Respondents E, D, and C, roles were not yet defined, there was more space for each individual to take responsibility for their ideas and develop them. Respondent E stated that this particular trait attracted applicants because "people like to be involved in something happening, where a difference is being made and something is developed". At the same time Respondent D confirmed that in start-ups "good ideas can be executed right away" and "(the employees) have the possibility to take ownership of their ideas. The person suggesting the idea is probably given



the lead of the project". That is why, after analyzing the interviews, the theme of "Responsibility Function" was identified as a relevant employer brand attribute.

<b>Respondent/Employer Brand Attribute</b>	<b>Financial Package Offered</b>	<b>Responsibility Functions</b>	<b>Work Environment</b>	<b>Growth &amp; Learning Opportunities</b>
<b>A</b>	x		x	x
<b>B</b>	x		x	
<b>C</b>	x	x		x
<b>D</b>		x	x	
<b>E</b>	x	x		x

Figure 8: Employer Brand Attributes Perceptions

The third employer brand attribute found with the content analysis was represented by the theme named *Work Environment*. During the interviews, the importance of the working ambiance and conditions were underlined by three out of five respondents. The crucial terms and phrases symbols of it were "style of the company", "how we work", "environment working with innovation", and "relaxed atmosphere". As a matter of fact, start-ups, as said by Respondent D, try to avoid an "atmosphere of insecurity" and strive to establish a more loose work environment with less hierarchy and more freedom. Also, Respondent B shared this belief when he said: "I want a relaxed atmosphere in the office, (...) we try to keep the bureaucratic process away from the people". And finally, Respondent A listed the working environment as one of the bridgeheads for their organization's attractiveness, where team collaboration contributes to creating a healthy work environment. It was important to notice that for the interviewees this employer brand attribute included a variety of concepts. Within the attribute of the work environment, the flexibility of a company was also included. When it comes to start-ups, both Respondent B and Respondent D affirmed that flexibility, for example in working hours or the hierarchy, increased

the appeal of the company for potential employees in contrast with larger companies where more bureaucracy might be in order.

The final theme that emerged from the qualitative study about employer brand attributes was the *Growth and Learning Opportunity*. Three out of the five respondents considered this attribute as crucial for the decision-making process of an applicant about accepting a job offer. The symbolic words and expressions around this theme were "learning experience", "personal growth", and "grow/develop broader". The relevance of this theme was testified first by Respondent A which defined learning experiences as one of the bases for their start-up to attract qualified personnel. Moreover, Respondent C declared that people were usually attracted by start-ups because they would have more chance to "grow on a personal level", while in bigger companies less. In addition, Respondent E has witnessed in his professional experience that the possibility to work in a start-up was a "huge opportunity to grow and develop". The chance to have a steeper learning curve in a start-up rather than in a large company, was the result, according to Respondent E, of a wider variety of tasks and the possibility to explore more functions.

The results of the semi-structured interview on the employer brand attribute concepts revealed four relevant themes:

- Financial Package Offered
- Responsibility Functions
- Work Environment
- Growth and Learning Opportunities

### 4.3.3 Perceptions on Serious Games

The second content analysis concept analyzed was that of the serious games. The interest of this research on serious games was based both on the potential attractiveness this tool might

have on possible candidates and on his facilitator role in the recruitment for employers to detect the right fit for the company. During the semi-structured interviews, the objective was to investigate the latter and understand whether the interviewees employed serious games for the start-ups' recruitment process. The same kind of content analysis from the employer brand attributes concept was performed for serious games; thus, the analysis started from underlining and grouping words and expressions in clusters to form a theme. In this case, the focus was on employers' perception of the potential usefulness of serious games. That was why, terms such as "good tool", "playful", "interesting", "stimulating", and "curious" were relevant to define the theme regarding *Serious Games*' usefulness. It is important to report that only Respondent A was openly against the use of serious games for his company. More specifically, he explained his position arguing that this particular tool "sends a message (the start-up) is too sophisticated"; while on the other hand "the culture of the company is simple lean". However, even if this was his perspective on the matter, he confirmed that "for us (the company) it would not work, but for others, it might". This left open the discussion about serious games' value. As a matter of fact, three out of five respondents were positive towards the implementation of serious games, even though they did not yet employ them for their companies, and were willing to know if they might become an attractive attribute for potential employees. The last interviewee did not give a clear perspective on the subject of serious games, but admitted that they were already using some kind of simulation in the form of a game to test their candidates during the screening process. Respondent B explained how for him serious games were interesting not because of their selection efficiency, but for their stimulating effects. In fact, he stated: "For sure it is good as other tools to test people. (However,) a game could also have a playful nature stimulating people to do it". Even if the interest in serious games was real, Respondent B still thought of it as a better tool for training and not for recruiting. On the other hand, both Respondent C and Respondent D were affirmative on the potential of this tool. The first one added that "it sounds interesting to see how someone behave in certain situation as in the game", while the second one

was "curious to know what kind of tools possible employees might be attracted to".

<b>Respondent/Serious Games</b>	<b>Currently being employed</b>	<b>Useful for Start-ups</b>
<b>A</b>	NO	Not sure
<b>B</b>	NO	Might be
<b>C</b>	NO	Might be
<b>D</b>	NO	Might be
<b>E</b>	YES	Might be

Figure 9: Perceptions on serious games

The employers' perspective on serious games was somehow controversial as the result of the qualitative study showed. However, all five respondents were in their own way positive about the possible implementation of serious games. In particular, three out of five interviewees were directly interested in their application, one was already using a certain kind of serious game for his company, and one did not exclude their possible usefulness. As a consequence, the serious games' option could be included in the conceptual framework as one of the employer brand attributes which could contribute to employer's attractiveness. The real contribution this particular tool might give to start-ups' attractiveness was tested in the second part of the thesis, where the quantitative study analyzed possible employees' perceptions on this subject.

#### 4.3.4 Perceptions on Entrepreneurial behaviors

The third investigated concept from the content analysis were the entrepreneurial behaviors. The literature research depicted how for entrepreneurial behaviors, three relevant behaviors, which are innovative, proactive, and risk-taking behaviors, were the bridgeheads of it. The semi-structured interview qualitative study had as objective to discover if there were any kind of preferred behaviors in the candidates which made the employers think they were a good match for the job position and the start-up itself. During the interview the researcher asked every

interviewee what kind of behavior they were looking in an ideal candidate; this way, it was possible to identify any sign of preferred entrepreneurial behaviors without bringing bias to the respondents. The details of employers' perceptions on entrepreneurial behaviors are synthesized in Fig. 10. The first detail relevant to this matter was that all the five interviewees revealed how it is crucial to hire someone that not only is capable but also that offers a good match with the company. For example, Respondent A stated they wanted to "attract people suitable for your culture and that values what you do". Also, Respondent B highlighted that the candidate they were looking for should possess a certain "openness to culture" which might favor a predisposition to the dynamic environment usually present in a start-up. Finally, Respondent E remarked the fact that the candidate should be "matching with our profile", thus with their culture and values. Given this research of a match between start-ups and applicants, the results suggested that employers usually scout for a specific kind of people. As Respondent C added, in order to work for a start-up that represented an entrepreneurial environment, "you also need to be entrepreneurial yourself". Between the different interviews conducted, the first requirement for every employer was naturally the technical capability of the candidates needed for the job. However, when it came to identifying the match between person and start-up, soft skills and personal characteristics became vital. Respondent A explained how "it is about your character, your personal traits" and also how they "recruit for skills, not for functions". Also, Respondent E shared this view when he stated that they tend to focus "on the personal attributes of people".

<b>Respondent/Entrepreneurial Behaviour</b>	<b>Innovative Behaviour</b>	<b>Proactive Behaviour</b>	<b>Risk-Taking Behaviour</b>
<b>A</b>	Creativity	Communication	
<b>B</b>	Acquire new knowledge		Autonomous doing
<b>C</b>		Willing to take initiative	Accept job uncertainty
<b>D</b>	Creativity	Will and ability to learn	
<b>E</b>		Integration ability	

Figure 10: Entrepreneurial behaviors Perceptions

It was possible to confirm the relevance of the three entrepreneurial behaviors in the words of the interviewees. For example, Respondents A and Respondent D gave importance to creativity which is a sign of innovative behavior. Respondent A and Respondent B emphasized communication skills. Respondent B and Respondent C shared the same perspective regarding risk-taking behavior. In fact, they both considered that autonomous doing and the will to take the initiative, which were signs of risk-taking behaviors, were considered optimal. Finally, Respondent D confirmed that they were looking for proactive behavior where the will and ability to learn is at the center of it.

The results regarding entrepreneurial behaviors perceptions from the qualitative study showed how the innovative, proactive, and risk-taking behavior were relevant for employers. A further investigation on the three entrepreneurial behaviors was conducted in the quantitative study of the thesis.

#### 4.3.5 Perceptions on Outcomes other than Employer's attractiveness

The final concepts concerned the outcomes other than employer's attractiveness. As a matter of fact, even if the main objective of this study, and thesis, was to understand how to increase employer's attractiveness, there might be other outcomes from an employer branding approach for the whole start-up. As showed in Fig. 11, the interviews, on this matter, revealed how the five Respondents were convinced about how an employer branding strategy needed to be consistent, reflected the mission and values of the company and had an effect on all the stakeholders, not only possible employees. Respondent B stated that the objective was "the reinforcement of the brand, (...) you build an image that reflects in the environment of the office as well". In addition, Respondent C confirmed how a "good branding" comes from a "larger vision"; "the branding and its quality translate to the company culture and makes sure your mission and vision is reflected by it". According to Respondent D, "the branding is the result of the DNA of the team and it is closely aligned with your product and the message you want to send". However, it was possible to conclude and sum up this concept with the words of Respondent A who added that "all the different kinds of branding, employer, product or investor, are all merging very closely". A company "needs to be consistent across all spectrum of stakeholders. As a result, the employer brand reflects on all the other stakeholders and other kinds of branding".

<b>Respondent</b>	<b>Other Outcomes</b>
<b>A</b>	Consistent branding strategy reflects on the different stakeholder
<b>B</b>	Reinforcement of the brand and image in the office
<b>C</b>	Larger vision reflecting the vision and mission of company
<b>D</b>	Reflecting on product branding and message of company
<b>E</b>	Sponsor the image of the company on different stakeholders

Figure 11: Outcomes other than employer's attractiveness Perception

Finally, based on the previous qualitative analysis, the research model of the thesis was conceptualized. In the framework, the four employer brand attributes found from the first interview question and the serious game attribute were merged. In fact, from the employers' perspective, they were all relevant in terms of employer's attractiveness. As already mentioned in the previous sections, the initial conceptual frameworks included a larger amount of employer brand attributes. One of the objectives of the interview was to reduce that list of attributes in order to define a more condensed number. Thus now, as a result of this qualitative study it was possible to modify the initial conceptual model for the research.

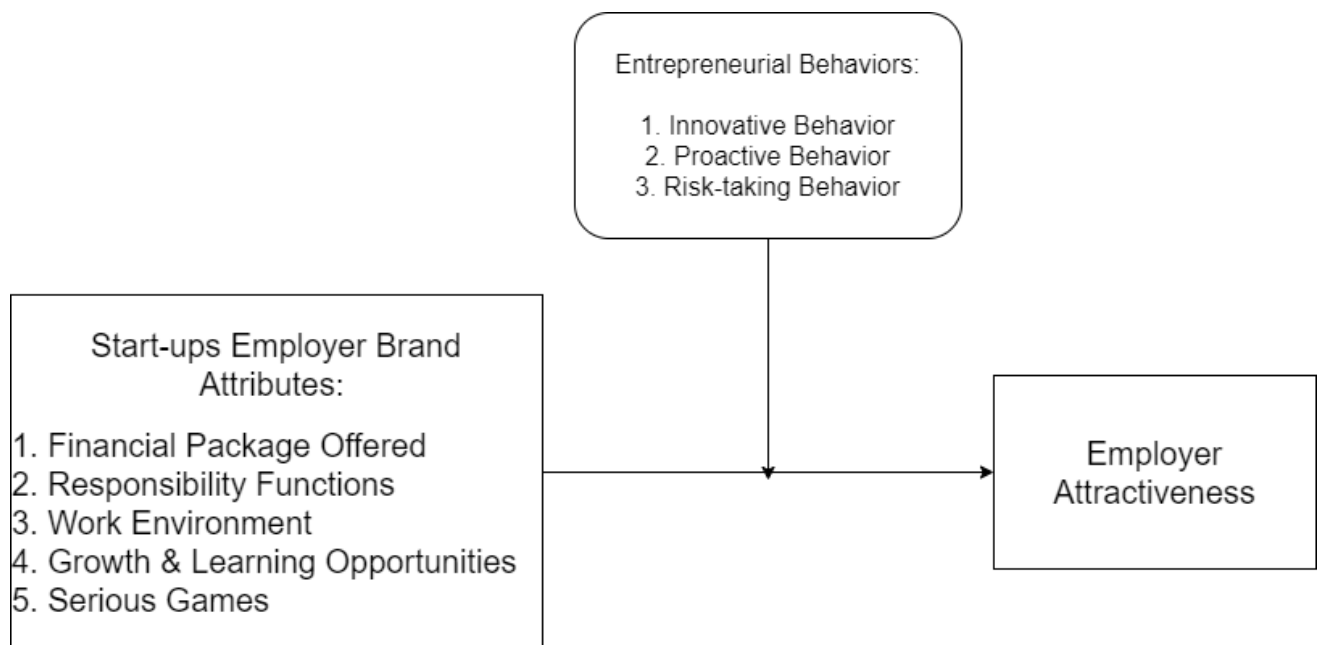


Figure 12: Conceptual Framework with Completed Employer Brand Attributes

The framework illustrated in Fig. 12 was studied further in the quantitative study where the perceptions of the potential employees were taken into consideration with respect to the employer brand attributes. According to the figure, the independent variables of the model would be the five employer brand attributes (financial package offered, responsibility functions, work environment, growth & learning opportunities, and serious games) and the dependent variable would be employer attractiveness. The last relevant insight given by the content analysis of



the interviews was brought by Respondent C. He confirms that in order to work in start-up environment, characterized by a dynamic and entrepreneurial spirit, the employees "need to be entrepreneurial themselves". That was why, in addition, the quantitative study, will investigate the relevance if entrepreneurial behaviors, and in particular their moderating effects on the relationship between dependent and independent variables.



## 5 Quantitative Study

### 5.1 Research Design: Mail and electronic questionnaires

The second data collection tool employed in the thesis was an electronic questionnaire to collect a larger quantity of data. A questionnaire is a pre-formulated set of questions, useful in descriptive and explanatory research. They are less time-consuming, but also have a bigger chance of non-response [Sekaran and Bougie, 2016]. The main advantage of an electronic questionnaire is that it can be used in a geographical large area. It is important for developing questionnaires to follow three main guidelines [Sekaran and Bougie, 2016]:

- Principle of wording: the language and the wording of the questionnaire should be understandable for the respondents, without bias, and ensuring the classification of personal data. That is why usually questionnaires are left anonymous.
- Principle of measurement: the data gathered should be measured accordingly. This means that the validity and the reliability of the data must be taken into consideration. That is why sometimes also bogus questions can be included in the questionnaire.
- Principle of appearance: the setup of the questionnaire should focus on an introduction, instructions, a well-arranged set of questions, and a conclusion. The organization of the questionnaire is important to facilitate and motivate the respondent to answer it fully and truthfully.

The questionnaire proposed in this thesis was a direct consequence of the semi-structured interviews. Here the main objective was to analyze the different preferences of the respondents regarding the employer brand job attributes, the entrepreneurially-minded behaviors, and the implementation of serious games. The questionnaire was divided in three sections:

- Demographics Section

- Employer Brand Attributes Section
- Entrepreneurial behaviors Section

In the demographics section the introducing information about the respondent was asked, such as age, gender, educational background, and current professional experience. As a matter of fact, the target sample of the questionnaire were students, recent graduates, and low experience employees. Moreover, the educational background, preferably of business or engineering related, was part of the demographics as it was studied how these kinds of young talents were usually more interested in working in a start-up and showed traits of entrepreneurial behaviors [Souitaris et al., 2007]. The next section of the questionnaire provided questions regarding the employer brand attributes' attractiveness to the potential employees. Here the respondents gave their preferences regarding some proposed ideal companies based on specific employer brand attributes [Tumasjan et al., 2011]. Subsequently, in the entrepreneurial behaviors section, a few questions were asked to the respondents in order to detect some kind of entrepreneurial behaviors as shown in the work done by Moser (2017). It is possible to see an example of the questionnaire in the appendix.

## 5.2 Measures

The development of the questionnaire had the objective to collect precise measures to investigate the employees' perceptions of employer brand attributes and start-ups' attractiveness. The electronic questionnaire was divided into three sections, each determining its own set of measures.

- Demographic measures
- Employer attributes and organizational attractiveness measures
- Entrepreneurial behaviors measures

In the first section, the introduction to the questionnaire was illustrated to the respondent and a few demographic measures are taken. In particular, as this questionnaire was completely anonymous in order to avoid privacy concerns, only four demographic measure were collected:

- Gender: categorical variable coded from 0 to 2, corresponding to either Female, Male or Other.
- Age: continuous variable, measured in numbers of years.
- Study Background: categorical variable going from 1 to 3, corresponding either to Engineering, Business, or Other.
- Current Employment Status: categorical variable going from 1 to 4, corresponding to either Student, Recent Graduate looking for a job, Low Experience Employee, or Other.

After the demographic section, the two main sections regarding conjoint analysis and regression analysis were presented to the respondent. The following sub-chapter explains in detail the measures adopted for those sections.

### 5.2.1 Employer attributes and organizational attractiveness

The first section of the questionnaire studied the employer brand attributes from the conceptual framework in Fig. [12](#). The measure chosen for understanding the employees' preferences on the job attributes was the conjoint analysis. Conjoint analysis is a statistical technique used in market research based on surveys that serves to define how people value different attributes or feature for a specific product or service. In the case of this thesis research, the product investigated by the conjoint analysis was an ideal start-up and the attributes used were the employer brand attributes found in the qualitative study. In conjoint analysis the respondents were presented with a set of choice alternatives of start-ups, each defined by the employer

brand attributes. Thanks to this approach, conjoint analysis conferred a high degree of realism because the subjects had to choose or rate actual options with multiple characteristics [Green et al., 1981, Green and Srinivasan, 1990]. The power of conjoint analysis relies on the fact that the combination of attributes to the comparison of alternatives allows for the extraction of individual preference structures behind the respondent decisions. Conjoint analysis has already been employed for employer attractiveness researchers focusing on (potential) employees perceptions on particular job attributes [Flaherty and Pappas, 2004, Lanfranchi et al., 2010, Wiltinger, 1997, Montgomery and Ramus, 2008]. The conjoint analysis design was created on SPSS and followed previous research employing an orthogonal design, which means zero correlation between conjoint attributes and that multicollinearity between attributes is excluded [Shepherd et al., 2013]. In this research, each of the five employer brand attributes was varied on two levels:

- Financial Package Offered: either HIGH or AVERAGE. It concerns the salary pay and financial benefits usually given by a company to the employee. An AVERAGE salary means you get enough money to pay your monthly expenses considering the local market. A HIGH salary is an above-average salary that allows for extra expenses other than the necessary ones.
- Responsibility Functions: either MAXIMAL or MINIMAL. It concerns the amount of responsibility regarding the working related decision. MAXIMAL (MINIMAL) applies when the employee covers a major (minor) responsibility role in the company.
- Work Environment: either FORMAL or INFORMAL. It concerns the office climate where the employee works. Both environments, even with their differences, represent a professional work environment. However, a FORMAL work environment calls for more stability and a proper dress code; while an INFORMAL work environment presents more flexibility and a casual dress code for everyday activity.

- Growth and Learning Opportunities: either STEEP or FLAT. It concerns the possibility to learn new skills and growing in the company. A STEEP learning curve provides faster growth; while a FLAT learning curve provides slower growth.
- Serious Games: either YES or NO. Gamification is a tool to stimulate the applicant's mindset and keep him/her more involved in the recruitment process. it concerns the employment of digital games with an educational purpose instead of interviews in order to detect any preferred skills by the employer and relieve pressure on the candidate.

After dividing each attribute into levels, the possible start-ups profiles considering each combination were 32. However, to maintain the number of options available in the questionnaire feasible, the conjoint design relied on a fractional design featuring only 8 distinct alternatives representing the 8 ideal start-ups [Louviere and Hout, 1988, Shepherd et al., 2013].

Start-Ups Profiles	Financial Package Offered	Responsibility Functions	Work Environment	Growth & Learning Opportunities	Serious Games
Start-up 1	HIGH	MINIMAL	FORMAL	STEEP	NO
Start-up 2	AVARAGE	MAXIMAL	FORMAL	STEEP	YES
Start-up 3	HIGH	MAXIMAL	INFORMAL	FLAT	YES
Start-up 4	AVARAGE	MINIMAL	INFORMAL	FLAT	NO
Start-up 5	AVARAGE	MAXIMAL	FORMAL	FLAT	NO
Start-up 6	HIGH	MAXIMAL	INFORMAL	STEEP	NO
Start-up 7	HIGH	MINIMAL	FORMAL	FLAT	YES
Start-up 8	AVARAGE	MINIMAL	INFORMAL	STEEP	YES

Figure 13: Ideal start-ups profiles for the conjoint design

### 5.2.2 Entrepreneurial behaviors

The second section of the questionnaire was a set of additional questions regarding the potential entrepreneurial behaviors of the respondent. Entrepreneurial behaviors could be considered as

composed by three components: innovative behavior, proactive behavior, and risk-taking behavior [Moser et al., 2017]. For each of these components, a research reference for the measures was taken into consideration. For innovative behavior, the assessment consisted of a six items scale where participants were asked to indicate how often they engage in each of the six behaviors during work (1 = 'never' to 5 = 'always') [De Jong and Den Hartog, 2010]. The assessment for proactive behavior consisted of 17 measures with a 5 point Likert scale going from 1 = 'strongly disagree' to 5 = 'strongly agree' [Bateman and Crant, 1993] Finally for the risk-taking behavior assessment, a 5 point Likert scale (1 = 'strongly disagree' to 5 = 'strongly agree') was adopted, in which respondents provided their scores in 4 items [Gomez-Mejia and Balkin, 1989]. The measures developed for the entrepreneurial behaviors were then used to compute a regression analysis with the conjoint analysis result to indicate any possible correlation between employer brand attributes preferences and entrepreneurial behaviors of the candidate [Mathieu et al., 2012].

### 5.3 Sampling

The electronic questionnaire was distributed during the period between the 3rd of June 2021 and the 10th of June 2021. The main targets for the questionnaire were students, recent graduates, or low experienced employees who preferably had an engineering or business background. The sampling technique was convenience sampling as the questionnaire was sent by the researcher mainly to TU Delft students or personal contacts facilitating the spread of the questionnaire and its increased response ratio. Moreover, in order to collect business background respondents, the questionnaire was sent to Erasmus University of Rotterdam students. The main channels for questionnaire distribution were the group chat of the courses, useful when it comes to sharing content in large student groups. On the other hand, in order to collect data from recent graduates, the questionnaire was shared among contacts known by the researcher that were just finished with their academic path and they were looking for an entry job. The same reasoning was done



for low experienced employees, personal contacts of the researcher, and they were asked to share the questionnaire among colleagues. In fact, the snowballing technique was crucial for the spread of the questionnaire. Overall a sufficiently high number of participants  $N = 94$  was collected with the questionnaire.

## 5.4 Data Results

The analysis of the data collected with the questionnaire was developed with the employment of IBM SPSS statistical software.

### 5.4.1 Preliminary Results

The first analysis performed on the data collected from the questionnaire regarded the initial correlation table. Before running the quantitative analysis a bivariate correlation was run. The variable taken into consideration were the two demographics of gender and age, the five employer brand attributes, the three entrepreneurial behaviors, and the dependent variable of employer attractiveness. The table is reported in Appendix C. The results indicated as predicted zero correlation between the employer brand attributes given the database design which included dummy variables to run the regression. However, significant correlations between employer's attractiveness and the five employer brand attributes were found proving correlation between independent and dependent variables.

After the initial correlations, the demographics were analysed in detail. Below it is possible to see the detailed distributions for each demographics already introduced in the previous section as well. Among the respondents 60.6% were male and 39.4% were female as reported in Fig. [14](#).

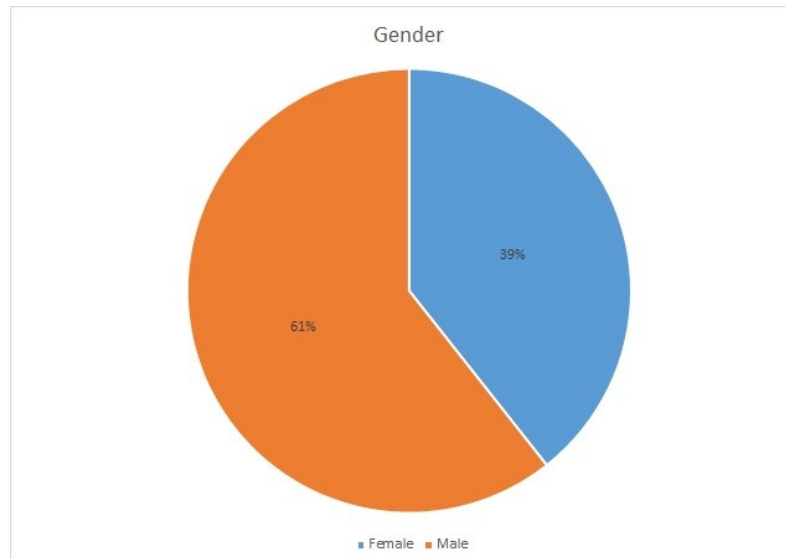


Figure 14: Results for Gender demographics

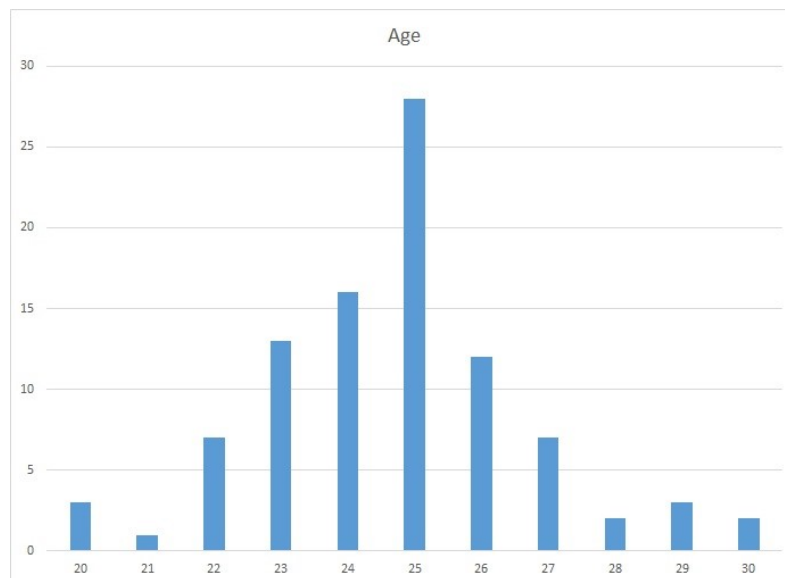


Figure 15: Results for Age demographics

In Fig. 15 was showed that the age goes from the youngest with 20 years old to the oldest with 30 years old. The study background, reported in Fig. 16, was divided between 47.9% engineering, 38.3% business, and 13.8% other backgrounds. Finally, in Fig. 17, for the current employment status the results showed a majority of 56.4% students, 20.2% low experience employees, and

18.1% recent graduate looking for a job, with a slight percentage which answered with another employment status such as "intern at a startup", "trainee lawyer", "intern and student", "PhD", "graduate student".

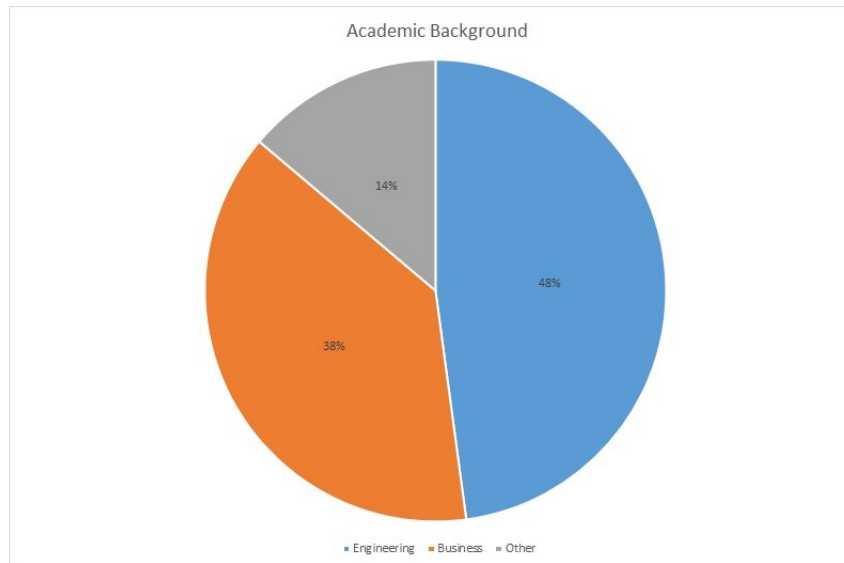


Figure 16: Results for Academic Background demographics

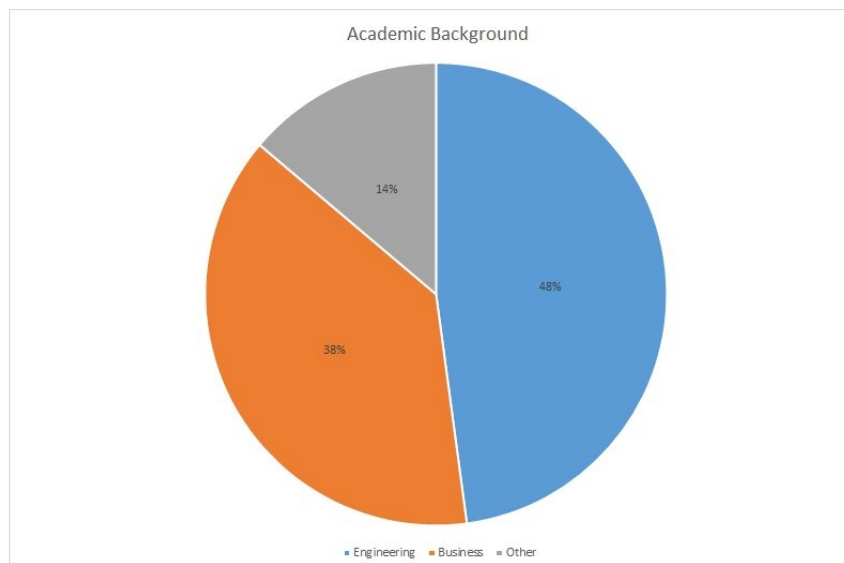


Figure 17: Results for Employment Status demographics

Before stepping into the main results of the quantitative study, a reliability test was per-

formed on the entrepreneurial behaviors items in order to measure the robustness for each of the 3 elements. As previously described in the measures section, entrepreneurial behaviors are innovative, with 6 items, proactive, with 17 items, and risk-taking, with 4 items. In order to consider the different items for each behavior as a single value, a reliability test to check the Cronbach's Alpha was performed.

First, the 6 items for the innovative behavior were tested, revealing a relatively small Cronbach's Alpha. However, it is possible to notice how for the elimination of item 3, the Cronbach's Alpha is the highest at 0.656 which is acceptable. As a result, item 3 was removed and a 5-item scale was used for the subsequent analyses.

Both proactive behavior and risk-taking behavior showed reliable and acceptable Cronbach's Alphas values of 0.877 and 0.752.

Now instead of 27 different items, it was allowed to reduce each group of items into a single value performing a basic mean value of the specific behaviors' items. The results were three mean values for every respondent corresponding to innovative, proactive, and risk-taking behavior. These three values will be used in the regression analysis to test any correlation between attributes preference and behavioral characteristics of the candidate. This result did not come unexpectedly as also in previous literature, Moses (2017) runs the three constructs separately.

#### 5.4.2 Conjoint Analysis

The conjoint analysis was run to determine the importance values for the employer brand attributes. In total we had five employer brand attributes: Financial Package Offered, Responsibility Functions, Work Environment, Growth & Learning Opportunities, and Serious Games. The first results indicated the general importance scores for each employer brand attribute without considering the difference within the levels, for example, high or average financial package. As stated in Fig. 18 the most important factor was Financial Package Offered with 26.8%. The second most important employer brand attribute was Growth & Learning Opportunities with

24.1%. Following with a slightly defined percentage there were Responsibility Functions, Work Environment, and Serious Games, respectively representing the 19.2%, 15.2%, and 14.7%.

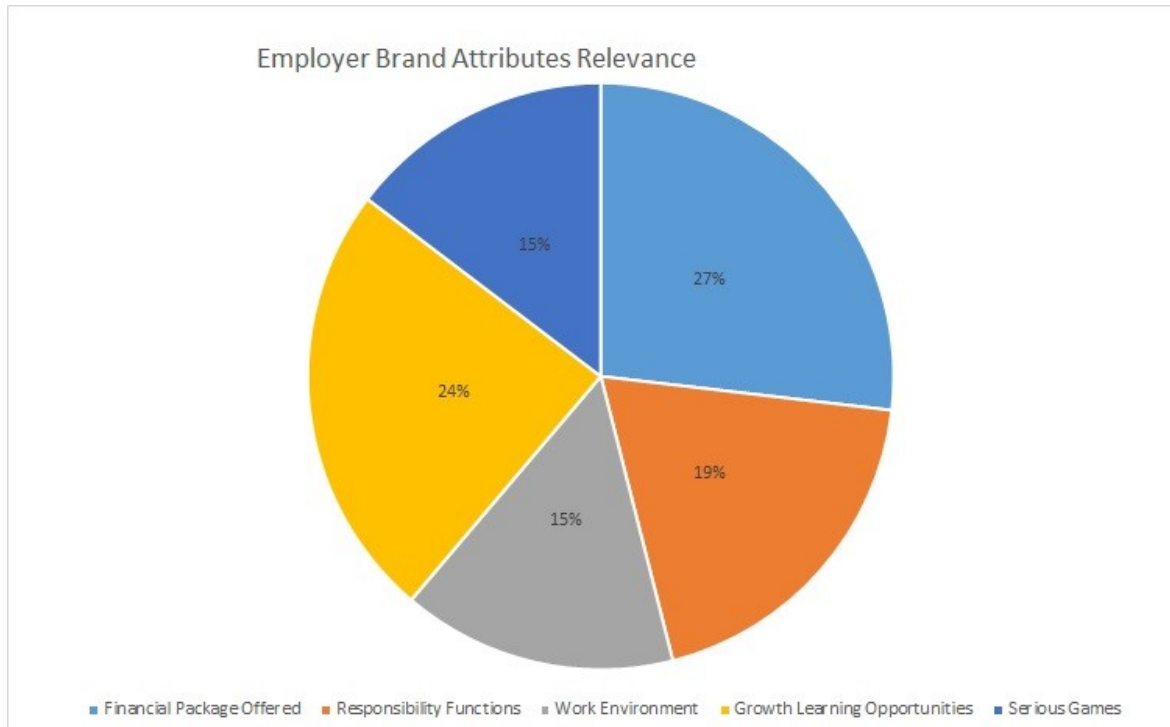


Figure 18: General importance scores for employer brand attributes

Following the importance scores analysis, the conjoint analysis had the objective to determine which level of each employer brand attribute was ideally more relevant for the respondent's choice. It is possible to see in Fig. 19 how each employer brand attribute shows the same value for the levels' relative utility, but with opposite sign. This would have been different if instead of only two levels, the employer brand attributes would have been enriched with more levels. When the single level of the employer brand attributes presents a positive value it means that the respondents valued that level over the other possibility. This means that the preferred levels were: high salaries, more responsibility, informal environment, steep growth opportunity, and serious games in the recruitment process.

Utilities Conjoint Analysis			
		Utility Estimate	Std. Error
Financial Package Offered	High Salaries	0.565	0.028
	Avarage Salaries	-0.565	0.028
Responsibility Functions	Less Responsibility	-0.235	0.028
	More Responsibility	0.235	0.028
Work Environment	Formal Environment	-0.195	0.028
	Informal Environment	0.195	0.028
Growth Learning Opportunities	Flat Growth Opportunities	-0.570	0.028
	Steep Growth Opportunities	0.570	0.028
Serious Games	Serious Games in Recruitment Process	0.172	0.028
	No Serious Games in Recruitment Process	-0.172	0.028
(Constant)		4.350	0.028

Figure 19: Employer brand attributes relative utilities

Below the results for every employer brand attributes were shown with each respondent. The single results for the respondents preferences were reported in Fig. 20 for the financial package attribute, in Fig. 21 for the responsibility function attribute, in Fig. 22 for the work environment attribute, in Fig. 23 for the growth and learning opportunities attribute, and in Fig. 24 for the serious game attribute.

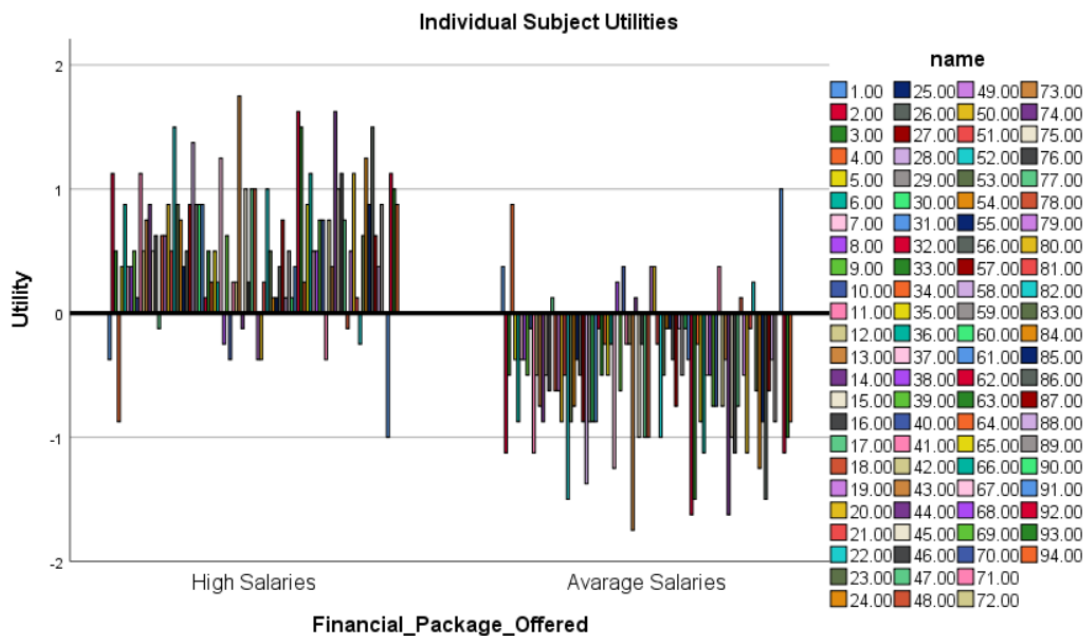


Figure 20: Financial package offered attribute preferences distribution

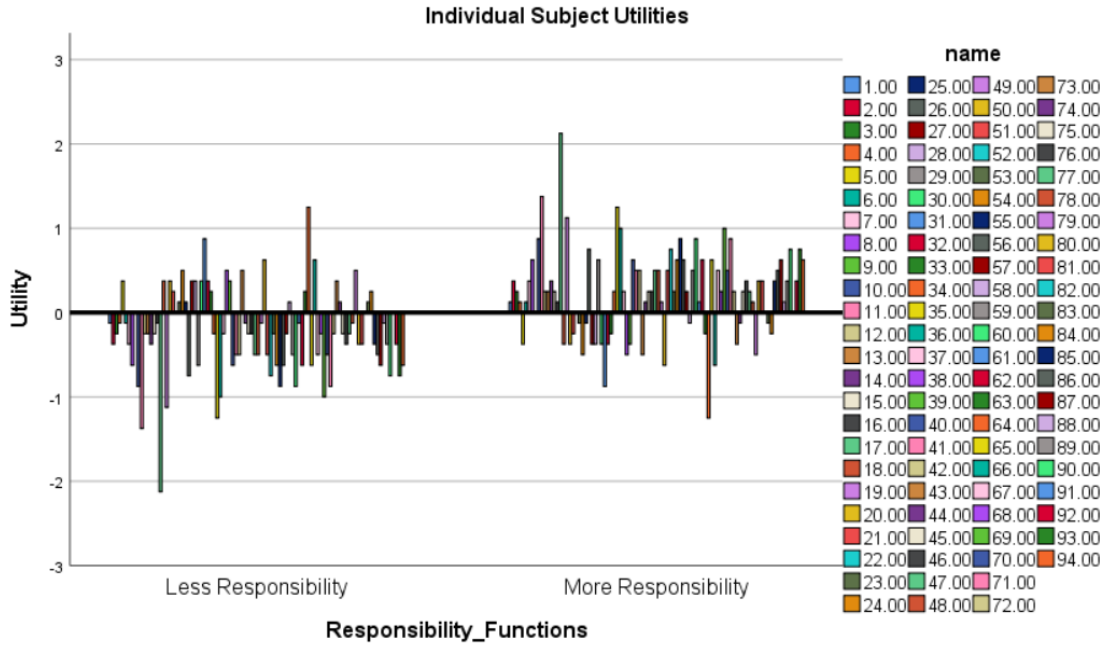


Figure 21: Responsibility functions attribute preferences distribution

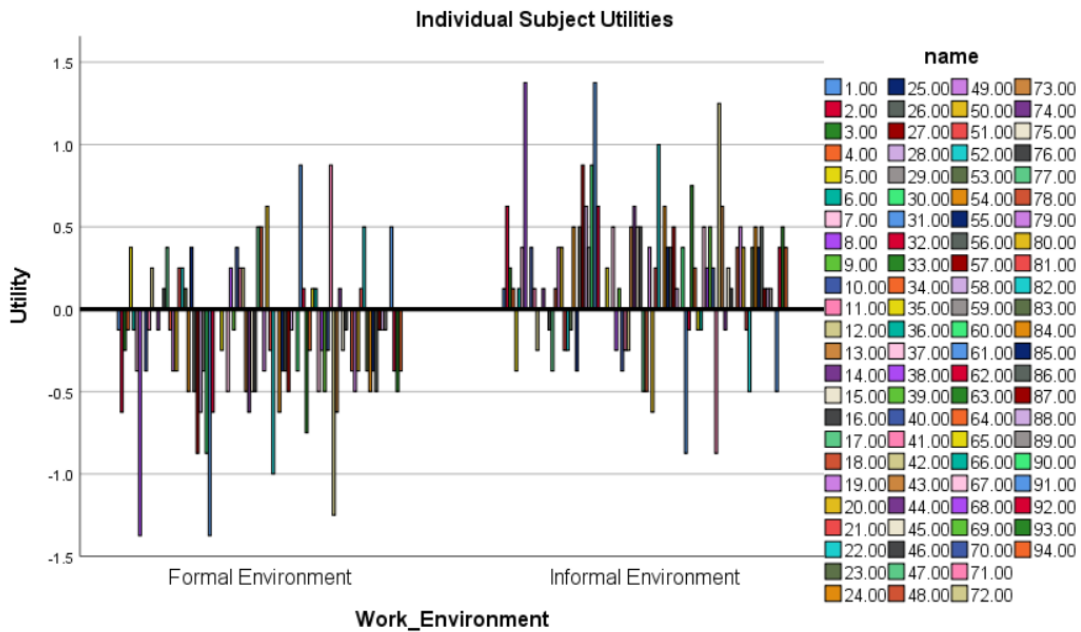


Figure 22: Work environment attributes preferences distribution

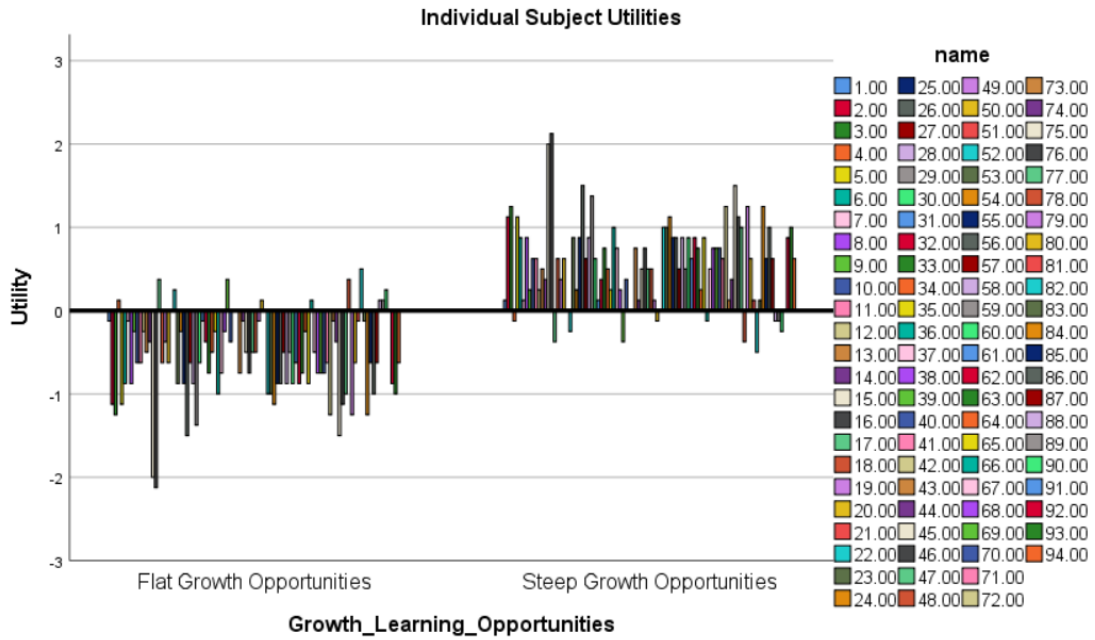


Figure 23: Growth and learning opportunities preferences distribution

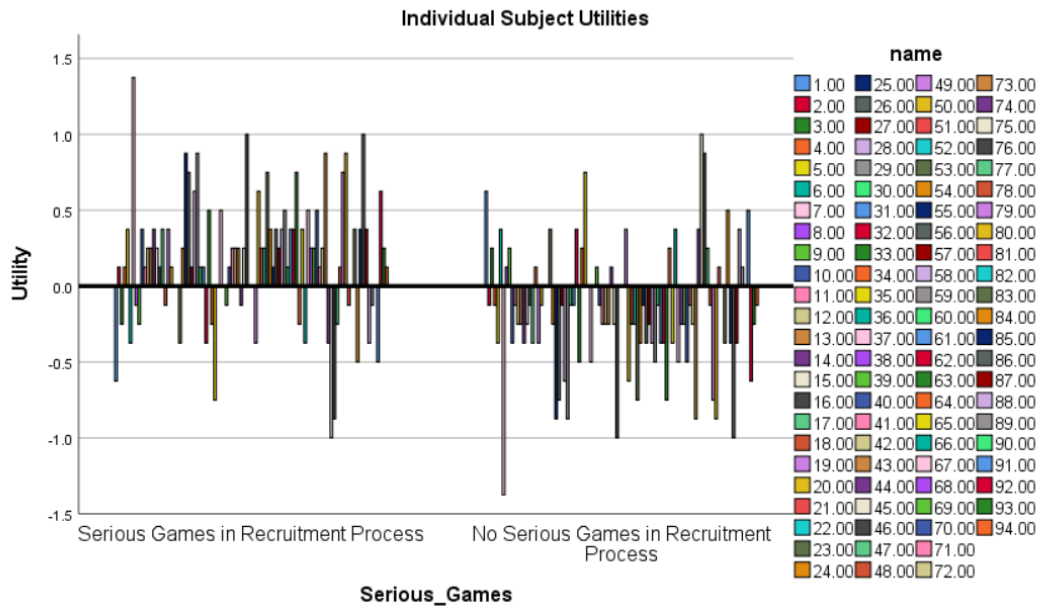


Figure 24: Serious games preferences distribution



### 5.4.3 Regression Analysis

The analysis for the potential moderating effect of the entrepreneurial behaviors was conducted using linear modeling regression in SPSS. The data set was created following the dummy variable procedure in order to avoid multicollinearity. This means that the final dataset presented an orthogonal design where the rows were the ratings of each respondent for every start-up profile (94 respondents \* 8 profiles = 752 rows). As columns, the design offered the demographics of gender and age, one level for each employer brand attribute (the other level was canceled during the dummy variable procedure), the preference score of the start-up profile, and the 3 entrepreneurial behaviors scores of the respondents. This way, it was possible to analyze for each respondent all the 8 start-ups preference score in relation to the attribute of the specific start-up profile. Moreover, another tool employed to avoid multicollinearity was to grand mean center all the variables before entering them in the regression analysis. The model always considered as dependent variables the preference score of the start-up profiles gathered in the questionnaire and used in the conjoint. The procedure used was a step-wise regression. As a first step, the control variables were inserted in the regression model, in order to investigate their effects on the dependent variable. The linear Model 0 presented in Appendix D had an  $R^2 = 0.008$  showing a low accountability (0.08%) of the dependent variable by the independent variables. However, the gender variable was significant ( $p < 0.021$ ) with a Beta coefficient of -0.084. This meant that gender was negatively associated with attractiveness showing that female respondents provided lower scores for employer's attractiveness. Age was not found to be significantly related to employer's attractiveness.

In the second step, Model 1, the employer brand attributes variables were added into the linear model as independent variables. Appendix D showed the five employer brand attributes and all of them were significant with positive Beta coefficients meaning direct relationship with employer's attractiveness, represented by the preference score of start-ups. In particular high

salaries ( $b = 1.130$ ,  $p < 0.05$ ) and steep growth opportunities ( $b = 1.141$ ,  $p < 0.05$ ) played an important role in the attractiveness. Similarly, more responsibilities ( $b = 0.471$ ,  $p < 0.05$ ), informal work environment ( $b = 0.391$ ,  $p < 0.05$ ), and serious games ( $b = 0.343$ ,  $p < 0.05$ ) showed positive and significant results. Here  $R^2 = 0.285$  increasing the dependent variable accountability now at 28.5%. The next Model 2 added the entrepreneurial behaviors variables to the model, which were innovative, proactive, and risk-taking behaviors. Here  $R^2 = 0.288$  did not have a significant increase accounting for 28.8%. As a matter of fact, the results showed in Appendix D did not add any new significant variables into the model. All three entrepreneurial behaviors were not significant and did not show any relationship with start-up preference scores. In particular, based on the findings, organizational attractiveness did not seem to be affected by the innovative, proactive, and risk-taking behaviors of the respondent. As a next step, in Model 3, and in order to identify the potential moderating effect, the product terms between entrepreneurial behaviors and employer attributes were created, resulting in 15 product terms that were added to the linear model and displayed in Appendix D.

Coefficients Beta	
Gender	-0.355
Innovative Behavior vs More Responsibilities	0.845
Proactive Behavior vs More Responsibilities	-0.506
Risk-taking Behavior vs More Responsibilities	-0.399
Risk-taking Behavior vs Steep Growth Opportunities	-0.362

Figure 25: Serious games preferences distribution

The final model had an  $R^2 = 0.325$  showing that 32.5% of the dependent variable can be explained from the independent variables of the model. Out of 15 product terms, 4 of them turned out to be significantly associated with organizational attractiveness as showed in Fig. 25

- Maximal responsibility vs innovative behavior ( $p < 0.05$ ) with Beta coefficient = 0.845.

- Maximal responsibility vs proactive behavior ( $p < 0.05$ ) with Beta coefficient = -0.506.
- Maximal responsibility vs risk-taking behavior ( $p < 0.05$ ) with Beta coefficient = -0.399.
- Steep growth & learning opportunities vs risk-taking behavior ( $p < 0.05$ ) with Beta coefficient = -0.362.

For the first product term, a positive coefficient indicated a direct relationship with employer's attractiveness. On the other hand, negative coefficients showed an inverse relationship with the dependent variable. The specific findings revealed that the effect between responsibility and attractiveness is stronger when respondents demonstrated innovative behaviors. However, when respondents demonstrated proactive and risk-taking behaviors, there was an inverse relationship between attractiveness and the attributes of responsibility and growth opportunities.



## 6 Discussion

This thesis investigated the importance of employer branding for startups and analyzed it through a mixed methods approach. Both the qualitative and quantitative studies showed interesting insights on how to increase employer's attractiveness through an employer branding process for startups. On the one side, the qualitative study emphasized the employer's perceptions given by the direct voices coming from the semi-structured interviews. On the other hand, the quantitative study provided additional insights by testing individual perceptions through the use of an electronic questionnaire.

The results obtained by these studies were crucial to identify both the employer brand attributes preferences and entrepreneurially-minded people, which are the two main subjects of study of the thesis research question. In order to answer fully the research question, an organized discussion of the section was necessary. First, the results regarding employer brand attributes were interpreted. Secondly, the entrepreneurial behaviors of potential employees and candidate were faced. And finally, the additional outcomes of the study were discussed. It is important to remind that the results coming from both the qualitative and quantitative study had the same relevance as they both gave interesting observation on the matter, but with two opposing perspectives, the employers' and the (potential) employees' perspectives.

### 6.1 Employer Brand Attributes

The employer brand attributes represented the job attributes capable of attracting candidates for start-ups. Before the two studies performed in the thesis, the only source of knowledge was the literature review and previous articles or studies made on employer branding. However, a contingent limited number of resources were considering the struggles usually start-ups faced during the recruitment process and their ability to attract qualified personnel [Tumasjan et al., 2011]. That is why the qualitative study was launched.

The five interviewees interviewed in the qualitative study identified their own relevant employer brand attributes. Each of them explained how they were trying in their everyday practice inside the start-ups to increase their employer's attractiveness. From them, it was clear that start-ups always have problems, or challenges, when it comes to appealing talented applicants. The most difficult task was the financial competition with larger and more established corporations which can afford more remunerating salaries and extensive benefits for their employee. However, even if the financial package obstacle was literally the most criticized by the interviewee, on the other side, the employers interviewed during the qualitative study confirmed how start-ups should instead focus on how to "play their strength". Thus, there was no point in trying to compete with the strengths of larger corporations, such as the salaries; instead, start-ups needed to engage with the applicants and to show them what it meant to work in an entrepreneurial environment, such as the start-ups one. This meant for the interviewees to make their vision and mission clear to the employees and to emphasize the job attributes which characterized start-ups from corporations.

The job attributes highlighted by the interviewee were: an average salary, capable to afford the local living situations, a larger amount of responsibility functions, an informal work environment, and steep learning and growth opportunities.

Moreover, it was definitely useful to get the employers' perspective on serious games, which were previously hypothesised in the literature review as a possible employer brand attribute. Even though serious games were not currently employed by the majority of the start-ups interviewed, all of them confirmed the possible utility of this tool to increase the applicants' interest, and then employer's attractiveness.

From the qualitative study, the employers' perspective gave as outcome five employer brand attributes: financial package offered, growth and learning opportunities, responsibility functions, work environment, and serious games. This was in line with previous research in which attributes were defined after interviews with academic experts and practitioners [Tumasjan et al., 2011].

[Moser et al., 2017](#), [Bonaiuto et al., 2013](#).

The qualitative study, apart from being aligned with previous literature results, found confirmation also in the quantitative study where the employers interviews' insights were reflected by the (potential) employees' perspective in the questionnaires. As a matter of fact, the quantitative study performed an analysis on (potential) employees' perspectives of their preferences for the employer brand attributes. The results from the conjoint analysis showed that, from the most to the least preferred, the employer brand attributes which seized candidates' attention are: High financial package offered, steep growth and learning opportunities, maximal responsibility functions, informal work environment, and the employment of serious games.

In this study, differently from the one done by Tumasjan et al. (2011), the most important attribute was not team climate, which resulted as fourth here, but the financial package offered by the start-ups. This means that the results obtained from the qualitative study, and so the employers' perspective, reflect the candidates' perspective. There was an intertwined confirmation between the two studies performed and the literature which denoted that the financial competition represented by corporations was actually the biggest obstacle for start-ups. In fact, the most preferred attribute was the high financial package which usually start-ups cannot offer. However, all the others employer brand attributes characteristics preferred by the respondents of the questionnaire were start-ups' job attributes. They are the possibility to have faster growth and learn new skills, the opportunity to step up and engage in more responsibility functions at work, and the flexibility and informality of the start-ups work environment.

The relative utilities highlighted by the quantitative study showed that the most important employer brand attributes were transactional attributes [Moser et al., 2017](#). Lastly, the employment of serious game, even if presented a lower score, was still something preferred by job applicants, thus confirming employers' perception of its possible utility in the recruitment process. As a matter of fact, it was hypothesized in previous research that serious games could have been an important recruiting and employer branding activity able to attract applicants

[Küpper et al., 2021].

## 6.2 Entrepreneurial Behaviors

The entrepreneurial behaviors were the second topic for the research of the thesis. The objective was to understand if the relationship between employer brand attributes and employers attractiveness changed when entrepreneurial behaviors were considered. If yes, what kind of employer brand attributes the entrepreneurial behaviors had influence on in order to facilitate the recruiting process of start-ups and increase their employer's attractiveness targeting this specific kind of behaviors in the applicants.

The qualitative study showed that, apart from technical skills which are required for the specific job, there were some determined personal traits preferred for a candidate. The main results indicated that creativity, communication skills, and autonomous doing were something deeply appreciated by the employers. These three personal characteristics were signs of entrepreneurial behaviors, which is divided into innovative, proactive, and risk-taking behavior. These findings added knowledge to previous literature on the possible moderating effect of entrepreneurial behaviors [Moser et al., 2017, Bonaiuto et al., 2013].

Results from the quantitative analysis indicated that people who usually prefer maximal responsibility functions also showed innovative behavior traits. This was in line with the outcomes obtained by Moser (2017) in which the relationship between transactional attributes and innovative behavior was found. However, in the same study, not one kind of significant relationship was denoted between any employer brand attributes and proactive or risk-taking behavior [Moser et al., 2017], while in this research an inverse relationship was found. In fact, there was a negative relationship between maximal responsibility functions and proactive or risk-taking behavior meaning that these particular behaviors were not attracted by the employer brand attributes of subject.



Furthermore, another significant and interesting result was the one correlating people who preferred steep growth and learning opportunities against risk-taking behavior traits. This might actually come unexpectedly, but it was possible that people did not feel like taking too many risks in a job-related situation not to compromise their career and growth. Moser (2017) indicated that the link between innovative behavior and employer brand attributes could have been due to the usual start-ups working conditions in which job-seekers usually could be valued for their innovative ideas. However, the inverse relationship found in this research between steep growth opportunities and risk-taking behavior could indicate that, even though talented applicants preferred an innovative workplace, in order to preserve and advance in their career they were not willing to take too many risks.

### 6.3 Additional outcomes from the qualitative and quantitative studies

The two main objectives of the thesis were the analysis of employer brand attributes and entrepreneurial behaviors which have been already discussed. However, both from the quantitative and qualitative study some residual and interesting results were found.

In the quantitative analysis we found a relationship between gender and the start-up's preferences. Such relationship between the gender and employer's attractiveness slightly indicates a major preference of women for the start-up's profiles created for the questionnaire.

In the qualitative study the last question of the semi-structured interviews was asking about possible alternative outcomes of employer branding other than employer's attractiveness. Content analysis revealed that the consistency in the branding strategy was considered to be the main bridgehead for start-ups, or any company, which they should follow. In fact, it was no more possible, in the employers' opinion, to divide the different kinds of branding within each separate objective. Instead, an alignment between the various branding should be reached and it must be favored by the mission and vision of the company. The vision for the company involves and

keeps in mind all the stakeholders of the company and thus, the branding of the company should be tailored onto their vision so that the different stakeholders are engaged and satisfied with the brand.

## 7 Conclusion

The thesis development on the employer's attractiveness through an employer branding process gave different results which were discussed in the previous sections. In conclusion, the study performed in the thesis could present some managerial implications for practitioners. However, the study was bound by some research limitations which will be highlighted in order to give suggestions for future research directions.

### 7.1 Limitations and Future Research

The analysis performed in the thesis revealed numerous interesting results. However, the results could have been more elaborated if it was not for few limitations.

#### 7.1.1 Sampling Limitations

First of all, in the qualitative study the number of participants, in this case the start-ups employers, could have been larger. As a matter of fact, due to time management, only five employers were selected for the qualitative study. For the study at hands, five interviewee were judged to be enough also because the thesis expected a mixed method including also a quantitative analysis. For future studies on employer branding for start-ups, a larger pool of employer might guarantee more detailed employer brand attributes and a more specific employer perception on how to attract potential and qualified employees. In the quantitative study, the same reasoning could be done for the questionnaire respondents. Also due to time management, the questionnaire was run for a limited time of 10 days collecting 94 responses. Moreover, convenience sampling and snowballing were the main sampling techniques used to distribute the questionnaire. Future studied on the topic, should use more participants to analyze better employer's attractiveness from employees' perceptions. In addition, more institutionalized channels for questionnaire distribution could be used ensuring a higher response rate. The consequences would be more precise

results on the employer brand attributes preferences.

### **7.1.2 Design Limitations**

An improvement that could increase the validity of the study performed in the thesis could have been to employ a more elaborated conjoint analysis design. The design used in this research included 5 employer brand attributes, each divided into two levels. To enrich the study, more employer brand attributes could be used, and more levels for each attribute could be created. Using a larger pool of respondents and a more detailed employer brand attributes leveling, together with the regression analysis for the entrepreneurial behaviors, could potentially lead to more moderating effects between the employer brand attributes levels and the entrepreneurial behaviors.

### **7.1.3 Literature Research Limitations**

Literature research limitations included a narrow amount of resources regarding employer branding for startups, entrepreneurial behaviors moderating effects on organizational attractiveness, and serious games. Future developments could take example from this study. Unique employer brand attributes were developed with respect to previous literature. Moreover, the moderating effect of entrepreneurial behaviors on employers' attractiveness was studied, something which the literature provided in very few resources. Finally, the effect of serious games implementation for start-ups and its relationship with employer's attractiveness was analyzed for the first time in the previous literature.

### **7.1.4 Future Studies**

Even though some limitations reduced the generalizability of this research, the outcomes found during the analysis were promising for future work on employer branding for start-ups. As already suggested, starting from the results of the content, conjoint, and regression analysis, an

employer branding strategy tailored to start-ups could be researched and developed by future academics or practitioners.

Future research could focus on the definition of entrepreneurial behaviors in order to characterize a certain kind of candidate that the start-up is interested in. In this thesis the relevance of the influence of entrepreneurial behaviors on the employer attractiveness was highlighted; however, deeper emphasis could be dedicated on the specific recruitment process of the start-ups. Starting from the results of the thesis, which understood how specific employer brand attributes were preferred over others to potential candidates, start-ups could tailor their recruitment process to specific wanted entrepreneurial behaviors. Certainly the employment of serious games could be taken into consideration, given the importance found by this research and his potential to study and reveal the behaviors of the applicants. Thus, a possible future study could investigate in detail the recruitment process of start-ups considering their necessity to attract innovative, proactive, or risk-taking personnel, using as main attraction tool employer brand attributes, such as serious games.

Furthermore, apart from the recruitment processes alone, it would be relevant for future research to be able to identify with more precision an entrepreneurial candidate. In this research, based on the measure found in the literature [De Jong and Den Hartog, 2010], [Gomez-Mejia and Balkin, 1989], [Bateman and Crant, 1993], the entrepreneurial aspect of an employee was based on the three innovative, proactive, and risk-taking behaviors score. However, these adopted measures are not able to divide the entrepreneurial people from the rest. The useful aspect of these measures was the ability to correlate the behaviors score with respect to a likert scale that went from 1 to 5. Future studies could focus on the analysis of entrepreneurial people and find a way to divide them from the rest of the candidates in order to solely focus on this certain group.

## 7.2 Managerial Implications

The results obtained from the qualitative and quantitative study could have some managerial implications for practitioners. On one hand, the employers' perspective defined in the qualitative analyses can be helpful for potential employees. On the other hand, the employees' perception outlined in the quantitative analysis might be useful for employers and start-ups.

First of all, potential employees should consider the challenges faced by small and developing companies, such as start-ups, that cannot afford to compete with larger corporations on a salary base. However, they can offer a steeper learning curve where your career can enter a faster track for success. Moreover, an informal work environment and a flat hierarchy can benefit a young talent who is looking for his own space to develop and implement his ideas. Thus, when a candidate was engaged in a recruitment process for a start-up he should carefully weigh the proposal offered by the company. The considerations should include the usual challenges a small enterprise might face and the big growth opportunity the applicants have inside that work environment.

At the same time, implications coming from the quantitative study mainly concern the conjoint analysis or the regression analysis results. From the conjoint analysis, the financial package employer brand attribute was revealed as the dominant one in terms of attractiveness. This means that, even though previous literature depicted how it was difficult for them to compete on a financial basis with large corporations, start-ups should start to prioritize the financial package offered to employees as it was revealed as the most preferred attribute. Moreover, start-ups should promote the growth opportunities and the responsibility functions employees might assume in start-ups. The company could emphasize during the recruitment process how much they would value someone who took ownership for his actions, showing responsible behavior, and someone who would be willing to learn. Thus, for example, training and learning activities besides the usual job could be proposed by start-ups.

A slight less impact was given by the informal work environment and the employment of serious games. Thus, start-ups employer, as already suggested by the content analysis in the qualitative study, should continue to promote their strength in these attributes. One way to reinforce these attributes could be the promotion of open and leisure initiatives between colleagues which might help the bonding and the creation of less formal work environment. In addition, start-ups could start employing serious games during the recruitment process as it was proven how applicants were attracted by a gamified experience.

The regression analysis tried to give insight on what kind of talented people preferred the different employer brand attributes. As it was defined in the discussion section, managers should let innovative people be attracted by the responsibility functions. This is probably linked to the fact that employees who were usually full of initiative and innovative ideas, would also like to realize and take responsibility for those ideas. However, if start-ups propose too many maximal responsibility functions, it might have a counterproductive effect scaring away proactive and risk-taking behavior candidates. Thus, a trade-off could be hypothesized by managers where, depending on the need of the start-ups on whether they prefer innovative, proactive, or risk taking employees, they should allow or not maximal responsibility functions.

To conclude, the research brought by this thesis is relevant for both employers, on how to increase start-ups attraction, and employees, on how to value the different start-ups characteristics. Moreover, the relevance of entrepreneurial behaviors have been highlighted and strategies to hire determined candidates can be developed. This research found in employer branding a powerful tool to attract qualified personnel in start-ups even considering the challenges small enterprises usually go against. However, this thesis is only the starting point for future research, that has already been suggested previously, where tailored solutions could be created depending the needs of the start-ups.





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## 8 Appendix

### 8.1 Appendix A: Semi-Structured Interview Set-up

*Introduction:* Good morning/ Good afternoon, my name is Gabriele Sarti and I am a second year master student for the course of Management of Technology at the faculty of Technology, Policy, and Management at TU Delft. I am conducting this interview for the preliminary data collection phase of my thesis. The interview will be recorded for transcription purposes, no content will be shared with third parties and personal information and company names will be left out of the thesis content.

The thesis I am developing studies employer branding strategies for start-ups. By this I mean that I want to investigate which kind of employer brand attributes distinguish start-ups from larger and established companies in order to attract potential high-quality employees. Let's begin the interview by asking the first introductory question: Questions:

- Can you briefly describe me your educational/professional experience?
- What Is your role in the organization that you work for? Can you describe your duties?
- What is the main business of the company and how long has it been active?

As I already briefly introduced the purpose of my research is to investigate how can an employer be attractive for potential employees. That's why I would like to know:

- What makes a start-up attractive as an employer?
- Are you familiar with the concept of employer brand? If not (the employer brand describes an employer's reputation as a place to work, and their employee value proposition)
- Do you think the employment of these employer brand attributes, apart from increasing the organization attractiveness, would bring any other benefits to the company?

The second important research objective is to understand what kind of people a start-up is looking for, thus:

- What kind of candidates are you looking when recruiting?
- Is there any kind of behavior which is preferred or suggested for the applicants in order to be hired?
- Are you familiar with the concept of serious games? If not (digital game that aims at educating players. It uses game elements to create an educational and entertaining game experience and promotes cognitive lower- and higher-order thinking skills as well as affective learning).
- Have you ever used or thought to be using serious games in the recruitment process?

*Conclusion:* that is the end of our interview. I would like to thank you for the availability, and I want to remember that no sensitive or personal information regarding you or the company you work for will be shared. The purpose of the interview is merely academic for the writing of my thesis and I am confident to say this interview was successful and the concepts emerged from it will be helpful for my research. I hope to receive the informed consent soon in order to go forward with the research.

## 8.2 Appendix B: Electronic Questionnaire Set-up

### Start-Ups Organization Attractiveness

You are being invited to participate in a research study titled Employer Branding for Start-ups. This study is being done by Gabriele Sarti from the TU Delft.

The purpose of this research study is to collect knowledge for thesis development in the MSc in Management of Technology at the faculty of Technology, Policy, and Management of TU Delft. The objective of the questionnaire regards:

1. employer brand attributes attractiveness for potential employees
2. potential employees entrepreneurial behaviour.

The study brings new knowledge on how start-ups can tailor the recruitment process via an effective employer branding strategy that improves the employer attractiveness for possible employees. Moreover, not only the organization attractiveness is increased, but also the person-organization fit can be raised by targeting entrepreneurial kind of applicants which are difficult to be attracted by start-ups rather than larger and more established corporation.

Your participation in this study is entirely voluntary and you can withdraw at any time.

We believe there are no known risks associated with this research study; however, as with any online related activity the risk of a breach is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by maintaining this survey completely anonymous.

For any questions please contact [g.sarti@student.tudelft.nl](mailto:g.sarti@student.tudelft.nl)

\*Campo obbligatorio

1. Did you read the opening statement and give consent to use the data gathered in the following survey for the thesis purposes? \*

*Contrassegna solo un ovale.*

Yes

Respondent Information

2. Gender \*

*Contrassegna solo un ovale.*

- Male
- Female
- Other

3. Age \*

\_\_\_\_\_

4. What is your study background? \*

*Contrassegna solo un ovale.*

- Engineering
- Business
- Other

5. What is your current employment status? \*

*Contrassegna solo un ovale.*

- Student
- Recent graduate looking for a job
- Low Experience Employee (1-5 years of experience)
- Altro: \_\_\_\_\_



Employer  
Brand  
Attributes

The first section of the questionnaire will present you a number of ideal start-ups. Every start-ups will be described using 5 different attributes.

1. Financial Package (either HIGH or AVERAGE): it concerns the salary pay and financial benefits usually given by a company to the employee. An AVERAGE salary means you get enough money to pay your monthly expenses considering the local market. A HIGH salary is an above average salary which allows for extra expenses other than the necessary ones.

2. Responsibility Functions (either MAXIMAL or MINIMAL): it concerns the amount of responsibility regarding the working related decision. MAXIMAL (MINIMAL) applies when the employee cover a major (minor) responsibility role in the company.

3. Work Environment (either FORMAL or INFORMAL): it concerns the office climate where the employee works. Both environments, even with their differences, represent a professional work environment. However, a FORMAL work environment calls for more stability and a proper dress code; while an INFORMAL work environment presents a more flexibility and a casual dress code for everyday activity.

4. Learning & Growth Opportunity (either STEEP or FLAT): it concerns the possibility to learn new skills and to Grow in the company. a STEEP learning curve provides a faster growth; while A FLAT learning curve provide a slower growth.

5. Serious Games (either YES or NO): Gamification is tool to stimulate the applicant mindset and keep him/her more involved in the recruitment process. it concerns the employment of digital games with an educational purpose instead of interviews in order to detect any preferred skills by the employer and relieve pressure on the candidate.

6. Please say for each of the following Start-ups how much you find them attractive or unattractive. \*

Start-Ups Profiles	Financial Package Offered	Responsibility Functions	Work Environment	Growth & Learning Opportunities	Serious Games
Start-up 1	HIGH	MINIMAL	FORMAL	STEEP	NO
Start-up 2	AVARAGE	MAXIMAL	FORMAL	STEEP	YES
Start-up 3	HIGH	MAXIMAL	INFORMAL	FLAT	YES
Start-up 4	AVARAGE	MINIMAL	INFORMAL	FLAT	NO
Start-up 5	AVARAGE	MAXIMAL	FORMAL	FLAT	NO
Start-up 6	HIGH	MAXIMAL	INFORMAL	STEEP	NO
Start-up 7	HIGH	MINIMAL	FORMAL	FLAT	YES
Start-up 8	AVARAGE	MINIMAL	INFORMAL	STEEP	YES

Contrassegna solo un ovale per riga.

	Extremely unattractive	Mostly unattractive	Somewhat unattractive	Neutral	Somewhat attractive	Mostly attractive	Extremely attractive
Start-Up 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Start-Up 8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Entrepreneurial Behaviour

The second section of the questionnaire has the objective to detect any kind of entrepreneurial behaviour in the respondent. Please respond to the following answers.

## 7. In your job or group study related work how often do you \*

*Contrassegna solo un ovale per riga.*

	Never	Rarely	Sometimes	Often	Always
make suggestions to improve current products or services?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
produce ideas to improve work practices?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
acquire new knowledge?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
actively contribute to the development of new products or services?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
acquire new groups of customers?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
optimize the organization of work?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Please select how much do you agree with each statement \*

*Contrassegna solo un ovale per riga.*

	strongly disagree	disagree	more or less disagree	neutral	more or less agree	agree	strongly agree
I am constantly on the lookout for new ways to improve my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel driven to make a difference in my community, and maybe the world	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to let others take the initiative to start new projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wherever I have been, I have been a powerful force for constructive change.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy facing and overcoming obstacles to my ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nothing is more exciting than seeing my ideas turn into reality.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If I see something I don't like, I fix it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

No matter what the odds, if I believe in something I will make it happen.

---

I love being a champion for my ideas, even against others' opposition.

---

I excel at identifying opportunities.

---

I am always looking for better ways to do things.

---

If I believe in an idea, no obstacle will prevent me from making it happen.

---

I love to challenge the status quo.

---

When I have a problem, I tackle it head-on.

---

I am great at turning problems into opportunities.

---

I can spot a good opportunity long before others can

---

If I see

someone in  
trouble, I help  
out in any  
way I can

---

9. How much do you agree with the following statements? \*

*Contrassegna solo un ovale per riga.*

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. "I am not willing to take risks when choosing a job or a company to work for";	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. "I prefer a low risk/high security job with a steady salary over a job that offers high risks and high rewards";	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. "I prefer to remain on a job that has problems that I know about rather than take the risks of working at a new job that has unknown problems even if the new job offers greater rewards";	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. "I view risk on a job as a situation to be avoided at all costs."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Conclusion

Thank you for participating to the questionnaire. If there are any question please refer to [g.sarti@student.tudelft.nl](mailto:g.sarti@student.tudelft.nl)

## 8.3 Appendix C: Correlation Table

Correlations											
	1	2	3	4	5	6	7	8	9	10	11
Gender 1	Pearson 1										
Age 2	Pearson 0.000	1									
High Financial Package 3	Pearson 0.000	0.000	1								
More Responsibilities 4	Pearson 0.000	0.000	0.000	1							
Informal Work Environment 5	Pearson 0.000	0.000	0.000	0.000	1						
Steep Growth Opportunities 6	Pearson 0.000	0.000	0.000	0.000	0.000	1					
Serious Games 7	Pearson 0.000	0.000	0.000	0.000	0.000	0.000	1				
Innovative Behavior 8	Pearson .282**	.106**	0.000	0.000	0.000	0.000	0.000	1			
Proactive Behavior 9	Pearson .372**	.105**	0.000	0.000	0.000	0.000	0.000	.563**	1		
Risk-taking Behavior 10	Pearson -0.040	-0.044	0.000	0.000	0.000	0.000	0.000	-.191**	-.231**	1	
Employer Attractiveness 11	Pearson -.084*	0.035	.339**	.141**	.117**	.343**	.103**	0.004	0.012	0.025	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

## 8.4 Appendix D: Regression Analysis Models

<b>Coefficients<sup>a</sup></b>			
<b>Model</b>		<b>Beta</b>	<b>Sig.</b>
<b>0</b>	(Constant)		0.936
	gender_center	-0.355	0.002*
	age_center	0.026	0.322
<b>1</b>	High_financial_center	1.130	0.000*
	more_respo_center	0.481	0.000*
	inf_wenv_center	0.390	0.000*
	steep_growth_center	1.142	0.000*
	yes_sg_center	0.348	0.001*
<b>2</b>	Inn_center	0.027	0.814
	Pro_center	0.122	0.193
	Risk_center	0.075	0.254
<b>3</b>	high_inn_center	-0.011	0.963
	high_pro_center	0.028	0.877
	high_risk_center	-0.220	0.094
	more_inn_center	0.845	0.000*
	more_pro_center	-0.506	0.005*
	more_risk_center	-0.399	0.002*
	inf_inn_center	-0.117	0.613
	inf_pro_center	0.073	0.687
	steep_center	-0.032	0.807
	steep_inn_center	0.010	0.967
	steep_pro_center	-0.035	0.845
	steep_risk_center	-0.362	0.006*
	sg_inn_center	0.178	0.442
	sg_pro_center	-0.270	0.134
	sg_risk_center	-0.192	0.144
a. Dependent Variable: start_up_center			
* significant values p<0.05			