Article

Are Cooperatives an Employment Option? A Job Preference Study of Millennial University Students

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Abstract: Millennials represent the most important group among the working age population. Destined to be the leaders of the future, their professional and personal profiles differ considerably from previous generations. Despite being considered as the most successful generation, millennials face a societal transformation and a labor reality marked by high levels of unemployment and underemployment that shape their career choice. Although millennials’ and university students’ job preferences have long been debated in the literature, some research gaps remain. Studies rarely consider the interplay between individuals’ profiles and the institutional form of business, particularly cooperative versus non cooperative options. To predict the compatibility between Millennials’ profiles and the cooperative job preference, a multinomial logit model is developed based on a survey of millennial business college students. Our key findings showed that some extrinsic issues are related to cooperative job preference, however the factor that has the most significant impact is the cooperative knowledge. This has important implications for the cooperative movement and for policy makers in charge of cooperative development.

Keywords: cooperative; millennials; job preference; cooperative knowledge; cooperative perception; work values; university students; survey

1. Introduction

Over the last 20 years, literature has studied generational differences in the workplace. Each of the generations that currently coexist in companies face work and career development differently. The professional choices for each generation are conditioned by personal factors and by the characteristics of the society in which each generation grows up and is educated. Baby Boomers are considered the wealthiest generation with careers associated with prestige, power, and authority, hard workers, and committed to their work for which they expect to be adequately rewarded. The X Generation is more pragmatic and direct, they seek professions that allow them to preserve their freedom to maintain a balance between career and family. As a reaction to the situation of their parents, they are less loyal, more independent, and look to their supervisors for credible reasons to justify their decisions. On the other hand, the Y Generation is focused on those careers that combine freedom and creativity using technology. They look for jobs that satisfy the need for a purpose. This generation prefers self-employment as a result of a greater entrepreneurial spirit based on greater creativity and they are open to diverse career paths. Finally, the Z Generation have the same approach as the previous generation but prefer independence when working and want the relationship and advice of those experienced workers [1–5].

Particularly important are millennials, due to their differences in terms of outlooks and preferences when compared to previous generations [6]. Several authors claim that millennials are the most successful generation, better educated, more ethnically diverse, and show a positive orientation to
social habits [7–9]. These characteristics and their greater dimension in relation to “Baby Boomers” and “Generation Xers” make millennials the generation that most concerns recruiters [9] due to the significant added economic value that they can contribute to companies, in particular in the acceleration of digital transformation [10] and for their integration in a workplace with marked generational differences [1,11–13].

The challenge for researchers, managers, practitioners, and recruiters is to determine the job satisfaction factors to retain those millennials at a workplace, and the job preferences for those that are in the transition to job market [14–16]. An important segment of millennials are those who chose to study at university. The job preferences of university students are the subject of a significant number of investigations covering different perspectives. Some papers focus on factors that impact on work preferences in different disciplines [17–22], others are concentrated on changing preferences during the time for completing their degree and after finishing it [23–25], yet another large body of literature focuses on gender differences [26–28].

Despite this growing development, few studies have analyzed the university students’ attraction considering the economic sectors as a differential variable [29–33]. Literature has analyzed the differences between the public and private sectors from a managerial perspective with opposing positions. Some scholars follow the postulates of the New Public Management approach that defend the absence of differences between the two sectors since management is management regardless of the sector to which the company belongs [34,35]. In a contrary position is the current trend of thought led by public service motivation theory that defends that those individuals with a professional orientation towards public service have a different personal profile from those who choose to work for the private sector [36–39].

Despite this theoretical and empirical development, scholars have not paid attention to career development in the social economy (SE) sector. SE is not a new phenomenon; defined by exclusion from the public and the private sectors [40], it is founded on the values of solidarity, cooperation, and mutuality. Its goal is to construct an economy based on collective action intended to compensate for the adverse impacts of the current system. This conceptualization considers the SE as an instrument for restoring economic and social progress, which are main elements in the achievement of sustainable development goals (SDGs). Indeed, the principles and values of the SE as people-centered and planet-sensitive organizations coincide with the principles that guide SDGs, making the SE an engine of change for the attainment of SDGs [41–43]. In this context, organizations belonging to the SE contribute to expanding business diversity in terms of both business models and ownership structures, and promoting a more inclusive and democratic society [44,45].

On this basis, this paper aims to fill the gap by proving empirically that individuals who want to develop their professional careers in cooperatives, as core group of SE, have a different profile from those who prefer the private and public sector. Grounded on career development theories, we developed a multinomial logit model based on a survey of a group of millennials: University students of business administration. The goal is to investigate if cooperative job preference is correlated with specific personal attributes, business perception, sociodemographic characteristics, and differentiated societal perception. This paper adds two main contributions that are not considered in the literature. First, this work is a unique study on cooperatives from the employer perspective since the literature on cooperatives and employment is mostly focused on cooperatives as an option of self-employment entrepreneurship [46–49]. Second, the study is carried out in the Canadian province of Quebec with particularities in the demand for employment as well as in the presence of the cooperative sector. Like the rest of the country, Quebec’s labor shortage is a major challenge in attracting young skilled workers. This situation leads to increased competition from companies with a considerable change in the recruitment practices to attract young graduates [12,50]. This situation is relevant for the cooperative sector given that its vitality and weight in the Quebec economy is much higher than that of other regions. In addition, cooperatives have been strongly anchored in Quebec society [51] since
Alphonse Desjardins created the first credit union (caisse populaire) in Lévis in 1900, thus being the precursor of the financial service cooperative movement in America [52].

For that purpose, the paper is organized into five sections. After this introduction, the second part is focused on literature review on job preferences from the career development framework, which will allow us to establish the research question. In the third part, the methodology is reported in terms of questionnaire, model, and variables. The fourth section presents and discusses the results while the last part captures the conclusions.

2. Literature Review

Work plays a basic role in people’s lives not only because it allows the satisfaction of economic and social needs, but also because of the amount of time we dedicate to work. Some authors argue that work fosters meaning in life due to the set of experiences it contains [53]. In the case of young people, the first professional experience marks a critical period in their life cycle and influences their employment trajectory [54].

The importance of young people’s transitions into work has driven a growing body of literature to investigate the factors that influence their job preferences. Conceived as a cognitive process of choice resulting from the comparison between different options [55], Holland [56,57] defines job preference as a theoretical construct that allows organizing the data of one person and differentiating them from another in terms of personality, interest, and behavior. Lately, job preference has reached a greater significance because of its predictive capacity in the vocational choice process [58–60] and in the business organizations where they want to work.

2.1. Cooperatives as an Employment Option

Defining the third sector as the exclusion from the public and the private sectors [40], the capacity of the SE as employer has been largely underestimated despite its quantitative and qualitative importance around the world. The SE plays a fundamental role in job creation. In the United States, the non-profit sector is the third largest workforce as well as generator of income and tax revenue [61]. SE creates 14 million direct jobs in the European continent, representing 7% of European total employment with an increase of nearly 30% in the last two decades [62,63]. In some economic activities, such as industry and service sector, it generates almost 20 million direct and indirect jobs worldwide [64]. However, the relevance of SE has also increased from a qualitative perspective. During the recession period after the 2007 financial crisis, SE has been more resistant to the economic fluctuations in maintaining and creating jobs and it has played a pivotal role as stabilizing vector reinforcing economic, social, and regional cohesion [65–67].

Cooperatives, as core group of SE, are unique business organizations. Co-operatives as we know them today were created in Europe in the second half of the 19th century, alongside the growth of capital companies and the market economy which radically transformed modes of production and distribution of goods and services at the time. Cooperatives, mutual and trade union associations were born under the impetus of groups who challenged these modes of transformation and who were involved in a multitude of associative experiments to negotiate or create alternative modes of development. Cooperative organizations gradually distinguished themselves from other forms of associative experimental organizations that were developing at the same time by their specific foundational values and organizational rules.

This different profile of cooperatives compared to other institutional forms is based on specific principles and values. Defined by the International Cooperative Alliance (ICA), these values represent the basis of cooperative operation and development, being classified as basic (self-help, self-responsibility, democracy, equality, equity, and solidarity) and ethical (honesty, transparency, responsibility, and social vocation) [68]. These foundational values differentiate cooperatives in terms of mission, governance, income generation, and profit distribution and they drive the generation of economic and social value in the development of their business activity [69–73].
The economic theories of cooperatives creation present them as groups of people who want to both resist and adapt to the transformations of their own production or consumption activities by creating a collective enterprise whose development they direct according to their own interests. This logic of action explains a fundamental characteristic of cooperative organizations according to which the members who form them are both owners and users of the business they create and of which they assume governance. The rules of governance are based on the values of equity, democracy, and solidarity which characterize cooperative organizations and they materialize in: (a) Equality of persons, the members each have one vote at the general meeting, regardless of their participation in the capital; (b) the share of capital that defines the right of ownership of the company is contributed by the members who are the users of the goods and services of the company. It retains its nominal value not being able to transfer or sell and being reimbursed by the cooperative when the member retires; and (c) surpluses are shared among members on the basis of their participation in the activity of the company. Part of the surplus is generally reinvested in the business and remains collective property [52,74].

Also, their collective action is grounded in three dimensions: Social (associating), economic (undertaking), and political (diversifying) [75] (p. 7); it lets build projects in which the population can be recognized and acquire new skills, affirming a local dynamic of development. All of this results in a comparative advantage with the creation of non-relocatable activities and jobs, and this advantage is reinforced by the constitution of a collective patrimony [76]. All these characteristics represent the identity signs of cooperatives, allowing their differentiation in relation to other institutional forms of business.

2.2. Theoretical Foundations of Job Preference Creation

In the last 50 years, the theoretical foundations of vocational orientation have expanded considerably. Traditionally, different approaches to career development have analyzed the determinants of job preference from different disciplines (psychological, sociological, and economic) but separately, because they understand that the different approaches were incompatible to analyze vocational choice from a global perspective [55]. The theoretical and empirical maturity achieved in this evolution is increasingly directed to the shaping of a comprehensive and global approach to analyze the vocational orientation as a complex, multifactorial, and multidimensional process [77,78]. From this perspective, two approaches stand out: The social-phenomenological career theory [79,80] and Blau’s socio-psychological approach [81]. The latter considers job preference as the result of the interaction between individuals and their environment.

The globalizing and integrative conception of these approaches allows us to study the formation of millennial job preferences based on their personal characteristics and the impact of the environment, which is radically different from previous generations.

2.2.1. Environment Factors Affecting Job Preferences

Millennials, as members of the same generation, share not only age but also the collective environment to which they are exposed. In this way, each generation is influenced by a political, economic, and cultural context in which they evolve and shape their decisions [82], including those that affect work. These contextual determinants that influence job preference can be defined as factors that influence career development from a supra-individual perspective. In this line the theory of work adjustment, also called person–environment correspondence theory [77], is relevant because it is anchored in the principle that each individual seeks to achieve and maintain a correspondence with the environment [83–86]. The literature highlights two large groups of contextual determinants: The institutional and the sociodemographic. In the first case, job preferences would be influenced by the societal context in which individuals live. In this way, a certain employment option could be considered as a strategy to influence a certain societal dynamic. In this way, work represents an instrument of expression of an identity to the whole of society, allowing individuals to assume an important role of transformation as social and political actors.
Societal Issues

Since the beginning of this millennium, the world has been transformed considerably. The international arena is marked by changes in the geopolitical structure, economic crises and economic restructuring, increased inequality, climate change, migration flows, political instability, and the challenge of restoring confidence in democracy. The different studies carried out on an international scale highlight four groups of concerns for millennials: Economics (inequalities and unemployment), social (lack of education, loss of privacy, ageing population, role of business in society, and impact of technological transformation), political (large conflicts, international governance, corruption, and political instability), and environmental (climate change and food/water security) [87–95].

Although if there is a change that has redefined the life of individuals, it is technological transformation. Technological advance is global and constantly evolving. It plays a major role in society today affecting the way individuals interact on a daily basis and it also influences the way in which companies and consumers interact, producing "a surge in rivalry in a number of sectors" [96] (p. 956). More than ever, technology is a central factor in the workplace. Technological change is a very complex and fluctuating process whose effects are difficult to foresee especially due to the speed of change.

Despite this, there is a consensus that technological change is affecting both the nature of work and its availability. The inexorable shift from the third to the fourth Industrial Revolution characterized by the combination of hardware and digital technologies—such as artificial intelligence, biotechnology, robotics, internet of things, self-driving cars, virtual reality, 3D printing, augmented reality, drones, and domotics—is driving enterprises to re-build the job structures and work definition [97–100].

Millennials “are entering the workforce at a time of great technological change and transformation” [101] (p. 244) and technology will be an enabler to change the world and it contributes to their personal growth and their career development [102].

In this context, millennial empowerment is a cornerstone not only to achieve sustainable development [103] but also to help foster career progress. The way in which businesses manage empowerment and create an environment for career empowerment will condition millennials’ job preferences [104]. From an individual perspective, empowerment can be understood as the process by which people gain control over their lives [105,106]. Considering individuals are members of a community, Montero [107] determines empowerment as a process of joint development of capacities and resources to control not only the lives of individuals but also to transform their environment. From an organizational perspective, Brieger et al. [108] establishes that human empowerment enables, motivates, and entitles people to pursue broader goals within their daily activities including work. Thus, the countries with more prevalent human empowerment forces will have a greater impact on the objectives and meaning that individuals give to work which move towards prosocial positions. These authors design an empowerment framework composed of four pillars (action resources, emancipate values, social movement activity, and civic entitlements) that covers the domains of empowerment: Existential, motivational, behavioral, and institutional.

The importance of empowerment for young people has resulted in both supranational organizations and national policy makers developing specific plans to help young people find their place both in the job market and in society. Along these lines, the results of different studies establish a set of actions necessary to increase empowerment such as entrepreneurship ecosystems, access to technology tools, media independence, transparency in governance, access to politics, engagement with local communities, financial independence, openings of borders, evolution of hierarchical structures, and free education [109–112].

Socioeconomic Determinants

The second subgroup of contextual determinants are the socioeconomic ones. The literature has extensively analyzed the impact of different factors such as family, occupation, and age as moderating variables of job preferences and vocational development [113–118]. The family background as predictor of professional choice has been widely studied in the literature [119–121]. From a generic perspective,
the family is the primary unit of reference of individuals but its composition and impact change throughout the life cycle. Although the influence of the individual’s family situation is empirically proven when individuals are integrated into the labor market, nothing is known about its impact on those individuals in training and outside the labor market. In our study, the individuals analyzed are students and we presuppose a limited impact of family conditions (couple and children). Occupation variable is placed in this same line of discussion. Although most university students are considered full-time, there is a percentage that combines their studies with professional activity with an impact on the establishing of job preferences. Finally, age has not been considered in our study due to the fact that all individuals investigated belong to the same age range.

Considering that the objective of this research is to know if those millennials who show preference to careers in a cooperative business have a different profile from those who have defined preferences towards the rest of the organizational forms or those who did not express any preference toward any type of organizations, knowledge about the cooperative organization represents an institutional determinant to analyze.

Theoretical contributions from school-to-work transition literature and career development theory support the notion that transitioning from the educational to work environments has important implications for career-related beliefs and actions [122]. In this line, Wendlandt and Rochlen [123] argue, for instance, that the school-to-work transition period can be navigated by moving through three distinct phases: Anticipation, adjustment, and achievement. The first stage is characterized by information collection and evaluation, leading to building employment expectation. Although knowledge of the different institutional forms is important in all stages, it is key in the first phase given that one of the students’ problems is that they have low or no information of the different professional options from an organizational perspective.

In this way, cooperative knowledge could be defined as that knowledge that allows an individual to be aware of the cooperative as business organization different from other institutional forms. This knowledge can have several sources: Cooperative branding, courses and specific training on cooperatives, and public policy measures to disseminate and to foster cooperatives. However, cooperative knowledge may also be influenced by the size of the cooperative movement in a territory. Some authors consider that the cooperative culture in a region is linked to a certain level of organizational density with an impact not only on employment levels but also on its contribution to the economic growth of the region [124,125]. Thus, when the cooperative sector is firmly entrenched in a territory, this culture favors the perpetuation of the cooperative model [126] with an impact on the preference of future workers.

In our study, carried out in the Canadian province of Quebec, the impact of cooperative knowledge will be an important variable in the development of the cooperative job preference of university students given the key role that cooperatives play in the Canadian economy and society. The cooperative movement has a long tradition and it has a considerable economic impact in the country: The 8500 active cooperatives bring together more than 17 million members, generating 155,000 direct jobs and C$43,892 million in turnover. The analysis by provinces allows us to see that it is in the province of Quebec that the cooperative sector has its maximum expression: It concentrates 41% of national organizations with a contribution to the national cooperative turnover of 60% and a penetration rate of close to 70% [127].

The influence of cooperative knowledge on job preferences requires not only knowing of their existence, but also being able to evoke the main characteristics of this business form in terms of values and governance rules. Following this argument, the inclusion of cooperative perception as a variable is necessary to allow validation of the consistency and the level of the cooperative knowledge of individuals.
2.2.2. Individual Factors Affecting Job Preferences

Individual factors affecting job preferences are those somatic characteristics, acquired experiences, and global personality that affect individual vocational behavior and try to achieve adequate personal development [55,59]. The literature focuses on two blocks of variables: Personal values and employment criteria.

Personal Values

Despite the wide range of definitions of values, we assume the one carried out by Kluckhohn [128] who considers them as “a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable, which influences the selection from available modes, means, and ends of action” (p. 395). The values of individuals are multiple, personal and individualistic [129], represent the satisfaction of the desired goals [130,131] and “guide individuals to function in society” [132] (p. 596) because they are criteria to determine “the desirability of certain actions or motive in our lives” [133] (p. 606).

The key role of values to define the psychological identity of individuals and to understand their motivations has led to a broad development of conceptions and typologies. Despite this, there are two models that have gained prominence among scholars. The first is the one developed by Rokeach [134]. Based on the association of values with beliefs and attitudes, 36 values classified into two categories are identified: Instrumentals, which show the desirability of different modes of conduct, and terminal, that express the desirability of different end goals of existence. The second is built by Schwartz [135,136] whose classification aims to detect the basic human motivational goals. This author identifies 10 personal values common to all cultures, each motivated by a unique combination of human needs [133] (p. 606). He structured them in four groups defining compatibility and incompatibility relations among them. In this way, openness to change values are compatible with self-transcendence ones but incompatible with self-enhancement and conservation. These relationships lead to two types of conflict: Openness to change with conservation, and self-enhancement with self-transcendence. The fit of individuals in these categories has an impact on the values at work and on the selection of organizations in which they want to work [137].

Employment Values

The second set of personal values that monopolizes a growing body of evidence are those related to work. Some authors defend that personal and work values are different groups of values although they are related [138,139]; however, other authors claim that work values are derived from broader general values [140,141]. In any case, work values “can be defined as generalized beliefs about the desirability of certain attributes of work, and work-related outcomes” [133] (p. 607) and, as personal values, they act as criteria to make and enact work-related choices in line with the importance individuals place on them [142]. The importance of their understanding allows us to know the meaning that individuals place on work [80,134,143–145] has led to a broad body of research in relation to a range of work-related concepts including career choice [117,120,146,147].

The development of both theoretical and empirical works has generated a broad set of definitions and classifications. Notwithstanding this, there is considerable consensus on two fundamental types of work values: Extrinsic, related to various tangible aspects of work (salary, autonomy, working conditions, benefits, and job security), and intrinsic, related to psychological satisfactions of working (accomplishment, fulfillment, interesting work, challenge, variety, and intellectual stimulation) [133,148]. This typology was later expanded, including social values, related to relations with other workers and people; altruistic values, which encompass the desire to help others and to make a contribution to society; and prestige values, linked to status, influence, and power [79,85,142,149–151].
2.3. Millennials, Job Preferences, and Cooperatives

The analysis of these determinants allows us to make a profile of millennials. This generation has a different relationship to work from that of previous generations; several studies describe them as oriented to materialism, placing greater importance on extrinsic work values followed by intrinsic, social, altruistic, and prestige [113,122,152,153]. Career is the top priority but trying to find the balance between work and personal life is ahead of financial security or creating wealth, even if millennials are divided on the relative importance of making money versus contributing to society [154]. Twenge [152,153] shows that there is a decline in the importance attributed to implications in charities, having a job worthy to society, and a deep civic orientation, although they ask their employer organizations to maintain transparency and community involvement [88].

They were born and raised in the era of digital revolution, and grew up in the age of Internet and social networks, with no hesitation in sharing their private life. Based on these technologies, they want more flexibility than their elders. They value jobs that allow them to cultivate personally, look for challenging work, otherwise showing signs of disengagement, and they do not hesitate to change employer or even to embark on their own business. At work, they respect competency more than hierarchy, value participating in strategic decision-making, and seek human relationships based on tolerance and respect for others [155–157].

However, millennials are not a homogeneous group. Like other generations, millennials are composed of distinct subgroups or “tribes” [158]. In this line Weber [159] suggest that millennials in each country have a specific national identity. Macky, Gardner, and Forsyth [160] note that not all members of a generation experience the impacts of the environment with which they interact in the same way. In this way, job preferences would be the product of a personal maturation and learning process resulting from the interaction of individual characteristics in each environment.

Although job preferences have been widely studied in the literature from the perspective of the professional career and industries, few works have analyzed them from an organizational perspective. Following this line, some authors defend that the organization ownership and the corporate culture play a pivotal role to attract to specific groups of individuals [161–164]. Thus, the differences between the private and the public sectors have led to the development of several empirical studies to validate if public sector job choice is determined by a specific individual profile oriented towards the public values [29–33,165]. These results suggest that cooperative organizations, characterized by values and management rules different from the rest of the private and public institutional forms, will attract individuals with a high degree of compatibility with their organizational identity. Despite this, and the quantitative importance of cooperatives around the world, there is little research dedicated to analyzing whether these companies attract a specific profile of individuals [164,166].

This aspect is particularly relevant for millennials in transit to the job market. Indeed, even though millennials are considered the most successful generation since the Second World War [7,8], their entry and permanence in labor market is uncertain. Indeed, millennials across the developed world face a labor reality reshaped by globalization, technological innovations, and demographic changes with high levels of unemployment and underemployment [86]. The latest worldwide data shows that young people are three times as likely as adults to be unemployed [98]. In this context, cooperatives, as SE core group, take a notable relevance. Cooperatives represent an employer with a potential competitive advantage for young people owing to their distinctive characteristics: Economic rationale combined with a full participation in the organization, solid reputation, strong sense of identity, and focus on values [167]. It should be highlighted that cooperative organizations are not an answer to all needs, as they do not correspond to the orientations of all individuals or all groups, but it is a valid option of employment.

Based on the previous discussion, we propose a model (Figure 1) which aims to answer the following research question: How do different millennial university student profiles explain the job preference of pursuing a career in a cooperative organization versus working in other institutional forms or not having preferences at all?
3. Methodology

The goal of this study is to investigate whether there are identifiable differences in the profiles of millennial university students in their job preferences. Once the research question is posed and considering that data necessary to validate the model must be primary, we chose a survey as the research instrument. The construction of the questionnaire, the sample, the model specification, and the variables are explained below.

3.1. Questionnaire

Even though job preferences have been the subject of multiple studies, only a few use a comprehensive approach, validating the influence of contextual and individual factors in the same model. Furthermore, the specificity of the research in terms of job preference over organizational forms implies the construction of an ad-hoc questionnaire. The questions, variables, and attributes of each variable emerge from the literature review that was carried out.

Once the draft of the survey was built, we move on to the pretest stage in order to validate the survey instrument and its measurement [168,169]. Please note the importance of this stage in order to avoid problems of accuracy of the survey questions and resulting data. We use two methods: Expert-driven pretest and respondent-driven pretest. In the first, we invite professors expert in human resource management and in cooperative business to test how well the variable items reflect each construct that we want to measure. In the second, we select a small group of final respondents with four goals: Validate the comprehension of the instructions and questions; test the feasibility of the data collection method; check the adequacy of the duration of the questionnaire; and verify the proper wording in the languages (English and French) in which the survey was conducted [168–171].

After some adjustments, the final version of the questionnaire contains 11 questions classified into four groups (see Appendix A). The first includes three questions to identify the socio-demographic profile of the respondents. The second cluster seeks to get the main concerns of societal context from the international, technological, and empowerment perspective. The third group is composed by two questions to obtain the respondents’ preferences of employment criteria and personal values. The last block raises three questions to determine job employment preference regarding the business institutional form in which they would like to work after completing their studies and their perception...
of cooperative organizations. For the question groups two and three, as well as question 11 from the last block, we asked to select three elements from the items list.

3.2. Sample

The sample comes from undergraduate students enrolled in HEC Montreal during the 2018 Fall session. HEC Montreal is one of the most prestigious business schools in North America: It is in the top five in Canada and in the top 100 business schools in the world. It offers programs from undergraduate to PhD level, although undergraduate students are the main group representing 73% of the total. The sample is based on a random selection of 479 students on a target population of 14,056. The final pool of respondents is composed by 328 fully completed surveys which represents a response rate of 68.5%. The fieldwork took place in October and November 2018 using a Survey Monkey platform, an online tool which enables the online registration of all the responses in a database.

According to our final pool of respondents \((n = 328)\), the margin of error \((d)\) is determined by:

\[
n = \frac{N \times (z^2 \times p \times q)}{d^2 (N - 1) + (z^2 \times p \times q)^2 / n (N - 1)},
\]

where,

\[
d = \sqrt{N \times (z^2 \times p \times q) - n \times (z^2 \times p \times q)^2 / n (N - 1)},
\]

For a general population \((N)\) of 14,056 students in 2018, with a desired confidence level of 95% \((z = 1.96)\) and with a maximum variability \((p)\) of 50%, the margin of error obtained \((5.25\%)\) allows us to confirm that the survey is fairly representative of the undergraduate population of HEC Montreal students.

3.3. Model Specification

Based on the theoretical model proposed, the empirical model seeks to determine the profile of university students for each job preference option considered \((JP_{ki})\). In our analysis we have a series of \(N\) observed data points, millennial university students who have responded to the questionnaire. Each data point \(i (i = 1 \ldots N)\) consists of a set of \(m\) explanatory or independent variables \((X_{1i} \ldots X_{mi})\) and a categorical result associated with the response or dependent variable \(JP_{ki}\) which can take one of the \(K\) possible values:

- \(JP_{1i}\): Students that prefer a cooperative business to work in after finishing their studies.
- \(JP_{2i}\): Students that prefer a non-cooperative business to work in after finishing their studies; and
- \(JP_{3i}\): Students that have no preference between cooperative and non-cooperative businesses.

Considering the nature of the dependent variable, a multinomial logit model has been used. The decision on the analysis method was made once other options were considered and discarded as unsuitable. For instance, in the case of discriminant analysis, it was rejected since it requires multivariate normality of data as a condition. In our case, the data are not normally distributed, and the sample is not large enough to assume the fulfillment of the central limit theorem. Based on this, and because the purpose of our study is an estimate—not a forecast—logistic regression is used, as it is more appropriate. Furthermore, it only requires compliance with the principle of monotony and allows the use of categorical explanatory variables.

Starting from a basic logistic regression model with two categories \((K = 0, 1)\) and with a single independent variable, \(X\) can be expressed for individual “\(i\)” under a conditional probability of occurrence of the event \(p_{ki} = Pr(JP_{ki} = k / X_{i})\). That is:

\[
\text{Logit}(p_{ki}) = \ln \left( \frac{p_{ki}}{1 - p_{ki}} \right) = \beta_0 + \beta_1 X_{1i},
\]

That is:

\[
Logit(p_{ki}) = \ln \left( \frac{p_{ki}}{1 - p_{ki}} \right) = \beta_0 + \beta_1 X_{1i},
\]

(3)
where the option \( k = 1 \) indicates the occurrence of the event:

\[
p_{1i} = \Pr(\frac{1}{X_{1i}}) = \frac{1}{1 + \exp(-\beta_0k - \beta_1kX_{1i})},
\]

(4)

In the logistic regression the parameters are interpreted on the reference category (in this case the category \( k = 0 \)) and therefore we define the model as:

\[
\ln\left(\frac{p_{ki}}{1 - p_{ki}}\right) = \ln\left(\frac{\Pr(JP_{1i} = 1/X_{1i})}{\Pr(JP_{0i} = 0/X_{1i})}\right),
\]

(5)

In our case, we have a multinomial logit model with three options for the dependent variable \( K = 3 \) for the individual “\( i \)”. Therefore, the multinomial logit model requires setting one of the options as a reference for the entire set of dependent variables \( X \).

Firstly, the equations were performed to analyze option 1 versus 3 and option 2 versus 3, but the results were not feasible since option 2 has less data than the other two, affecting the robustness of the model. Based on this, option 2 was selected as a reference. In addition, since the literature does not reflect cooperatives as an employment option, we considered the need to validate the profiles jointly, that is, cooperatives versus the rest of business forms, which implies the selection of option 2, preference for non-cooperative, as the reference category.

In this way, since our reference category is 2, we would have two logistic equations that will allow us to interpret the estimated parameters as the probability of occurrence of the event \( k = 1 \) or \( k = 3 \) regarding the probability of occurrence of the event \( k = 2 \):

\[
\ln\left(\frac{p_{1i}}{p_{2i}}\right) = \beta_{01} + \beta_{11}X_{1i} + \beta_{21}X_{2i} + \ldots + \beta_{m1}X_{mi},
\]

(6)

\[
\ln\left(\frac{p_{3i}}{p_{2i}}\right) = \beta_{03} + \beta_{13}X_{1i} + \beta_{23}X_{2i} + \ldots + \beta_{m3}X_{mi},
\]

(7)

where:

\[
p_{ki} = \Pr(\frac{K}{X_{1i}, X_{2i} \ldots X_{mi}}); \quad k = 1, 2, 3 \ldots .
\]

(8)

Complying as a condition that the sum of the conditional probabilities for each of the individual “\( i \)” is equal to one. This is:

\[
Pr(JP_{1i} = 1/X_{1i}, X_{2i} \ldots X_{mi}) + Pr(JP_{2i} = 2/X_{1i}, X_{2i} \ldots X_{mi}) + Pr(JP_{3i} = 3/X_{1i}, X_{2i} \ldots X_{mi}) = 1,
\]

(9)

3.4. Variables

Once the model has been determined, we will describe the variables. As we mentioned previously, the dependent variable is the job preference \( (JP_{ki}) \). Regarding the explanatory variables, they are categorical, and they define the perception of student “\( i \)” for the attributes of each variable. In order to apply logistic regression, these initial categorical variables are split into dummy variables: Each categorical variable \( X_m \) is transformed into multiple dummy variables according to the number of possible attributes of the variable, therefore the set of independent variables \( X \) is extended, and each attribute of this new set of variables takes the value of 1 if the option has been selected by the student “\( i \)” and 0 if not.

Incorporating the treatment of categorical variables, we propose the two final equations of our multinomial logistic regression model. The probability of selecting \( JP_{1i} \) or \( JP_{3i} \) options made by the
student “i” with respect to the probability of selecting $JP_{2i}$ will be determined from the estimation of the parameters of the following equations:

$$\ln \left( \frac{P_{ui}}{P_{uj}} \right) = a_{ui} + \sum_{s=1}^{11} \beta_{ui} PV_{si} + \sum_{c=1}^{10} \gamma_{ui} EC_{ci} + \sum_{r=1}^{11} \delta_{ui} CP_{ri} + \sum_{e=1}^{11} \theta_{ui} IC_{ei} +$$

$$\sum_{c=1}^{11} \lambda_{ui} EPC_{ci} + \sum_{i=1}^{11} \omega_{ui} TC_{fi} + \sum_{g=1}^{4} \tau_{ug} FS_{gi} + \sum_{h=1}^{3} \phi_{ug} OC_{hi} + \alpha_{ui} + \epsilon_{uv},$$

(10)

$$\ln \left( \frac{P_{uj}}{P_{ui}} \right) = a_{uj} + \sum_{s=1}^{11} \beta_{uj} PV_{si} + \sum_{c=1}^{10} \gamma_{uj} EC_{ci} + \sum_{r=1}^{11} \delta_{uj} CP_{ri} + \sum_{e=1}^{11} \theta_{uj} IC_{ei} +$$

$$\sum_{c=1}^{11} \lambda_{uj} EPC_{ci} + \sum_{i=1}^{11} \omega_{uj} TC_{fi} + \sum_{g=1}^{4} \tau_{ug} FS_{gi} + \sum_{h=1}^{3} \phi_{ug} OC_{hi} + \delta_{uj} + \epsilon_{uv},$$

(11)

The independent variables are expressed as:

1. Personal values ($PV_{ai}$): This includes the most important personal values for students. The variable takes the value of 1 if student “i” has selected personal value “a”. According to the attribute “a” the selected variables are: $PV_1$ honesty/transparency; $PV_2$ altruism (respect for others); $PV_3$ security; $PV_4$ equality/fairness; $PV_5$ individual responsibility; $PV_6$ solidarity; $PV_7$ social responsibility; $PV_8$ democracy; $PV_9$ social success; $PV_{10}$ personal power; and $PV_{11}$ other.

2. Employment criteria ($EC_{bi}$): It responds to the criteria that students consider most important in selecting a job. The variable takes the value of 1 if student “i” has selected personal value “b”. According to the attribute “b” the selected variables are: $EC_1$ salary; $EC_2$ impact on society; $EC_3$ career advancement possibilities; $EC_4$ freedom to choose my own working hours/location; $EC_5$ corporate culture; $EC_6$ training and development opportunities; $EC_7$ company social image; $EC_8$ employees’ participation in the company strategic planning; $EC_9$ opportunities to travel internationally; and $EC_{10}$ other.

3. Cooperative perception ($CP_{ci}$): This question captures the perception that the students associate to cooperatives. The variable takes the value of 1 if student “i” has selected personal value “c”. According to the attribute “c” the selected variables are: $CP_1$ honesty/transparency; $CP_2$ altruism (respect for others); $CP_3$ equality/fairness; $CP_4$ security; $CP_5$ individual responsibility; $CP_6$ solidarity; $CP_7$ social responsibility; $CP_8$ democracy; $CP_9$ social success; $CV_{10}$ personal power; and $CP_{11}$ other.

4. International context ($IC_{di}$): It responds to students’ perception of the international problems that impact today’s society. The variable takes the value of 1 if student “i” has selected personal value “d”. According to the attribute “d” the selected variables are: $IC_1$ large scale conflict/war; $IC_2$ climate change/biodiversity preservation; $IC_3$ inequalities (income, discrimination, etc.); $IC_4$ problems of accountability and transparency/corruption; $IC_5$ food and water security; $IC_6$ lack of education; $IC_7$ political instability; $IC_8$ lack of economic opportunity and unemployment; $IC_9$ loss of privacy/security due to technology; $IC_{10}$ ageing population; and $IC_{11}$ other.

5. Empowerment context ($EPC_{ei}$): This includes the students’ perception of the factors that contribute to the empowerment of individuals. The variable takes the value of 1 if student “i” has selected personal value “e”. According to the attribute “e” the selected variables are: $EPC_1$ start-up ecosystems and entrepreneurship; $EPC_2$ easy access to Internet; $EPC_3$ media independence; $EPC_4$ transparency in governance; $EPC_5$ easy access to opportunities in politics; $EPC_6$ engagement with the local communities; $EPC_7$ financial sufficiency; $EPC_8$ borders opening because of globalization; $EPC_9$ evolution of hierarchical structures; $EPC_{10}$ free education; and $EPC_{11}$ other.

6. Technological context ($TC_{fi}$): This question captures the students’ perception of the technologies that have the greatest impact on society. The variable takes the value of 1 if student “f” has selected personal value “f”. According to the attribute “f” the selected variables are: $TC_1$ artificial intelligence; $TC_2$ biotechnology; $TC_3$ robotics; $TC_4$ internet of things; $TC_5$ self-driving cars; $TC_6$ virtual reality (interactive computer-generated reality); $TC_7$ 3D printing; $TC_8$ augmented
reality (interactive experience of a reality computer-generated); $TC_9$ drones; $TC_{10}$ domotics (smart home); and $TC_{11}$ other.

7. Socio-economic variables considered in the model are three:

- **Family situation ($FS_{gi}$):** This demographic variable describes the students’ family environment. The variable takes the value of 1 if student “$i$” has selected personal value “$g$”. According to the attribute “$g$” the selected variables are: $FS_1$ alone without child(ren); $FS_2$ alone with child(ren); $FS_3$ in a couple without child(ren); and $FS_4$ in a couple with child(ren).
- **Occupation ($OC_{hi}$):** This includes the main activity of the student. The variable takes the value of 1 if student “$i$” has selected personal value “$h$”. According to the attribute “$h$” the selected variables are: $OC_1$ student; $OC_2$ employee; $OC_3$ entrepreneur; and $OC_4$ other.
- **Cooperative knowledge ($CK_j$):** This is a binomial variable that registers the value of 1 if the student “$i$” has cooperative knowledge and 0 if not.

Tables 1 and 2 show the descriptive statistics. Since the variables are categorical not continuous, only frequencies and percentages are included.
Table 1. The descriptive statistics: Part 1.

<table>
<thead>
<tr>
<th>Job Preference</th>
<th>Students %</th>
<th>Occupation</th>
<th>Students %</th>
<th>Family Situation</th>
<th>Students %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative</td>
<td>45%</td>
<td>Student</td>
<td>55%</td>
<td>Alone without child(ren)</td>
<td>44%</td>
</tr>
<tr>
<td>No preference</td>
<td>43%</td>
<td>Employee</td>
<td>34%</td>
<td>In a couple with child(ren)</td>
<td>20%</td>
</tr>
<tr>
<td>Non-cooperative</td>
<td>12%</td>
<td>Entrepreneur</td>
<td>2%</td>
<td>In a couple without child(ren)</td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NA</td>
<td>6%</td>
<td>Other</td>
<td>2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>2%</td>
<td>NA</td>
<td>6%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>Total</td>
<td>100%</td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cooperative Knowledge</th>
<th>Students %</th>
<th>Sex</th>
<th>Students %</th>
<th>Language</th>
<th>Students %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Knowledge</td>
<td>57%</td>
<td>Female</td>
<td>55%</td>
<td>English</td>
<td>6%</td>
</tr>
<tr>
<td>Non-cooperative knowledge</td>
<td>43%</td>
<td>Male</td>
<td>38%</td>
<td>French</td>
<td>94%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NA</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>Total</td>
<td>100%</td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table 2. The descriptive statistics: Part 2.

<table>
<thead>
<tr>
<th>Personal Values</th>
<th>Attributes</th>
<th>Descriptive</th>
<th># Students</th>
<th>Survey %</th>
<th>Employment Criteria</th>
<th>Attributes</th>
<th>Descriptive</th>
<th># Students</th>
<th>Survey %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PV1</td>
<td>Honesty/Transparency</td>
<td>256</td>
<td>78%</td>
<td>EC1</td>
<td>Salary</td>
<td>188</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV2</td>
<td>Altruism (respect for others)</td>
<td>169</td>
<td>52%</td>
<td>EC2</td>
<td>Impact on society</td>
<td>127</td>
<td>39%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV3</td>
<td>Security</td>
<td>1/0</td>
<td>52%</td>
<td>EC3</td>
<td>Career advancement possibilities</td>
<td>195</td>
<td>59%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV4</td>
<td>Equality/fairness</td>
<td>50</td>
<td>15%</td>
<td>EC4</td>
<td>Freedom to choose my own working hours/location</td>
<td>109</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV5</td>
<td>Individual responsibility</td>
<td>57</td>
<td>17%</td>
<td>EC5</td>
<td>Corporate culture</td>
<td>160</td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV6</td>
<td>Solidarity</td>
<td>68</td>
<td>21%</td>
<td>EC6</td>
<td>Training and development opportunities</td>
<td>76</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV7</td>
<td>Social responsibility</td>
<td>116</td>
<td>35%</td>
<td>EC7</td>
<td>Company social image</td>
<td>24</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV8</td>
<td>Democracy</td>
<td>48</td>
<td>15%</td>
<td>EC8</td>
<td>Employees’ participation in the company strategic planning</td>
<td>55</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV9</td>
<td>Social success</td>
<td>27</td>
<td>8%</td>
<td>EC9</td>
<td>Opportunities to travel internationally</td>
<td>45</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV10</td>
<td>Personal power</td>
<td>18</td>
<td>5%</td>
<td>EC10</td>
<td>Other</td>
<td>5</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PV11</td>
<td></td>
<td>5</td>
<td>2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technological Context</td>
<td>Attributes</td>
<td>Descriptive</td>
<td># Students</td>
<td>Survey %</td>
<td>International Context</td>
<td>Attributes</td>
<td>Descriptive</td>
<td># Students</td>
<td>Survey %</td>
</tr>
<tr>
<td>TC1</td>
<td>Artificial intelligence</td>
<td>296</td>
<td>90%</td>
<td>IC1</td>
<td>Large-scale conflict/war</td>
<td>267</td>
<td>81%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC2</td>
<td>Biotechnology</td>
<td>176</td>
<td>54%</td>
<td>IC2</td>
<td>Climate change/biodiversity preservation</td>
<td>78</td>
<td>24%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC3</td>
<td>Robotics</td>
<td>107</td>
<td>33%</td>
<td>IC3</td>
<td>Inequalities (income, discrimination, etc.)</td>
<td>176</td>
<td>54%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC4</td>
<td>Internet of things</td>
<td>52</td>
<td>16%</td>
<td>IC4</td>
<td>Problems of accountability and transparency/corruption</td>
<td>91</td>
<td>28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC5</td>
<td>Self-driving cars</td>
<td>74</td>
<td>23%</td>
<td>IC5</td>
<td>Food and water security</td>
<td>37</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC6</td>
<td>Virtual reality (interactive computer-generated reality)</td>
<td>55</td>
<td>17%</td>
<td>IC6</td>
<td>Lack of education</td>
<td>110</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC7</td>
<td>3D printing</td>
<td>73</td>
<td>22%</td>
<td>IC7</td>
<td>Political instability</td>
<td>48</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC8</td>
<td>Augmented reality</td>
<td>45</td>
<td>14%</td>
<td>IC8</td>
<td>Lack of economic opportunity and unemployment</td>
<td>32</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC9</td>
<td>Drones</td>
<td>42</td>
<td>13%</td>
<td>IC9</td>
<td>Loss of privacy/security due to technology</td>
<td>99</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC10</td>
<td>Domestic (smart home)</td>
<td>58</td>
<td>18%</td>
<td>IC10</td>
<td>Aging population</td>
<td>67</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TC11</td>
<td>Other</td>
<td>6</td>
<td>2%</td>
<td>IC11</td>
<td>Other</td>
<td>19</td>
<td>6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMPOWERMENT CONTEXT</td>
<td>Attributes</td>
<td>Descriptive</td>
<td># Students</td>
<td>Survey %</td>
<td>COOPERATIVE PERCEPTION</td>
<td>Attributes</td>
<td>Descriptive</td>
<td># Students</td>
<td>Survey %</td>
</tr>
<tr>
<td>EPC1</td>
<td>Start-up ecosystems and entrepreneurship</td>
<td>141</td>
<td>43%</td>
<td>CP1</td>
<td>Honesty/Transparency</td>
<td>36</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC2</td>
<td>Easy access to Internet</td>
<td>113</td>
<td>34%</td>
<td>CP2</td>
<td>Altruism (respect for others)</td>
<td>38</td>
<td>12%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC3</td>
<td>Media independence</td>
<td>35</td>
<td>11%</td>
<td>CP3</td>
<td>Equality/fairness</td>
<td>109</td>
<td>33%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC4</td>
<td>Transparency in governance</td>
<td>99</td>
<td>30%</td>
<td>CP4</td>
<td>Security</td>
<td>11</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC5</td>
<td>Easy access to opportunities in politics</td>
<td>13</td>
<td>4%</td>
<td>CP5</td>
<td>Individual responsibility</td>
<td>72</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC6</td>
<td>Engagement with the local communities</td>
<td>114</td>
<td>35%</td>
<td>CP6</td>
<td>Solidarity</td>
<td>118</td>
<td>36%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC7</td>
<td>Financial sufficiency</td>
<td>139</td>
<td>42%</td>
<td>CP7</td>
<td>Social responsibility</td>
<td>115</td>
<td>35%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC8</td>
<td>Borders opening because of globalization</td>
<td>70</td>
<td>21%</td>
<td>CP8</td>
<td>Democracy</td>
<td>85</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC9</td>
<td>Evolution of hierarchical structures</td>
<td>71</td>
<td>22%</td>
<td>CP9</td>
<td>Social success</td>
<td>14</td>
<td>4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC10</td>
<td>Free education</td>
<td>181</td>
<td>55%</td>
<td>CP10</td>
<td>Personal power</td>
<td>5</td>
<td>1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPC11</td>
<td>Other</td>
<td>10</td>
<td>3%</td>
<td>CP11</td>
<td>Other</td>
<td>4</td>
<td>1%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3 contains model information and response profile and Tables 4 and 5 includes the results from the multinomial logit model developed.

Table 3. Model information and response profile.

<table>
<thead>
<tr>
<th>Model Information.</th>
<th>Response Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Set</td>
<td>Analyse Baseprepare</td>
</tr>
<tr>
<td>Response Variable</td>
<td>EP</td>
</tr>
<tr>
<td>Number of Response Levels</td>
<td>3</td>
</tr>
<tr>
<td>Model</td>
<td>Generalized logit</td>
</tr>
<tr>
<td>Optimization Technique</td>
<td>Newton–Raphson</td>
</tr>
<tr>
<td>Observations Read</td>
<td>328</td>
</tr>
<tr>
<td>Observations Used</td>
<td>328</td>
</tr>
</tbody>
</table>

Logits modeled use EP = 2 as the reference category

Table 4. Analysis of effects.

<table>
<thead>
<tr>
<th>Effect</th>
<th>DF</th>
<th>Wald Chi–Square</th>
<th>Pr &gt; ChiSq</th>
</tr>
</thead>
<tbody>
<tr>
<td>$IC_2$: Climate change</td>
<td>2</td>
<td>5.5105</td>
<td>0.0636</td>
</tr>
<tr>
<td>$IC_5$: Food and water security</td>
<td>2</td>
<td>11.0733</td>
<td>0.0039</td>
</tr>
<tr>
<td>$IC_6$: Lack of education</td>
<td>2</td>
<td>10.2400</td>
<td>0.0060</td>
</tr>
<tr>
<td>$LPC_6$: Engagement with the local communities</td>
<td>2</td>
<td>9.3216</td>
<td>0.0095</td>
</tr>
<tr>
<td>$EPC_5$: Evolution of hierarchical structures</td>
<td>2</td>
<td>8.5028</td>
<td>0.0142</td>
</tr>
<tr>
<td>$EC_1$: Salary</td>
<td>2</td>
<td>7.9586</td>
<td>0.0187</td>
</tr>
<tr>
<td>$PV_5$: Security</td>
<td>2</td>
<td>4.9258</td>
<td>0.0852</td>
</tr>
<tr>
<td>$PV_6$: Individual responsibility</td>
<td>2</td>
<td>10.4155</td>
<td>0.0055</td>
</tr>
<tr>
<td>$PV_9$: Social success</td>
<td>2</td>
<td>10.0893</td>
<td>0.0064</td>
</tr>
<tr>
<td>$PV_{10}$: Personal power</td>
<td>2</td>
<td>12.3545</td>
<td>0.0021</td>
</tr>
<tr>
<td>$CK$: Cooperative knowledge</td>
<td>2</td>
<td>33.2057</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>
Table 5. Analysis of maximum likelihood and odds ratio estimates.

<table>
<thead>
<tr>
<th>Analysis of Maximum Likelihood Estimates</th>
<th>Odds Ratio Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Parameter</strong></td>
<td><strong>EP</strong></td>
</tr>
<tr>
<td>Intercept</td>
<td>1</td>
</tr>
<tr>
<td>Intercept</td>
<td>3</td>
</tr>
<tr>
<td>IC2: Climate change</td>
<td>1</td>
</tr>
<tr>
<td>IC2: Climate change</td>
<td>3</td>
</tr>
<tr>
<td>IC3: Food and water security</td>
<td>1</td>
</tr>
<tr>
<td>IC3: Food and water security</td>
<td>3</td>
</tr>
<tr>
<td>IC5: Lack of education</td>
<td>1</td>
</tr>
<tr>
<td>IC5: Lack of education</td>
<td>3</td>
</tr>
<tr>
<td>EPC5: Easy access to politics</td>
<td>1</td>
</tr>
<tr>
<td>EPC5: Easy access to politics</td>
<td>3</td>
</tr>
<tr>
<td>EPC6: Engagement with the local communities</td>
<td>1</td>
</tr>
<tr>
<td>EPC6: Engagement with the local communities</td>
<td>3</td>
</tr>
<tr>
<td>EPC6: Evolution of hierarchical structures</td>
<td>1</td>
</tr>
<tr>
<td>EPC6: Evolution of hierarchical structures</td>
<td>3</td>
</tr>
<tr>
<td>EPC7: Easy access to politics</td>
<td>1</td>
</tr>
<tr>
<td>EPC7: Easy access to politics</td>
<td>3</td>
</tr>
<tr>
<td>PV4: Security</td>
<td>1</td>
</tr>
<tr>
<td>PV4: Security</td>
<td>3</td>
</tr>
<tr>
<td>PV4: Individual responsibility</td>
<td>1</td>
</tr>
<tr>
<td>PV4: Individual responsibility</td>
<td>3</td>
</tr>
<tr>
<td>PV4: Social success</td>
<td>1</td>
</tr>
<tr>
<td>PV4: Social success</td>
<td>3</td>
</tr>
<tr>
<td>PV5: Personal power</td>
<td>1</td>
</tr>
<tr>
<td>PV5: Personal power</td>
<td>3</td>
</tr>
<tr>
<td>CK: Cooperative knowledge</td>
<td>1</td>
</tr>
<tr>
<td>CK: Cooperative knowledge</td>
<td>3</td>
</tr>
</tbody>
</table>
Based on the analysis of maximum likelihood estimates, the final adjusted model is:

\[
\ln\left(\frac{P_1}{P_0}\right) = 1.53 + 1.38IC_2 - 2.06IC_5 - 1.40IC_6 - 3.10EPC_5 \\
+ 0.94EPC_6 - 1.35EPC_9 - 0.40EC_1 - 0.91PV_5 - 1.73PV_5 - 2.08PV_9 - 4.27PV_{10} + 1.80CK + \varepsilon_1, \tag{12}
\]

\[
\ln\left(\frac{P_1}{P_0}\right) = 2.33 + 1.56IC_2 - 0.99IC_3 - 0.72IC_6 - 0.74EPC_5 + 0.05EPC_6 - 1.29EPC_9 \\
+ 0.44EC_1 - 0.37PV_5 - 0.87PV_5 - 1.71PV_9 - 1.41PV_{10} - 0.92CK + \varepsilon_3. \tag{13}
\]

The results have been obtained following a stepwise logistic regression analysis using a forward conditional method for the selection of variables and their interpretation requires a double analysis. The dummy variables represent the selection options for each main variable to be interpreted as a whole, we cannot select only the significant dummy variables without separating them from the other categories that make up the total variable. Therefore, for this type of main variable we obtain a result of global significance of the variable and another for each of the dummy variables that intervene in the explained model.

The selection of the statistically significant variables that intervene in the model is carried out based on the result of the global significance of the variable. For this, we have used the stepwise method to select the variables that enter the model with a confidence level of 90%, the results of the significant variables at the global level are found in Table 2. In turn, Table 3 shows the variable parameters for each of the categories using the maximum likelihood method. Finally, the effect of each variable is measured through the \(\text{Exp}(\text{est}) = \text{exponent}(\beta)\) o odds ratio. Its interpretation must be carried out as follows: If the odds ratio is greater than 1, options variable prevails \((JP_1)\) or \((JP_3)\) but if the odds ratio is less than 1 the reference option prevails \((JP_2)\).

To determine the performance of model probability estimation, we use the receiver operating characteristic (ROC) curve: The more the curve tends to one, the better the performance level of the model. Since we have two logit models, we calculate the curve for each model (See Figure 2). The area under the curve is 0.819 and 0.8726 for Equation (12) and (13), respectively. So, as both values are close to one, we could confirm the good level of performance of the models developed.

From a global perspective, all the variables considered except the cooperative perception and technological context have relevant attributes and therefore, influence on job preferences, confirming the relevance of integral models that integrate individual and contextual determinants. The lack of influence of technological variables is in accordance with the context in which millennials were
born and raised. Their development has been in parallel with the technology revolution, Internet, and information and communication technologies (ITCs), they naturally coexist with them without posing any challenge [96]. Denominated by some authors as digital natives [172], their capacity for technological adoption is far superior and their relationship with technology is close and natural, unlike previous generations [173].

Regarding the characteristics that define each job preference profile, those students who show a preference for non-cooperative organizations are defined by a broader set of variables than those whose preference is cooperatives. Indeed, millennial university students oriented to non-cooperative businesses are concerned about the problems of food and water security (IC5, odds ratio < 1 = 0.127 for JP1) and the lack of education (IC6, odds ratio < 1 = 0.245 for JP1 and 0.489 for JP3). These characteristics are compatible with the results of other studies in the Canadian context. Water security is a major concern for Canadians. Despite having the largest freshwater reserves on the planet, political inaction for decades has led to problems not only in supply but also in water quality [174]. It is not surprising, therefore, that it represents a concern. Regarding education, millennials consider that is essential to having a fulfilling life which would explain the academic emphasis on it. The effort to obtain a university degree and the high level of student debt would justify that the salary is the only significant variable within the employment criteria.

Like other millennials, Canadians are confronted with a variety of challenges in being established that were not faced by their parents, and they do not believe that the empowering needs and aspirations of their generation have been well supported by the country’s major institutions [154]. This leads to low levels of trust in the institutions, along with the perception that their voice matters although not enough would justify their participation in politics (EPC5, odds ratio < 1 = 0.045 for JP1) with the aim of increasing their empowerment. Furthermore, they feel comfortable with hierarchical structures (EPC6, odds ratio < 1 = 0.259 for JP1 and 0.275 for JP3), which is consistent with the job-preference towards non-cooperative businesses that are more conventional than cooperatives in structure and governance matters. Note that cooperatives are defined as alternative mechanisms for allocating resources between hierarchical capitalist companies and the market [175–177].

Salary is the only criterion of an intrinsic nature (EC1, odds ratio < 1 = 0.666 for JP1), and it is consistent with the personal values of the students who select the cooperative option as job preference. Security (PV3, odds ratio < 1 = 0.401 for JP1), individual responsibility (PV5, odds ratio < 1 = 0.177 for JP1 and 0.418 for JP3), social success (PV9, odds ratio < 1 = 0.125 for JP1 and 0.181 for JP3), and personal power (PV10, odds ratio < 1 = 0.014 for JP1 and 0.245 for JP3) are the significant personal values placed in self-enhancement and conservation, Schwartz’s categories [135,136]. These categories, complementary to each other, pose conflicts with openness to change and self-transcendence values that are consistent with cooperatives that emphasize concern for other consequences of their dual economic and social objective.

Regarding students who have expressed their job preference for cooperatives, the factors that define their profile are fewer than those whose choice is not cooperative or do not have preference. Concerns about climate change (IC5, odds ratio > 1 = 3.992 for JP1 and 4.763 for JP3), engagement in local communities (EPC6, odds ratio > 1 = 2.566 for JP1), and cooperative knowledge (CK, odds ratio > 1 = 6.049 for JP1) are the variables that justify their preference. In the first case, climate change is a common concern for all millennials in all countries and can be considered as a cross-cutting concern. From this perspective, the choice of the cooperative option as a component of the SE would be based on their orientation as planet-sensitive organizations, and on their collective nature based on the principle of reproduction and development of life capable of counteracting the negative influences of the current economic system [178,179]. This conception positions cooperatives as a key element for the reaching of sustainable development goals (SDGs), not only for their economic and social orientation, but also for the identity between their own principles and values and the SDGs [41,180].
Regarding the second factor with an impact on the cooperative choice, engagement with local communities is part of the cooperative essence. This result is in line with the results obtained by Jeandeau, Ouchene, Brat, and Buendía Martínez [181] and Leger [182] that show that one of the main reasons for the interest of millennials for a cooperative is explained by the participation in the economic and social development of Quebec and the well-being of the community. The adaptation of cooperatives with community engagement is based on the concern for community principle that places the focus on local communities where cooperatives operate. This close connection is possible because of the territorial affiliation of the members who are additionally consumers and/or suppliers in their own company, as well as citizens. In this way, the cooperative model allows projects to be carried out in which the population can recognize itself and acquire new skills, confirming a local development dynamic [183]. Furthermore, the democratic structure of the cooperative allows the decision-making process to be in the hands of the agents that generate the economic activity, that is, the members. Based on this, the contribution of cooperatives in the identity of local communities is notable with an important impact on employment given that workers must come from the same environment in which the cooperative operates [184].

Finally, we underline the importance of cooperative knowledge in the job preference. In addition to its significance, it is the variable that has the most weight in the model, validating the importance of this institutional determinant in the building of preferences. This result is compatible with other studies [181,182] in which the absence of interest to work in a cooperative is mainly explained by their lack of knowledge. Despite this, the importance of this variable is contradictory with the lack of significance of the variables on cooperative perception. This fact denotes that cooperative knowledge is linked to the particular characteristics of the province of Quebec, with a broad cooperative culture which has a cooperative penetration rate of close to 70% and is one of the highest in the world. However, it is not powerful enough to allow individuals to feature their differential characteristics with respect to the other institutional forms.

These results have important implications in the development of future communication strategies and in the approach of public policies applied to this business sector. The marketing orientation developed is insufficient to differentiate them from other competing companies. The theoretical competitive advantage of cooperatives based on their specific principles, values, social character, and governance specificities requires a global communicational approach involving not only the cooperative movement, but also the policy makers. In the case of the cooperative movement, since the International Cooperative Alliance (ICA) launched in 2013 the global cooperative brand with the aim of creating a common identity to the cooperative movement, little has been done except the creation of its own Internet domain. Normally, cooperative branding is carried out with the aim of differentiating them from competitors within the same markets or industries [185–187] but it rarely includes cross-cutting issues linked to its own cooperative essence.

Regarding policy makers, further development of cooperative promotion policies should be carried out. Specifically, those denominated as soft that are aimed at creating a favorable environment including cognitive-type measures to spread the cooperative model in society and the promotion of research and training in cooperativism [188]. These two aspects are especially relevant if we consider the economic and social weight of cooperatives in different regions and countries. Support for research on cooperatives is residual compared to conventional capitalist companies and the inclusion of specific courses in secondary and university studies is almost non-existent, causing students to obtain their degree without knowing, even from a theoretical perspective, what a cooperative is [189–191].

4. Conclusions

Work has a central role in people’s lives. The transition of young people from educational institutions to the labor market marks a turning point in their life cycle. In the last 50 years, preparation for immersion in working life has been extensively studied in career development literature. The different theoretical contributions converge in that the choice of the professional itinerary is determined
by internal and external factors that impact on individuals throughout their educational process. One of the aspects that has received the most attention has been job preferences, not only because it is considered the antecedent of the professional choice, but also because of its ability to predict the final decision.

Despite the valuable insights obtained, little is known about job preferences differentiated by type of company. Not all institutional forms have the same degree of attractiveness. Specialization, reputation, or importance within a market or industry are aspects addressed by researchers to analyze the vocational preferences of the university students, but few investigations are focused on assessing the degree of attraction of businesses based on their organizational profile. To solve this gap, this study deals with the study of job preferences based on the organizational typology of companies: Cooperatives versus other organizational forms. But in addition, other peculiarities are added. The study is carried out on the latest wave of millennial university students in the province of Quebec. Millennials compose more than a quarter of the Canadian population and are one of the largest cohorts in the country’s history. In addition, Quebec has a prominent cooperative culture: Origin of financial services cooperatives in America, the cooperative sector is an intrinsic part of Québec’s economy and society.

The results allow us to validate the relevance of global models that study the impact of personal determinants along with contextual ones. On the other hand, the profile of the students who choose each of the business options are radically different. Those students who are oriented towards non-cooperative businesses consider that political participation and hierarchical structures are factors of empowerment. Furthermore, their personal values are focused on the preservation of the status quo and the pursuit of self-interest, and their sole employment criterion is salary. In contrast, those students whose preference is cooperative business do not have a defined personal profile, although they consider local engagement with community as an empowerment factor, and cooperative knowledge represents the decisive factor in their job preference. This last result confirms that the absence of information on business options causes distortions in preferences. This conclusion has relevant implications both for the cooperative sector and for the public authorities that will be involved in the actions to be taken to spread and make cooperatives known as an alternative company to mainstream conventional capitalists.

Finally, despite the obtained results revealing the importance of cooperative knowledge as a determinant of job preferences, this paper has some limitations that could evolve as future lines of research. First, expanding the sample to students from other disciplines, other universities, and other Canadian provinces would allow us to validate whether these results are the result of the territorial characteristics of the province of Quebec. Second, a greater number of responses would allow us to advance in a more precise choice of the different options and measurement scales for each variable, in addition to using other econometric techniques to improve the definition of the different profiles.

Author Contributions: All the authors have contributed substantially to the creation of this work. E.B. came up with the idea for the work. C.H.-L. was in charge of data acquisition. I.B.-M. and E.B. reviewed the literature for this work. C.H.-L. designed the methodology. All three of the authors prepared the original draft and revised and edited the work. All authors have read and agreed to the published version of the manuscript.

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Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Knowledge and Perception of Business Models

Veuillez sélectionner votre langue / Please select your language / Por favor selecciona * tu idioma

Introduction

Note: To switch the survey language, click the “Précédent” button at the bottom of the page.
This survey is used as part of a consultation study. Conducted by the Alphonse and Dorimène Desjardins International Institute for Cooperatives, this study focuses on the knowledge and perception of cooperatives.

All the arrangements have been made for your answers to be collected, processed and analyzed confidentially and anonymously. Your participation is voluntary, but would be very useful. Thank you for your time.

If you have any questions or concerns regarding your experience with this survey, please write to either xxxx@hec.ca or xxxx@hec.ca. Thank you for your participation!

**Demographics and socioeconomic issues**

Q1. What is your gender?
- Female
- Male
- Prefer not to answer

Q2. What is your family situation?
- Single without children
- In a relationship with children
- Single with children
- Other (please specify)

Q3. Which of the following best describes your current occupation?
- Student
- Entrepreneur
- Employee
- Other (please specify)

**Millennials’ societal context**

For each of the following themes, please select 3 elements that best define your thinking. Answer as honestly as possible, even if the answers do not seem to completely match with you.

Q4. According to you, what are the most serious issues affecting the world today? (Please select 3 choices)
- Large scale conflict/war
- Climate change/biodiversity preservation
- Inequalities (income, discrimination, etc.)
- Problems of accountability and transparency/corruption
- Food and water security
- Lack of education
- Large scale conflict/war
- Political instability
- Lack of economic opportunity and unemployment
- Loss of privacy/security due to technology
- Ageing population
- Other (please specify)

Q5. According to you, what are the most important factors contributing to people’s empowerment? (Please select 3 choices)
- Start–up ecosystems and entrepreneurship
- Financial sufficiency
- Easy access to Internet
- Borders opening because of globalisation
- Media independence
- Evolution of hierarchical structures
- Transparency in governance
- Free education
- Easy access to opportunities in politics
- Other (please specify)
- Engagement with the local communities
- Other (please specify)

Q6. According to you, what are the next big technology trends that will transform today society? (Please select 3 choices)
- Artificial intelligence
- Biotechnology
- Robotics
- 3D printing
- Internet of things
- Self–driving cars
- Virtual reality
- Augmented reality
- Drones
- Other (please specify)
- Domotics (smart home)
- Freedom to choose my own working hours/location
- Other (please specify)

**Millennials’ values**

Q7. Which of the following values are the most important for you personally? (Please select 3 choices)
- Honesty/transparency
- Social responsibility
- Altruism
- Democracy
- Security
- Social success
- Equality/fairness
- Personal power
- Individual responsibility
- Other (please specify)
- Solidarity
- Other (please specify)

Q8. According to you, what are your most important criteria when considering job opportunities? (Please select 3 choices)
- Salary
- Training and development opportunities
- Impact on society
- Company social image
- Career advancement possibilities
- Employees’ participation in the company strategic planning
- Freedom to choose my own working hours/location
- Opportunities to travel internationally
- Corporate culture
- Other (please specify)

**Job preference**

Q9. Do you know cooperative business and their characteristics?
- Yes
- Non
Q10. Which of the following values do you associate most with cooperative principles? (Please select 3 choices)

☐ Honesty/transparency
☐ Altruism
☐ Security
☐ Equality/fairness
☐ Individual responsibility
☐ Solidarity

☐ Democracy
☐ Social success
☐ Personal power
☐ Other (please specify)

Q11. Based on your own knowledge, values and perception on business organization when choosing between two identical jobs would you rather work for?

☐ A cooperative
☐ No preference
☐ A non–cooperative

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