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Article

# Who Takes More Sustainability-Oriented Entrepreneurial Actions? The Role of Entrepreneurs' Values, Beliefs and Orientations

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**Abstract:** We examine the relationships between entrepreneurs' values, beliefs and orientations with their firms' engagement in sustainability-oriented entrepreneurial actions, using a sample of 352 newly established businesses from two Asian countries (Bangladesh and Iran). Our results reveal a dual role of entrepreneurs' values, beliefs and orientations when taking sustainability-oriented actions. We confirm that individual differences in the set of values, beliefs and orientations can foster or hinder the sustainability-oriented actions across organizations. Our paper contributes to the growing literature of sustainable entrepreneurship, by providing answers for recent calls for better understanding which entrepreneurial ventures engage more in sustainability-oriented actions.

**Keywords:** sustainability-oriented entrepreneurial actions; entrepreneur; values; beliefs; orientations; upper echelon theory

## 1. Introduction

There is increasing interest among entrepreneurship scholars to use upper echelons theory [1–3] as the theoretical base of their research [4,5] in order to explain newly established firms' strategic actions [6] and resultant performance [7]. According to [1], if we are trying to understand why firms do the things they do, or why they perform the way they do, we must consider the guiding attitudes (values, beliefs and orientation) of their most powerful actors. There are still several gaps which remain untouched by entrepreneurship scholars in this context. This theory, for example, can be a useful base to identify the most effective entrepreneurs' characteristics in creating social value across organizations [8]. In this paper, we used three theoretical cornerstones of upper echelon theory—namely values, beliefs and orientations—to build and test a model to explain variations in sustainability-oriented entrepreneurial action engagement by newly established firms. Thus, our research question is [9]: which type of newly established firms take more sustainability-oriented entrepreneurial actions than others?

The sustainability-oriented action is a “strategic choice” for newly established firms [9]. This means that, among multiple available options, entrepreneurs decide to make their operation and business more eco-friendly and to reduce overall environmental impacts [10,11]. It is important to know what makes firms more sustainability-oriented, because sustainability-oriented actions do not only help to preserve society and environment [9]. They also contribute to firm performance [12] and act as the source of achieving competitive advantages [13,14]. Our paper aims to identify those

entrepreneurs who address the impact of their business and operations on the natural environment by taking sustainability-oriented actions [15], considering their values, beliefs, and orientations.

The constructs in the values context are self-regarding and other-regarding values [16,17]. Self-regarding values refer to the degree to which entrepreneurs focus on their own well-being, personal power and achievement [18]. On the contrary, other-regarding values refer to the degree to which entrepreneurs focus on benevolence and the welfare of other people [19]. From the orientation literature, we also selected immediate orientation and future orientation. Future-oriented entrepreneurs pay high attention to long term consequences of their current decisions and actions. In contrast, present or immediate-oriented entrepreneurs are less concerned about the future and less likely to predict the long term outcomes of their decisions [20]. Finally, we investigated the effects of entrepreneurs' beliefs on their business engagement in sustainability-oriented entrepreneurial actions by using belief in a just or unjust world. Entrepreneurs with a strong belief in a just world generally believe that they live in a world where everybody gets what he or she deserves, at least in the long run [21]. On the other hand, entrepreneurs with a strong belief in an unjust world believe that the world is not fair and people usually do not get what they deserve in their life [22].

Our longitudinal study of 352 entrepreneurs in Iran and Bangladesh reveals that those newly established firms which are founded by entrepreneurs with other-regarding values, strong belief in a just world and high future-orientation, undertake more sustainability-oriented entrepreneurial actions. On the contrary, those firms newly established by entrepreneurs with self-regarding values, strong belief in an unjust world and high immediate-orientation conduct fewer sustainability-oriented entrepreneurial actions. In accordance with upper echelons theory assumptions [23–26], we find a strong relationship between the entrepreneurs' characteristics (values, belief and orientation) and their firms' level strategic behavior (sustainability-oriented actions). Our results reveal a dual role of entrepreneurs' values, beliefs and orientations for sustainability-oriented actions. We confirm that the individuals' differences in the set of values, beliefs and orientations can increase or hinder the sustainability-oriented actions across organizations.

Furthermore, our paper contributes to the fast growing literature of sustainable entrepreneurship, by providing answers to the recent calls for better understanding which entrepreneurial ventures engage in sustainability-oriented actions [9]. In order to explore entrepreneurship as welfare-creating versus welfare-destroying [27], we need to identify those entrepreneurs who are more concerned about environmental issues and show more tendencies to take sustainability-oriented entrepreneurial actions in their business context.

## 2. Theory and Hypotheses Development

Sustainable entrepreneurship has emerged as a popular area of research in recent years [9,27–30]. With our research question, we attempt to contribute to this field by investigating: which type of newly established firms take more sustainability-oriented entrepreneurial actions than others? Sustainability-oriented entrepreneurial actions are important because these types of activities help to preserve ecosystems, to maintain biodiversity, to improve the quality of life in a society and to reduce environmental degradation and deforestation [28,31,32].

To understand the micro-foundation of sustainability-oriented entrepreneurial actions among entrepreneurs, we are proposing that individual-level difference in values, belief and orientation may impact the extent to which young firms involve in these types of actions. Our propositions have roots in the upper echelon theory [2], which proposes that firms' strategic choices are a reflection of the values, belief, and orientation of their top decision makers. Despite the critical role and importance of sustainability in developing countries, very few studies have conceptualized entrepreneurs' sustainability-oriented decisions from an individual perspective [33]. An entrepreneur is naturally the main person in the organization who decides to pursue those actions or not by using specific opening and closing behaviors [34]. Hence, exploring such an individual-specific rationale of

sustainability in more detail should be helpful to foster our understanding about sustainability-oriented entrepreneurial actions.

### 2.1. *Entrepreneurs' Values and Firms' Sustainable Actions*

Each entrepreneur has a different set of values. When faced with a situation, in which a decision has to be made, the personal values are one of the available sources that help to judge which action should be taken [35]. In other words, the entrepreneurs' core values are the motivational base [36] and normative standards of their behavior [37]. As they are the founders of the firm, their core values constitute the foundations of firm-level strategic actions [38,39]. Since entrepreneurs vary greatly in their core values [2], substantial variation in their strategic actions and behavior (engaging or not engaging in sustainability-oriented activities) as a function of such variability is to be expected [40]. A key value dimension which received a great deal of attention in the last few years [16,17,40,41] is the "self-regarding values" versus "other-regarding values". By considering these two sets of entrepreneurs' values in this paper, we aim to understand which types of newly established firms are showing more sustainability-oriented behaviors.

Generally, entrepreneurs with "other-regarding values" consider themselves as interdependent with others [16,41]. They are more concerned about benevolence and the welfare of other people [18]. These types of entrepreneurs are very sensitive about the influence of their business decision outcomes on the surrounding environment [41]. They prefer to make decisions that have a potential benefit for the whole society [19]. Hence, the pursuit of sustainability-oriented actions by newly established firms represents an entrepreneur's tendency to care about others and the surrounding environment. Entrepreneurs who take sustainability-oriented actions were looking for maximizing human happiness and health, by enhancing the environmental quality and, finally, by promoting economic well-being for current and future generations. Consequently, the main motivation behind the firms' sustainability-oriented actions is the fact that entrepreneurs consider themselves as a part of a larger social system [41] and avoid actions which have a negative effect on others and damage the surrounding environment. That is why we believe that newly established firms by entrepreneurs who hold other-regarding values may engage more in sustainability-oriented entrepreneurial actions.

On the other hand, "self-regarding values" entrepreneurs view themselves as independent and autonomous individuals [42,43], who pay extreme attention to personal achievement [16]. They are highly concerned about achieving individual well-being and happiness and they are less concerned about social and environmental dilemmas [44]. These types of people will seek to be entirely successful in their newly established firm by any means, regardless of the fact that their actions may or may not hurt others [45]. Putting high value to personal success and happiness may decrease their attention to how their business may damage the surrounding environment. That is why we believe that newly established firms by entrepreneurs who hold self-regarding values may engage less in sustainability-oriented entrepreneurial actions.

Hypothesis 1: Newly established firms by entrepreneurs with strong other-regarding values in comparison with firms founded by entrepreneurs with strong self-regarding values show more sustainability-oriented entrepreneurial actions.

#### 2.1.1. *Entrepreneurs' Orientation and Firms Sustainable Actions*

There has been increasing interest among business and entrepreneurship researchers in the concept of time perspective [46–48]. These scholars are interested to know how the differences in time perspective can influence the individual behavior and the strategic decisions that are made at the firm level [48–51]. According to [50], there are two distinct groups of people in regard to time perspective: immediate-oriented people (with short-term perspective) and future-oriented people (with long-term perspective). Individuals high in immediate orientation focus on the here and now rather than on the future [52]. They attach a high importance to the immediate consequences of their decision and behavior [53]. On the contrary, future orientation refers "to the extent to which individuals consider

the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes" [50] (p. 559).

It is well known that sustainability-oriented actions (e.g., fair-trade agreements, following ISO 14001 environmental management standards, promoting democratic business models, preventing environmental pollution during the production process, or having eco-labeled products) have mostly long-term horizons [32]. Moreover, such actions usually do not show immediate impacts on the business performance [33]. It is almost clear that paying less attention to sustainability-oriented actions at the firm level [9] eventually will lead to a gradual environmental degradation that will hurt the whole society in the future. Previous studies found that future-oriented individuals, in general, show a greater level of sustainable [53] and responsible ecological behavior [54] because of their long-term outlook. They usually have greater attitudes toward environmental protection in general [55,56]. Although these results are promising, the major problem of these studies is that they are mostly based on research with university student samples. Hence, it seems to be difficult to generalize these results in an entrepreneurship context. In addition, immediate orientation as another dimension of time perspective has not received enough attention by these studies.

A firm that was established by a highly immediate-oriented entrepreneur, most probably focuses on strategic actions with immediate outcomes. Having a long-term outlook is a prerequisite for involving sustainability-oriented actions. Sustainability may not be the business priority for immediate-oriented entrepreneurs, since they focus on the current perspective [48]. They prefer to maximize the present profit, and they are less concerned about the potential harm and future risk of their actions in a given moment on the community and environment [57]. For example, adopting ISO 14001 may help firms to manage their environmental performance more efficiently, and to reduce waste and pollution on the long term [58]. However, the costs of attaining ISO 14001 is rather high [59] without having equal [60] and immediate perceived financial benefits for all the ISO 14001-certified firms [61]. Therefore, it is less likely that entrepreneurs, who emphasize the short-term goal of immediate profitability, implement an environmental management system.

Hence, we predict in the second hypothesis that entrepreneurs behave differently according to their time perspective. Particularly, those firms founded by highly future-oriented entrepreneurs may exhibit more sustainability-oriented actions than firms established by immediate-oriented entrepreneurs.

Hypothesis 2: Newly established firms by highly future-oriented entrepreneurs, in comparison with firms founded by highly immediate-oriented entrepreneurs, show more sustainability-oriented entrepreneurial actions.

### 2.1.2. Entrepreneurs' Beliefs and Firms' Sustainable Actions

Dalbert [62] argues that the actions of people are usually based on unquestioned assumptions (beliefs) about the self, the others, the environment, the world and the future. According to earlier research [22,62,63], there are two groups of people according to their beliefs: people who believe in a just world and people who believe in an unjust world. Belief in a just world [21] refers to the idea that we are living in a fair world where everybody gets what he or she deserves in the long run. Good things tend to happen to good people and vice versa [64]. On the contrary, beliefs in an unjust world are characterized by "cognitions that rationalize to the self that people often get what they do not deserve or do not get what they do deserve" [22] (p. 126).

Individuals with strong belief in a just world in general, prefer to take actions without hurting others. They want to be morally good because they strongly believe that they will be rewarded if they do good thing to others and justice will be done in the long run [65]. Hence, a strong belief in a just world ultimately improves people's motivation to solve social dilemmas [66,67]. Solving social and environmental dilemmas such as pollution is a starting point to reach sustainability [68,69]. In this line of research [27], it is argued that social justice and environmental protection are the cornerstones of

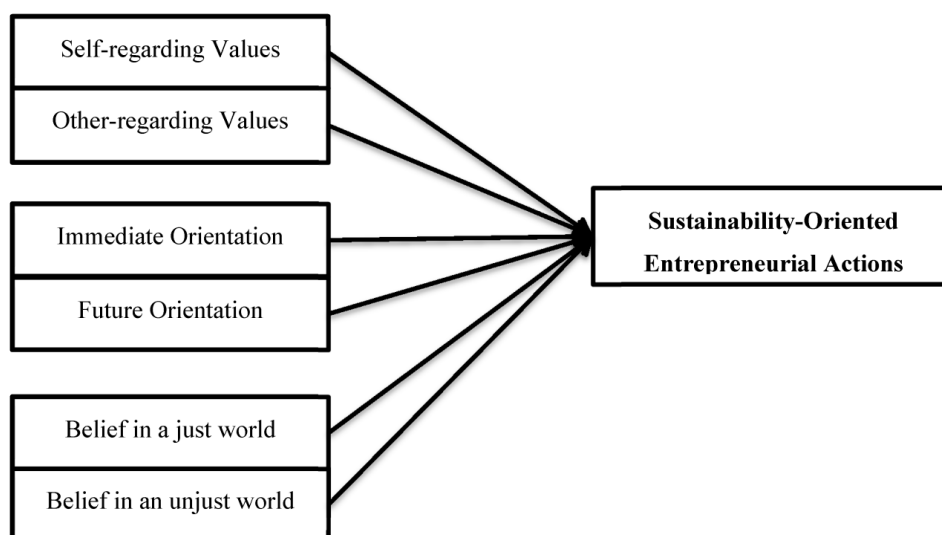
sustainable entrepreneurship. So, we should expect that entrepreneurs who believe in a just world contribute more to maintain the presence and use of the public resources [70].

On the other hand, one of the unique characteristics of individuals with a strong belief in an unjust world is that they frequently use defensive coping and persist in making changes in their own lives and their surrounding environment as well [22]. The result of a strong belief in an unjust world is a behavior or action which is highly motivated by self-interest [71] without feeling obligated to behave in accordance with any fairness rules [63]. We know that sustainability oriented entrepreneurs take actions that maximize social justice and environmental protection [72]. As an inevitable consequence, entrepreneurs with a strong belief in an unjust world can be expected to not follow strictly fair ways of doing business because they consider themselves as victims of an unjust system [73]. They strongly believe that they are living in an unjust world: they will not be rewarded even if they invest time, resources and effort into sustainability-oriented business operations. Eventually, this may decrease their attention towards creating societal and ecological value through their business activities. In general, we believe that individuals with a strong belief in a just world focuses more on the collective interest and cooperate with others, but individuals with a strong belief in an unjust world care more about self-interest. This difference may lead to different actions towards sustainability in the firm level.

Hence, we predicted in the last hypothesis that newly established firms by entrepreneurs with strong belief in a just world show more sustainability-oriented entrepreneurial actions in comparison with firms founded by entrepreneurs with a strong belief in an unjust world.

Hypothesis 3: Newly established firms by entrepreneurs with a strong belief in a just world in comparison with firms founded by entrepreneurs with a strong belief in an unjust world show more sustainability-oriented entrepreneurial actions.

Finally, Figure 1 summarizes our hypotheses.



**Figure 1.** Theoretical model of antecedents of newly established firms' sustainability-oriented entrepreneurial actions.

### 3. Methods

According to [74], most survey-based upper-echelon studies have typically suffered from relatively small sample sizes, lacking temporal precedence, and having single informants. To overcome these limitations, we surveyed a large sample of entrepreneurs (352) at two different points in time by using two informants from each firm. In the first round of data collection (early 2016), we sent a questionnaire to entrepreneurs measuring their values, belief and orientation. Six months later, we surveyed



one of the senior executives for the dependent variable, which is the firms' sustainability-oriented entrepreneurial action.

The sample of our study is coming from two countries, Iran and Bangladesh, including entrepreneurs drawn from the membership directory of the Association of Small and Medium Enterprises [75]. For inclusion in the sample selection, the firms had to be owned and managed by the founders, who had to employ fewer than 50 employees. Moreover, the firm was not allowed to have more than eight years in operation. For having a homogeneous sample of entrepreneurs, these criteria are essential [76]. This approach has also been extensively used by several researchers in an entrepreneurship context [76–80].

The selected countries, Iran and Bangladesh, offer an interesting context for studying the firms' sustainability-oriented entrepreneurial actions. According to the environmental performance index of 2017, Iran ranked 83 out of 178 while Bangladesh ranked 169. According to the Iranian official statistics, 40 hectares of forests are destroyed yearly and the consumption of energy in the country is almost fivefold more than the world average. Conservation of the environment in Bangladesh is also in the early stage; recently policymakers encouraged companies to focus on less pollution and more environmentally sustainable activities [81]. In this regard, the Bangladesh Environment Conservation Act (BECA) was enacted recently for obtaining three important objectives: first, conservation of environment, second, the control and mitigation of environmental pollution and finally improvement of environmental standards [82].

We included a broad group of newly established firms from these two Asian countries to enhance the generalizability of the findings. In both countries, we used locally trained research assistants to collect the data; this also enhanced our chance to receive more reliable data from respondents. To secure accuracy, we used the double-back-translation method to translate the original survey to local languages in Iran and Bangladesh [75,80,83]. The questionnaire was first translated into the local language independently by two business professors in each country. Then we asked a bilingual expert for back-translation. After that, we had a meeting with all three experts to modify any ambiguous words. In addition, to assess the informants' understanding of the survey questions and improve the face validity of the instrument, we pre-tested the measurement items among 10 entrepreneurs (not included in the main sample) in each country. To enhance the clarity of questions, we asked the respondents to review the items carefully. Any confusing words had been revised before handing out the questionnaires.

Moreover, in order to control environmental biases due to the exposure to different sets of norms, rules and regulations [84], we included newly established firms localized in almost the same region in both countries. Questionnaires were sent to the founders of 504 newly established firms in Iran (South of Iran, with the majority located in the province of Kerman, Yazd, Fars, Bushehr, Khuzestan and Hormozgan) and 476 newly established firms in Bangladesh (the list of newly established firms collected from Narsingdi Chamber of Commerce & Industry). We sent the questionnaires to those entrepreneurs who agreed to participate in our study. We ensured anonymity and confidentiality of the study to the respondents, and asked them to answer the questions as honestly as possible. Responses with high amounts of missing data were removed from the final sample. After two rounds of data collection, a total of 177 completed responses from Iranian firms and 175 completed responses from Bangladeshi firms (two responses from each firm) were achieved, yielding response rates of 35 percent and 37 percent, respectively (total 36 percent).

In total, the average age of the entrepreneurs was 33.90 (S.D. = 7.19). Among respondents, 40 percent hold a high school diploma, 27 percent hold a bachelor's degree and 15 percent had a master's degree. The majority of them are male (66.5 percent). Concerning religious affiliation, 65.4 percent of respondents are Muslim, 14.3 percent are Hindus, 7.1 percent are Buddhists, 5.1 percent are Christians and 8.1 percent belong to other religions. The average firm's age was 4.56 years (S.D. = 1.74). The average number of employees was 21.17 (S.D. = 9.488). Furthermore, these 352 firms represented 48 four-digit Standard Industrial Classification (SIC) codes [85]. In total, eight different industries were involved in the survey: Services (33.4%); Manufacturing (22.9%); Agriculture, Forestry,

Fishing (20%); Construction (8.3%); Transportation, Communications & Public Utilities (5.1%); Retail Trade (4.3%); Finance, Insurance, and Real Estate (3.4%); as well as Wholesale Trade (2.6%).

## 4. Measures

### 4.1. Sustainability-Oriented Entrepreneurial Actions

Sustainability orientation, in general, refers to the underlying attitudes towards environmental protection and social responsibility [86]. According to [9], sustainability-oriented entrepreneurial actions are linked to the extent to which entrepreneurs aim to solve sustainability problems by setting up immediate objectives while developing their ventures. To reveal the degree to which firms engage in sustainability-oriented entrepreneurial actions, we adopted eight items from [9] with minor modification. All eight items were scored on a 5-point Likert-type scale ranging from 1 ('strongly disagree') to 5 ('strongly agree'). The Alpha coefficient for this scale was 0.94.

### 4.2. Self-Regarding Value

Self-concern refers to the degree to which an entrepreneur focuses on his own well-being, personal power and achievement and puts a strong emphasis on realizing individual success and happiness [18]. In this paper, self-regarding value was measured by asking entrepreneurs three questions adopted from [40] on a 5-point Likert scale (1 = 'Not important to me'; 2 = 'Slightly important to me'; 3 = 'Moderately important to me'; 4 = 'Important to me'; 5 = 'Very important to me'). Cronbach's alpha for the self-regarding value scale was 0.907.

### 4.3. Other-Regarding Value

In this paper, other-regarding refers to the degree to which an entrepreneur focuses on benevolence and the welfare of other people [19]. To measure other-regarding value, we adopted four items from [40]. All three items were anchored on a 5-point Likert scale ranging from "1 = 'Not important to me' and 5 = 'Very important to me'". Cronbach's alpha for the other-regarding value scale was 0.926. Self-regarding and other-regarding values are orthogonal and independent [17]. Thus, variation in self-regarding does not necessarily affect other-regarding and vice versa. Someone can be high in one dimension, low in both, or high on one dimension and low on the other.

### 4.4. Immediate Orientation

Immediate orientation refers "to the extent to which one considers the proximate consequences of their actions" [50] (p. 743). We used seven items drawn from [50] to assess immediate orientation of entrepreneurs. All items were anchored on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The coefficient alpha for the immediate orientation scale was 0.906.

### 4.5. Future Orientation

Future orientation refers "to the extent to which individuals consider the potential distant outcomes of their current behaviors and the extent to which they are influenced by these potential outcomes" [50] (p. 743). We measured future orientation using the five-item scale from [50]. The response options for these items ranged from "strongly disagree" (1) to "strongly agree" (5). The Cronbach's alpha coefficient was 0.94.

### 4.6. Belief in a Just World

Belief in a just world [21] refers to having this idea that we are living in a fair world where everybody gets what he or she deserves in the long run. We adopted seven items from [87] to measure entrepreneurs belief in a just world. The response options for these items ranged from "strongly disagree" (1) to "strongly agree" (7). The Cronbach's alpha coefficient was 0.94.



#### 4.7. Belief in an Unjust World

Beliefs in an unjust world are characterized by “cognitions that rationalize the fact that people often get what they do not deserve or do not get what they do deserve” [22] (p. 126). We measured belief in an unjust world using the seven items from [63]. The response options for these items ranged from “strongly disagree” (1) to “strongly agree” (7). The Cronbach’s alpha coefficient was 0.957. The Appendix A provides the wording of the items for all dependent and independent variables.

#### 4.8. Control Variables

To ensure the robustness of our results, we controlled 12 variables on the individual and firm level. By following previous studies in this context [33,86,88], on the individual level, we controlled for respondent’s age, gender [77], education (1 = Primary school; 2 = Elementary school; 3 = High school; 4 = Undergraduate; 5 = Master’s; 6 = Doctorate), previous management, marketing and technology experience [89], and religion (1 = Muslim, 2 = Hinduist, 3 = Buddhist, 4 = Christian and 5 = other) [90].

On the firm level, we controlled the firm size (number of employees) and, firm age (number of years since the firm’s foundation). We compared the objective data drawn from the governmental database with subjective data on the firm age and size from 121 Iranian and 105 Bangladeshi firms respectively. The significant correlations between archival data and subjective measures for firm age ( $r = 0.85, p < 0.001$ ) and firm size ( $r = 0.89, p < 0.001$ ) were found which support the validity of the reported measures. In addition, we controlled the organizational available slack resources [91] which influence organizational strategic responses to a given issue [92]. We controlled the impact of the industry affiliation on firms’ sustainability-oriented entrepreneurial actions, because entrepreneurs are usually influenced by the norms and standards of their professional environment [93,94]. Finally, we controlled the level of environmental changes and dynamism, by using three items from [95].

### 5. Results

Exploratory factor analysis showed that  $KMO = 0.661, \chi^2 = 953.176, p < 0.001$ , which means that our data was suitable for factor analysis [96,97]. We extracted seven factors with eigenvalues greater than 1.0, which explained 80% of the total variance (the mean score of each item, each factor and the total score are available upon request from the authors). In addition, the first factor only accounted for 21.2% of the variance suggesting that a common factor did not explain a substantial amount of variance in the data.

Prior to the regression analysis, we mean-centered the independent variables to reduce the potential problem of multicollinearity [98–100]. In order to check potential problems with multicollinearity, we calculated variance inflation factors (VIF) for all our variables [101–104]. However, we found no indication of multicollinearity problems. The VIF for all variables of the study were well below the conventional level of 5 [105]. The highest VIF was 1.803. We took two ways to know whether non-response bias effected our result. First, we compared respondents and non-respondents firms with respect to firm age (respondent versus non-respondent firms:  $F = 0.524, n.s.$ ), firm size (respondent versus non-respondent firms:  $F = 0.368, n.s.$ ) and gender of entrepreneurs (respondent versus non-respondent firms:  $F = 0.271, n.s.$ ). These comparisons showed that there was no significant difference between firms that agreed to participate and those that did not ( $p < 0.05$ ). In the survey-based research, it is assumed that the late respondents are more similar to non-respondents than to the early respondents. In the second step, by using time trend extrapolation test [106], we compare the early respondents in each country (first 25%) with the late respondents in each country (late 25%). None of these tests provided evidence that our data is subject to non-response bias. In addition, in the survey, we reordered and mixed the items that were intended to measure a certain variable with the items that were intended to measure other variables [107]. Table 1 includes the mean, standard deviation and correlations of the constructs.

**Table 1.** Basic descriptive statistics and correlations of the measures.

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Age	33.9	7.19	1																	
2. Gender	1.33	0.472	-0.351 **	1																
3. Education	3.29	1.09	0.082	0.066	1															
4. Religion	1.83	1.22	0.063	0.007	-0.005	1														
5. Management	3.12	0.904	0.011	0.053	0.264 **	0.005	1													
6. Marketing	3.38	1.03	-0.031	-0.029	0.033	-0.036	-0.047	1												
7. Technology	3.21	1.02	-0.007	-0.073	-0.067	0.040	-0.060	0.587 **	1											
8. Firm Age	4.56	1.74	0.016	0.006	-0.064	0.039	0.000	-0.112 *	-0.031	1										
9. Firm Size	21.16	9.48	0.081	-0.050	-0.003	0.080	0.077	-0.108 *	-0.070	0.079	1									
10. Slack	3.39	1.14	-0.006	0.057	-0.010	0.069	-0.076	0.086	0.011	0.023	-0.056	1								
11. Industry	4.28	1.84	0.032	-0.091	-0.056	0.040	-0.091	0.009	0.047	0.024	-0.053	0.006	1							
12. Dynamism	4.14	1.58	-0.076	0.031	0.070	0.034	-0.184 **	0.003	-0.028	0.008	-0.166 **	0.060	0.083	1						
13. Self-Regarding	3.16	1.32	-0.031	-0.007	0.028	-0.067	0.002	0.012	-0.021	0.054	-0.029	0.109 *	0.099	0.028	1					
14. Other Reg.	2.97	1.26	-0.013	0.000	0.014	-0.040	0.015	0.039	0.143 **	-0.009	-0.045	-0.096	-0.060	-0.034	-0.396 **	1				
15. Immediate	3.4	1.02	-0.015	-0.021	-0.073	0.033	-0.032	0.046	0.036	0.075	-0.003	0.562 **	0.050	0.153 **	0.116 *	-0.142 **	1			
16. Future	2.8	1.26	-0.081	0.026	-0.013	-0.035	-0.008	0.031	0.071	-0.017	-0.066	-0.279 **	-0.037	-0.099	-0.079	0.076	-0.426 **	1		
17. Just World	4.09	1.55	0.030	-0.078	0.003	-0.010	0.060	0.094	0.081	-0.153 **	-0.066	-0.070	-0.091	-0.202 **	0.071	-0.073	0.033	0.033	1	
18. Unjust World	4.31	1.95	-0.003	-0.027	-0.028	0.046	-0.041	-0.109 *	-0.090	0.076	0.046	0.106	-0.032	0.086	0.170 **	-0.223 **	0.198 **	-0.219 **	-0.217 **	1
19. Sustainability	3.35	1.31	-0.146 **	0.038	0.009	-0.031	0.071	0.275 **	0.269 **	-0.272 **	-0.116 *	-0.094	-0.001	-0.188 **	-0.265 **	0.281 **	-0.239 **	0.258 **	0.460 **	-0.538 **

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

Before testing the main hypotheses, we examined the effect of control variables on the firms' sustainability-oriented entrepreneurial actions. As it can be inferred from Table 2, Model 1, we found a negative relationship between the entrepreneur's age and the firm's sustainability-oriented entrepreneurial actions ( $B = -0.025, p < 0.05$ ). It seems that younger entrepreneurs are more concerned about environmental issues than older entrepreneurs. The result showed that entrepreneurs with higher marketing ( $B = 0.166, p < 0.05$ ) and technology experience ( $B = 0.231, p < 0.05$ ) take more sustainability-oriented entrepreneurial actions. Entrepreneurs with high marketing experience may be more aware of the customers' preferences for green products and services and, thus, they prefer more sustainability-oriented actions. Entrepreneurs with high technology experience have a higher tendency to engage in sustainability-oriented actions because they may know how old fashioned operating systems of companies can result in the emission of pollutants and destroy the environment. It seems that the entrepreneurs' prior experiences not only impact the firms' profitability and productivity [88], but also promote firms' sustainability activities. In addition, we found a negative relationship between the firm age ( $B = -0.015, p < 0.05$ ) and its sustainability-oriented entrepreneurial actions. Finally, in a highly changing and dynamic business environment ( $B = -0.156, p < 0.001$ ), entrepreneurs take fewer sustainability-oriented entrepreneurial actions.

In the first hypothesis, we expected that newly established firms by entrepreneurs high in other-regarding values in comparison with firms founded by entrepreneurs high in self-regarding values take more sustainability-oriented entrepreneurial actions. As shown in Table 2, Model 2, the relationship between self-regarding value and firms' sustainability-oriented entrepreneurial actions is negative and statistically significant ( $B = -0.197, p < 0.001$ ) and the relationship between other-regarding value and firms' sustainability-oriented entrepreneurial actions is positive and significant ( $B = 0.159, p < 0.01$ ). Thus, Hypothesis 1 was fully supported.

In the second hypothesis, we predicted that newly established firms by highly future-oriented entrepreneurs in comparison with the firms founded by highly immediate-oriented entrepreneurs take more sustainability-oriented entrepreneurial actions. As it can be inferred from Table 2, Model 3, the relationship between immediate orientation and firms' sustainability-oriented entrepreneurial actions is negative and statistically significant ( $B = -0.192, p < 0.05$ ) and the relationship between future orientation and firms' sustainability-oriented entrepreneurial actions is positive and statistically significant ( $B = 0.164, p < 0.01$ ). Thus, Hypothesis 2 was supported by our results.

**Table 2.** Regression analysis with sustainability-oriented entrepreneurial actions as criterion variable.

	Sustainability	Sustainability	Sustainability	Sustainability
	Model 1	Model 2	Model 3	Model 4
1. Age	-0.025 *	-0.027 **	-0.023 *	-0.029 ***
2. Gender	-0.005	0.001	-0.023	0.050
3. Education	0.011	0.018	-0.008	0.012
4. Religion	0.013	-0.001	0.013	0.025
5. Management Exp.	0.078	0.083	0.098	0.036
6. Marketing Exp.	0.166 *	0.166 *	0.169 *	0.119 †
7. Technology Exp.	0.231 **	0.192 *	0.219 **	0.180 **
8. Firm Age	-0.174 ***	-0.152 ***	-0.170 ***	-0.121 ***
9. Firm Size	-0.015 *	-0.016 *	-0.012 †	-0.009
10. Slack Resource	-0.098 †	-0.046	0.049	-0.024
11. Industry	0.009	0.017	0.017	0.010
12. Environmental Changes	-0.156 ***	-0.147 ***	-0.126 **	-0.083 *
13. Self-Regarding		-0.197 ***		
14. Other-Regarding		0.159 **		
15. Immediate Orientation			-0.192 *	
16. Future Orientation			0.164 **	
17. Just World				0.257 ***
18. Unjust World				-0.286 ***
R <sup>2</sup>	0.221	0.297	0.271	0.520
Adj. R <sup>2</sup>	0.191	0.263	0.237	0.497
F	7.289 ***	8.811 ***	8.118 ***	22.426 ***

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ ; †  $p < 0.10$ .

In the last hypothesis, we predicted that newly established firms by entrepreneurs with a strong belief in a just world in comparison with the firms founded by entrepreneurs with a strong belief in an unjust world take more sustainability-oriented entrepreneurial actions. As it can be inferred from Table 2, Model 4, the relationship between the belief in a just world and firms' sustainability-oriented entrepreneurial actions is positive and statistically significant ( $B = 0.257, p < 0.001$ ) and the relationship between the belief in an unjust world and firms' sustainability-oriented entrepreneurial actions is negative and statistically significant ( $B = -0.286, p < 0.001$ ). Thus, Hypothesis 3 was supported by our results. For checking the robustness of the result, we entered all variables (control variables and all six independent variables) simultaneously. The result did not change a lot and all the significant effects could still be found. Furthermore, we checked the nationality effects by splitting data and the result did not change in this analysis either.

## 6. Discussion

Despite the growing recognition of the importance of the firms' sustainability actions [86,108,109], little is known about the antecedent of this phenomenon on the individual level [110]. In this study, we researched the roots of the newly established firms' engagement in sustainability-oriented entrepreneurial actions through an examination of the founder's values, beliefs and orientations. This will help to explain the role of the individuals' differences when taking environmental conservation actions and to directly speak to the internal determinants of sustainability-oriented entrepreneurial actions.

Our study identified three different groups of entrepreneurs who care more about sustainability [9]. Firstly, we found that newly established firms by entrepreneurs with other-regarding values are more concerned about the effects of their operation on the ecological and social environments than firms founded by entrepreneurs with self-regarding values. It seems that entrepreneurs with other-regarding values try to keep a balance between nature, society and their economic activities. Since they consider themselves as part of a larger ecosystem, they avoid taking those actions which undermine the surrounding ecological and social environment.

Secondly, we found that newly established firms by highly future-oriented entrepreneurs take more sustainability-oriented entrepreneurial actions. There is a consensus among environmental management scholars that sustainability has a long horizon and the consequence of the firm's sustainable activities will appear in the future [109,111]. In line with these types of arguments, our results confirm that long-term-oriented entrepreneurs feel more commitment towards future generations by taking into account activities such as conserving natural resources, actively encouraging diversity among employees, providing safe equipment and avoiding polluting the surrounding environment.

Lastly, we found that newly established firms by entrepreneurs with strong belief in a just world show more sustainability-oriented entrepreneurial actions. Previous studies confirm that managers with a strong belief in a just world avoid unethical behavior which hurt others in their workplace and prefer more ethical decisions [73]. Our result in the entrepreneurship context represents a potentially significant extension to [73] findings by showing that entrepreneurs with a strong belief in a just world are not only concerned about the internal work environment but also prefer to take more sustainable activities to protect the external environment as well. In general, our findings are consistent with upper echelons theory, which means that the strategic actions of entrepreneurs inherently reflect their values, beliefs, and orientations [1–3].

Sustainable entrepreneurship is a complex phenomenon [9] and apparently not all entrepreneurs are concerned about social and environmental dilemmas equally [112]. Our paper takes a step towards highlighting the importance role of entrepreneurs' dispositions (values, belief, and orientation) in achieving such environmental sustainability. In looking to improve the integration of environmental and social considerations into newly established firms' business models [113], policy-makers must recognize the importance of individual dispositions. Since entrepreneurs' values, beliefs and

orientations are crucial in promoting a firm's founding in an environmental and social context; governmental training programs should strengthen these dispositions.

## 7. Limitations and Directions for Future Research

Our work suffers from several limitations. First, the values, beliefs and orientations of entrepreneurs may depend on cultural or environmental factors [114]. In addition, the socio-cultural factors influence entrepreneurial actions [115]. As such, future research should explore potential cultural and social factors that may moderate or mediate the influence of entrepreneurs' dispositions on firms' sustainability-oriented entrepreneurial actions. Second, we collected data from only young and small sized firms. This may decrease the generalizability of our data to larger and older companies. Large companies have much better financial ability that may increase or decrease the possibility of taking sustainability-oriented entrepreneurial actions. Future studies could explicitly explore the status of sustainability-oriented entrepreneurial actions in large companies and the effect of characteristics of the top-level managers. In addition to that, studies could also examine which entrepreneurial behaviors (e.g., routine vs. creative) and individual characteristics [34] (e.g., gender or age) lead to more or less sustainable actions.

Even though there is a lot of ongoing research in this context [33,86,108,113,116], our understanding of individual reasons is rather incomplete. This approach provides a much more detailed picture of sustainability-oriented entrepreneurial actions within firms. In the same situation, one entrepreneur may pay more attention to eco-friendly actions whereas the other one does not. Our results indicate that entrepreneurs behave differently in the same situation due to having different sets of values, beliefs and orientation. Exploring in more detail such an individual-specific rationale of sustainability would be crucial for developing effective preventive strategies for saving the environment on a country level.

Our sample is based on two factors which make a generalization difficult. First of all, we used two Asian countries. The results may differ if the same study is conducted in Europe or in the United States, so we would like to call for further research to analyze that. Second, we determine newly established firms to an age of up to eight years. This assumption might also be challenged by other researchers.

Finally, although not in our main hypothesis, we found some interesting correlation between some of our control variables (e.g., entrepreneurs' age, experience, firm age, and environmental changes) and sustainability-oriented entrepreneurial actions within firms. Future research can explore these relations by using a more qualitative approach, such as interviews or case studies.

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## Appendix A. Survey Measures

**Table A1. Sustainability-oriented entrepreneurial actions** (adopted from [9] ( $\alpha = 0.91$ )).

Our Organization Has Devoted Significant Effort in ...	Factor Loading
1. Improving health and well-being of people around the firm	0.923
2. Creating and distributing economic value amongst all stakeholders	0.934
3. Improving the quality of life in a particular community	0.914
4. Creating employment opportunities	0.921
5. Protecting or restoring the natural environment	0.908
6. Creating ethical and fair products	0.922
7. Establishing fair trading with suppliers	0.930
8. Promoting democratic business models	0.924

**Table A2. Self-regarding value** (adopted from [40] ( $\alpha = 0.907$ )).

For Me ...	Factor Loading
1. A comfortable life (a prosperous life)	0.782
2. Wealth (making money for myself and family)	0.860
3. Pleasure (an enjoyable life)	0.930

**Table A3. Other-regarding value** (adopted from [40] ( $\alpha = 0.926$ )).

For Me ...	Factor Loading
1. Helpful (working for the welfare of others)	0.838
2. Compassion (feeling empathy for others)	0.840
3. Equality (brotherhood, equal opportunity for all)	0.848
4. Loving (being affectionate, tender)	0.890

**Table A4. Present or immediate orientation** (adopted from [50] ( $\alpha = 0.90$ )).

	Factor Loading
1. I consider how things might be in the future, and try to influence those things with my day to day behavior.	0.708
2. Often I engage in a particular behavior in order to achieve outcomes that may not result for many years.	0.743
3. I only act to satisfy immediate concerns, figuring the future will take care of itself.	0.719
4. My behavior is only influenced by the immediate (i.e., a matter of days or weeks) outcomes of my actions.	0.795
5. My convenience is a big factor in the decisions I make or the actions I take.	0.833
6. I am willing to sacrifice my immediate happiness or well-being in order to achieve future outcomes.	0.808
7. I think it is important to take warnings about negative outcomes seriously even if the negative outcome will not occur for many years.	0.788



**Table A5. Future orientation** (adopted from [50] ( $\alpha = 0.94$ )).

	Factor Loading
1. I think it is more important to perform a behavior with important distant consequences than a behavior with less-important immediate consequences.	0.880
2. I generally ignore warnings about possible future problems because I think the problems will be resolved before they reach crisis level.	0.886
3. I think that sacrificing now is usually unnecessary since future outcomes can be dealt with at a later time.	0.883
4. I only act to satisfy immediate concerns, figuring that I will take care of future problems that may occur at a later date.	0.877
5. Since my day to day work has specific outcomes, it is more important to me than behavior that has distant outcomes.	0.756

**Table A6. Belief in a just world** (adopted from [87] ( $\alpha = 0.94$ )).

	Factor Loading
1. I feel that people get what they are entitled to have	0.887
2. I feel that a person's efforts are noticed and rewarded	0.888
3. I feel that people earn the rewards and punishments they get	0.889
4. I feel that people get what they deserve	0.863
5. I feel that rewards and punishments are fairly given	0.825
6. I basically feel that the world is a fair place	0.830
7. I feel that people who meet with misfortune have brought it on themselves	0.926

**Table A7. Belief in an unjust world** (adopted from [63] ( $\alpha = 0.957$ )).

	Factor Loading
1. A lot of people suffer an unjust fate	0.940
2. I feel that even important decisions are often unfair	0.932
3. I basically believe the world is an unjust place	0.927
4. I feel that people won't be compensated for injustices too often	0.941

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