

## **Role of Environmental Concerns on the Startups Networking: A Study of Indian Startups**

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### **Abstract**

Environmental challenges are increasingly becoming central to businesses. The startups are also being increasingly influenced by environmental concerns. The present article attempts to understand the environmental concerns in the values guiding the management of the startups at two levels, i.e., start up's internal as well as external operations. At the same time, it tries to correlate the same with the network size and networking frequency of the startups. A model has been proposed to show the relationship between start up's environmental concerns and their networking efforts. To identify and understand these relations, a survey was conducted on the emerging startups from different fields. The incubation centres at different institutions of Rajasthan (India) were covered under the survey. The findings highlighted a significant relationship between the start up's external environmental concern and networking, thereby suggesting the significance of these concerns for environmental issues in business operations. The startups having high environmental concern were found to be among the businesses which will get more attention and find themselves more scalable. Moreover, findings also revealed that the environmental orientation is a very crucial aspect of networking of startups, although the influence of external and internal environment orientation has a contrasting impact on the networking of startups. So, researchers and academicians working in the field of environmentally oriented startups can use this differentiation for further researches. There have been studies on correlating the environmental concern with networking in established firms in developed country such as Dickel et al. (2018). Moreover, emerging economies like India, there have not been an attempt to study this kind of relationship in the context of startups. The current study tries to validate the results of the study conducted by Dickel et al. (2018) for the startups in Rajasthan (India).

**Keywords-** Startups, Environmental orientation, Network frequency, Network size.

### **1. Introduction**

The present era has seen an increasing number of startups around the world (Startup India, 2019). There have been numerous startups in different fields like technology, agriculture, service delivery etc. Another important development of the present era is increased stress on environmental issues (Doblinger et al., 2019). This study is an attempt to correlate the two where it is being tried to ascertain how much concern and awareness startups show regarding the environmental issues. Government of India defines startup in very objective manner, i.e. "the entity registered in India up to a period of seven years from the date of registration or up to 10 years in case of startups in the Biotechnology sector with annual turnover not exceeding INRs 25 Crore for any of the financial years since incorporation and that organization should work towards innovation, development or improvement of products or high potential of employment generation" (Agarwal, 2018). For this article, the startups are the entities, which adhere to this definition.

According to Warby Parker's Co-CEO, Neil Blumenthal startups are "working to solve a problem where the solution is not obvious and success is not guaranteed" (Shontell, 2014). Many startups are looking to solve the problems of the world. It is very important that these startups themselves do not become a contributing factor in the ongoing climate change problems. Thus, it becomes very important to assess the environmental awareness among the basic values behind startup management. To this assessment, current article divides the start-up operations into two categories - internal operations and external operations. Internal operations include employee policies, internal communications, internal culture and values etc. External operations include customer interaction, interaction with other firms, interaction with government, regulatory bodies, negotiations with investors etc. There can be concern about the environment in both categories. Thus, a startup can be internally environmentally concerned or externally environmentally concerned or both.

Networking between firms is an important aspect of the business environment in today's world. According to Peter Witt (2004), successful networking presumes that a start up's success relates positively to the networking efforts of its founders. For example, a start-up Automated Insights, succeeded to scale up with the help of its founder's (Mr. Robbie Allen) previous work relation. The founder was previously working as a Cisco Programmer. With the help of already established networks, he quickly expanded its market and increased human resource. Due to these efforts of the founder, this organization is a subsidiary of STATS PERFORM, part of the Vista Equity Partners now (Rose, 2015). So, it can be concluded that networking is very important for the growth of any startup. Thus, the more networked a firm is, the more resilient it is considered (Lazarow, 2020). In the case of a startup, it is even more important because startup receives resources (information, contacts etc.) from networking. It is well accepted that networking is positively related to the resilience of the startup. The more resilient a startup is, the more will be the probability of its success (Hedner et al., 2011).

At the same time sustainability is also important for startups. So, it is very critical to identify the effect of the environmental concern of the startup on the networking of the startup. The current study considers two aspects of networking i.e., the size of the network and the how frequently each of the entity being networked is interacted with. This study tries to understand the association between networking and environmental concern of a startup. How environmental concern impacts networking will certainly help in deciding the scalability of the startup. In fact, scalability is directly a function of how environmentally concerned a startup is. Scale-up is a transformation of an organization/ start-up in such a way that organization gains a growth of at least 20% in last three years by employing at least 10 or more employees (OECD, 2018). Here, growth can be understood as gain in the number of customers, better brand valuation, the launch of a new site/website, increased social media presence etc.

Thus, as per the literature review, environmental concern is a well-established topic and is explained by many authors (Banerjee, 2002; Chan et al., 2012) and this article will also focus on the same concept but in context of startups. Startups engage in a variety of activities. Many of these activities may have an impact on the external environments and as a result, the startups try to reduce their negative environmental impacts. The attention paid by owners and other stakeholders of startups decides the external environmental concern of the startup (Chan et al., 2012; Dickel et al., 2018). Internal environmental concern can be measured on the basis of managers and employee's values and outlook towards environmental protection (Banerjee, 2002). This article also emphasizes on network size and networking frequency. Ostgaard and Birley (1996) explained networking frequency as extent up to which a firm communicates with its networking partners. Network size

can be explained and calculated by the logarithm of the sum of investors, customers, suppliers and other network collaborators (Cooper et al., 1991). The remainder of the article is organized into six sections. Section 2 contains the literature review and hypotheses development in the context of start up's environmental concern and its networking activities. Section 3 highlights the research methodology. Results are highlighted in Section 4. Finally, section 5 and 6 provides us the information about the implications and future research scope, limitations.

## 2. Literature Review

Most of the research in the field of environmental concerns is done in the context of an established organization, although it is an established fact that environmental friendliness is important for business and organizations (Meek et al., 2010), but there has been a little research done on the impact of environmental orientation of startups. This article will also explain the difference between start up's internal and external environmental concerns in the Indian context (Shah, 2015). This article tries to address these research gaps by analyzing the influence of start up's external environmental concern and start up's internal environmental concern on network frequency and network size.

According to the study of Gabler et al. (2015), more awareness among stakeholders regarding environmental orientation generally results into an increased need to address these concerns, which in turn leads to high external environmental orientation in the organizations. Thus, external environmental orientation is manager's assessment regarding the desire of network partners to adhere to environmental commitment and in turn expectation from the firm to meet expected environmental concerns (Banerjee, 2002). More importantly, start-ups having a higher level of external environment orientation need to engage more with its network partners to not only learn and solve their concerns about the environment but also deal with issues raised by them i.e., it can be expected that there will be a positive influence on networking frequency.

*Hypothesis H1. External environmental orientation positively impacts networking frequency.*

As per the study of (Fraj et al., 2011) internal environment orientation highlights that up to what extent the environmental values are implanted within the corporate culture of any organization. Internal environmental orientation means a positive outlook towards environment resulting from internal organizational culture i.e. through word of mouth or internal marketing (Wilson, 2001). Since it is related to internal organizational culture, compulsion to interact with external stakeholders is very less. Internal environmental orientation, therefore, will have a very little positive impact on networking frequency. An organization already having an internal culture of environment-friendly actions and policies will have little incentive to go for high levels of networking. Stakeholders will also be less inclined to push for environmental orientations, knowing well about the organizations' already positive attitude towards the environment. Internal environmental orientation can, therefore, be related to decreased networking frequency.

*Hypothesis H2. Internal environmental orientation negatively impacts networking frequency.*

A start-up's connection with multiple network partners decides its network size (Aldrich and Reese, 1994). More the connection, more will be the network size of the start-up (Aldrich et al., 1987). The same kind of approach has already been used to determine the organization's contacts (Witt, 2004). Higher environmental orientation means a company will have to take multiple actions to cope up with environmental issues. Complying with environmental orientation requires a company

to have a rich informational base, wider interaction with multiple stakeholders, various collaborations with similarly oriented firms (Baraldi et al., 2012). Thus external environmental orientation positively influences the network size.

*Hypothesis H3. External environmental orientation positively impacts networking size.*

A high internal environmental orientation means that the organization itself is highly concerned about environmental issues and as a result will comparatively look less outwards for coping with environmental concerns (Gabler et al., 2015). The ecological values and norms will be easily available inside the organization and the need for expanding network size will be lesser. More important such organization will be reluctant to work with network partners showing lesser environmental sensitiveness. Thus, higher the internal environmental orientation, lower will be the incentive to go for increasing network size (Dickel et. al, 2018).

*Hypothesis H4. Internal environmental orientation negatively impacts networking size.*

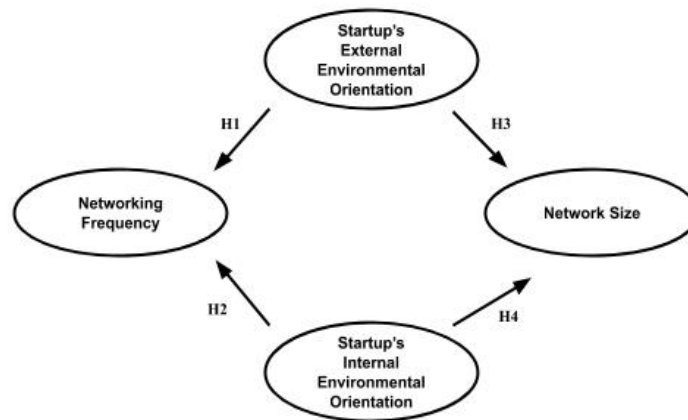


Figure 1: Proposed conceptual model

Based on the above hypotheses, a conceptual model has been proposed as shown in Figure 1.

### 3. Methodology

The data for the current study has been collected from multiple sources. Scale for the current study has been adopted from Dickel et al. (2018) as shown in appendix A. The content and face validity of the modified scale used in the current study was done with the help of 6 experts (3 industry experts and 3 academic experts) to ensure that questions are framed properly for better understanding of respondents. A mail was floated, with a questionnaire link to the incubation centres and entrepreneurship cells established in Indian Institute of Technology, National Institute of Technology, Indian Institute of Management and various other private college and institutes of Rajasthan. All the respondents were founders/managers of registered startups working in incubation centres. According to Chin (1998), at least 100 sample size is required for executing the data analysis process on Smart Partial Least Squares (Smart PLS). In total 270 responses were collected from various incubation centres. An online and offline survey was conducted for this study and Smart PLS is used as the statistical tool for further data analysis (Ringle et al., 2005).

In the current study, structural equation modelling has been conducted while Dickel et al. (2018) conducted a multiple regression analysis. Structural equation modelling is a combination of factor analysis and regression analysis (Hox and Bechger, 2011). In Structural equation modelling (SEM) analysis can be done by running multiple regression models simultaneously, which means there can be multiple independent variable and dependent variable in one model at the same time (Cheng, 2001; Schumacker and Lomax, 2004).

Table 1. Uni- dimensionality

Latent Variable	No. Of Indicator	Cronbach's Alpha	First Eigen Value	Second Eigen Value
ExtEn	4	0.814	2.574	0.594
IntEnv	4	0.901	3.085	0.449
NetFre	5	0.837	3.031	0.573
NetSiz	4	0.743	2.262	0.683

### 3.1 Uni-dimensionality Check

Initially, uni-dimensionality of various latent variables was analyzed using Cronbach- $\alpha$  and Eigenvalues. As shown in Table 1, values of Cronbach- $\alpha$  of all latent variables are more than 0.700 and values of first eigenvalue of all the variables are greater than 1 and values of the second eigenvalue of all the variables are less than 1. It means all the latent variables of the model are significant and uni-dimentional.

Table 2. Measurement model

Latent Variable	Manifest Variable	Loading	Communality	AVE	CR	Cronbach's Alpha
ExtEn	Ext1	0.865	0.643	0.643	0.878	0.814
	Ext2	0.806				
	Ext3	0.788				
	Ext4	0.745				
IntEnv	Int1	0.836	0.752	0.752	0.923	0.901
	Int2	0.820				
	Int3	0.922				
	Int4	0.887				
Netfre	Nf1	0.755	0.650	0.650	0.885	0.837
	Nf2	0.782				
	Nf3	0.810				
	Nf4	0.741				
	Nf5	0.802				
NetSiz	Ns1	0.762	0.564	0.564	0.838	0.743
	Ns2	0.795				
	Ns3	0.688				
	Ns4	0.756				

### 3.2 Measurement Model

The relationship between latent variables and the block of indicators are highlighted with the help of the measurement model as shown in Table 2. The table highlights the reliability and internal consistency of the model. As per Fornell and Cha (1994), internal consistency and reliability of measurement model are confirmed with the help of composite reliability (CR) and Cronbach- $\alpha$  values. All the values of Cronbach- $\alpha$  are greater than 0.700 along with all the factor loading greater than 0.700 at the same time values of composite reliability (CR) are also greater than 0.700 (Table 2), which confirms internal consistency and reliability of the model. Similarly, construct's average variance extracted (AVE) can be used to analyze convergent validity of the measurement model and if AVE values are greater than 0.500, convergent validity is confirmed (Fornell and Cha, 1994). As shown in Table 2 all the constructs are having values greater than 0.500 which justifies construct's convergent validity. Discriminant validity highlights that up to what extent a constructs are different from each other (Schumacker and Lomax, 2004). It is clear from Table 3 that all construct is strongly in variance with themselves and share less variance with other constructs. The analysis highlights good discriminant validity. All the above data depicts good reliability and validity of the measurement model.

Table 3. Discriminant validity

	ExtEn	IntEnv	NetFre	NetSiz
ExtEn	0.802			
IntEnv	0.323	0.867		
NetFre	0.765	0.288	0.778	
NetSiz	0.742	0.314	0.746	0.751

### 3.3 Structural Model

A structural model can be evaluated using the coefficient of determination method ( $R^2$  method) or with the help of significance level (Chin, 1998). The value of the coefficient of determination ( $R^2$ ) should be greater than 0.100 (Falk & Miller, 1992). Values of  $R^2$  of both the constructs of this study are 0.587 and 0.706 as shown in Figure 2. So, it can be concluded that this model has a high variance within the acceptable range. Level of significance can also be used to analyze the structural model. This method is also known as the goodness of fit (GOF) method. The following formula can be used to calculate the goodness of fit of the model (Tenenhaus et al., 2005).

$$GOF = \sqrt{(average\ communalities) \times (average\ R^2)}$$

Model fit is confirmed if GOF value lies between 0 to 1 (Tenenhaus et al., 2005). In this study, GOF value is 0.6495 which confirms a significant structural model fit.

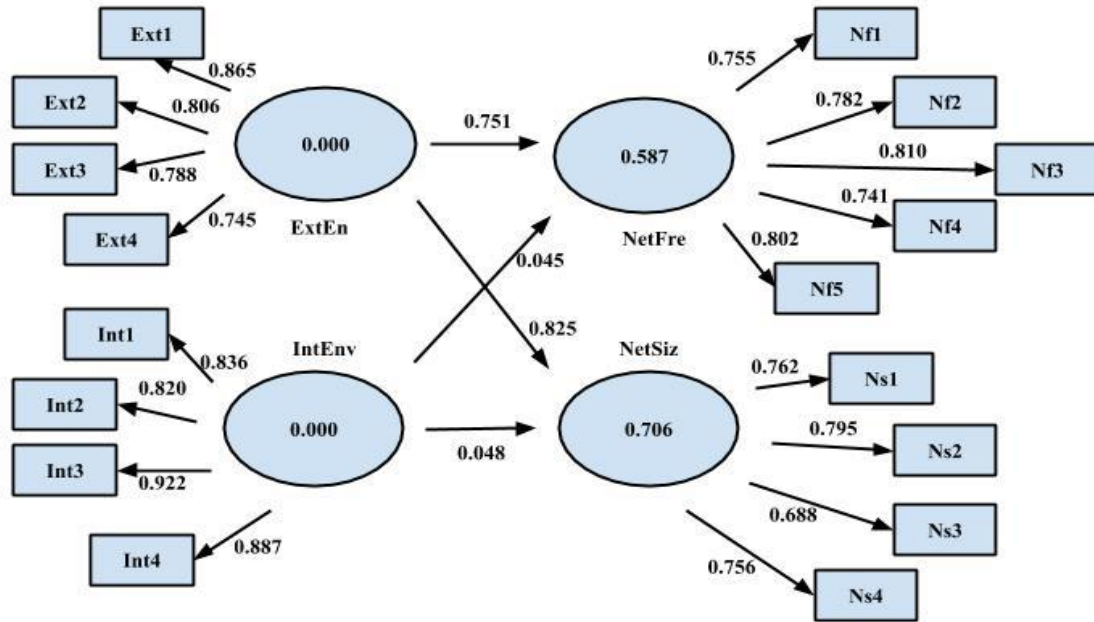


Figure 2. Structural model

Table 4. Path coefficients

Hypothesis	Path	Path Coefficient	T- Stats	P-value	Decision
H1	ExtEn -> NetFre	0.750	9.196	0.00001	Supported
H2	IntEnv -> NetFre	0.044	0.41	0.341	Not Supported
H3	ExtEn -> NetSiz	0.82	15.85	0.00001	Supported
H4	IntEnv -> NetSiz	0.047	0.788	0.215	Not Supported

### 3.4 Hypotheses Testing

In the current study, a total of 4 hypotheses were proposed. Table 4 highlights path coefficients and related hypotheses decisions obtained with the help of Smart PLS bootstrapping.

It is clear from Table 4 that hypothesis 1 and hypothesis 3 are supported (significance level = 0.00001) because T stat value is greater than 1.96 and P-value is less than 0.01, and hypothesis 2 and hypothesis 4 are not supported (Guyatt et al., 1995; Vinodh and Joy, 2012). Thus, it can be concluded that network size and network frequency are affected by start up's external environment orientation.

### 4. Results

This study tries to evaluate the influence of environmental orientation on network size and networking frequency of startups. Four hypotheses were assumed in the current study. Moreover, an attempt has been made to understand the difference between start up's external and internal envi-

ronmental concern. The results supported hypothesis 1 which indicates that start up's external environmental concern is positively correlated with networking frequency. Hypothesis 2 got rejected, which means that there is a non-significant impact of start up's internal environmental concern on networking frequency. On the contrary, hypothesis 3 was accepted which means that there is a significant positive influence of start up's external environmental concern on networking size. Moreover, hypothesis 4 got rejected and it can be concluded that start up's internal environment concern was not having a significant influence on network size.

The results of the current study were similar with the findings explained by Dickel et al. (2018), except the last hypothesis. Hypothesis 4 was not supported in the current study. On the contrary, Dickel et al. (2018) concluded that higher a start-up's internal environmental orientation, the smaller will be its network size. This contradiction of results can be due to the reason, that the data for the current study has been collected from incubation centres of Rajasthan, where multiple startups work in the same premises and share similar resources. This situation leads to increased network size as multiple managers from different organization work together. The same context was elaborated by Casper (2007), where the increased networking of employees was due to cluster formation at San Diego, California. The results of the current quantitative study are confirmed by the studies conducted in past in the context of entrepreneurship and established organizations (Cohen, 2006; Doganova and Karnøe, 2015). These studies also highlighted that environmental orientation are significantly related with the networking activities of organizations.

## 5. Discussion

The current research analyzed the interrelationship between environmental orientation, network size and networking frequency of startups. It can be concluded that networking behavior for internally environment orientated startups is different from externally environment orientated startups. Startups with higher external environmental orientation will have higher network size and frequency (Hypotheses 1 and 3). Another interesting finding of the current study is that the startups working in various incubation centres may focus more on external environmental orientation compared to internal environmental orientation. The probable reason behind this finding is that the grouping of multiple start-ups in incubation centres ultimately leads to increased network size of these start-up as employees work together, share same premises and resources.

### 5.1 Future Scope of the Current Study

If we compare externally and internally environment-oriented start-ups, internally environment-oriented startups have more freedom of networking frequency because they have no external pressure for indulging in networking activities with environment-conscious startups. Externally oriented startups are pushed to have furthermore networking frequency also network size which ultimately leads to a bigger network (Dickel et al., 2018). So, future research can be done to know about the appropriate level of external and internal environment orientation which startups need to be indulged in and how this combination will be achieved. Further, this study is only related to environmental concerns of the startups, other concerns such social value orientation, sustainability orientation and portfolio of startups also affect the networking activities of the startups (Bogaert et al., 2012; Wagner, 2012). So, these can also be a topic of future research. Only two features of networking (networking frequency and networking size) are considered in the current study. Other aspects of startups which can have moderating/ mediating role such as firm age, entrepreneurial orientation, competitive intensity and technological orientations, complexity, the domain of the startup can be included for the betterment of the model in future researches. Also, it was highlighted



in previous studies (Dickel et al., 2019) that certain industry shows some specific networking behavior like energy or metal industry. So, this kind of study can also be done in an industry-specific manner.

## 5.2 Managerial Implications

Startups with higher external environment orientation will have higher network size and network frequency. Such startups, because of their larger network size and network frequency will show more resilience and will have a higher probability of survival (Hedner et al., 2011). So, it can be concluded that managers should focus on the activities which enhance their external environment orientation to make organization resilience. Similarly, for investors, such type of startups will be a good opportunity to invest in. Managers of startups should focus more on external environment orientation. This will be helpful not only in branding themselves as an environmentally conscious organization to get a competitive advantage over others, but this will also increase their network size and network frequency. This will provide startups with valuable contacts and information beneficial for their growth in general.

Financial and marketing managers should focus more on market research to know how to enhance external environment orientation, even a separate budget can be allocated for the same. This will result in increased network size and frequency for the success of startups. On the basis of this study, it can be concluded that internal environment orientation has no significant influence on networking activities. So, focusing more on enhancing internal environmental orientations may not be emphasized.

## 6. Conclusion and Limitations

The current study has a few limitations also. Data for the current study has been collected from startups based in Rajasthan only, so for future study data can be collected from all over India. A cross country study could be done in future with a bigger sample size. Another major limitation is that some important aspects related to startups such as firm age, entrepreneurial orientation, competitive intensity and technological orientations, complexity etc. were not included in this study. It can be concluded from this article that startups' environmental orientation can act as an antecedent to make or break entrepreneurial opportunities based on its networking practices. Although, it is up to startups how they use these opportunities and make financial benefits without harming the environment.

### Conflict of Interest

The authors confirm that there is no conflict of interest to declare for this publication.

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## Appendix A

Rate the following statements regarding your organization's environmental orientation (where 1= strongly agree to 5 = strongly disagree)										
<b>Internal environmental orientation</b>					1	2	3	4	5	
My organization takes significant initiatives so that employees can understand the significance of environmental protection.										
My organization follows policies of environmental awareness at all levels of operations.										
We value our organization's environmental protection policy.										
My organization keeps high regards for environmental protection.										
<b>External environmental orientation</b>										
My organization's operations will get influenced if we focus on natural environmental development.										
My organization's natural environment has impact of its financial performance.										
My firm's survival depends upon environmental protection initiatives taken by us.										
We are expected to save environment by our stakeholders.										
Please mention the stakeholders with which the upper management of your organization keeps a regular touch (Phone call; email; personal visit)										
<b>Networking Size</b>					{tick any/ many}					
Customers										
Suppliers										
Investors										
Other network partners										
Please mention how often does the upper management contacted these stakeholders during initial stages of startup. (where 1= no contact to 5 =very extensive contact)										
<b>Networking frequency</b>					1	2	3	4	5	
Customers										
Suppliers										
Investors										
Research institutions										
Industry experts										