

Youth Ecopreneurship: A Key for Success of First Generation Entrepreneurs

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ABSTRACT

Environment Sustainability is vital for every economy in the world. Companies are considered to be the main players creating environmental and social problems, and thus to be the source of a lack of sustainability in society. This article focuses on how the first generation entrepreneurs can contribute towards environment sustainability. The article aims to analyse the potential of environmentally conscious entrepreneurs, called Ecopreneurs, to encourage more startups that would create environmental technologies needed to address our environmental problem. The article also aims to examine how ecopreneurs can create an economically viable business. It also discusses how first generation entrepreneurs can promote ecopreneurial behaviour. The article is based on Primary and Secondary data. It aims at developing a model for the first generation ecopreneurs through ISM Structural Modeling.

Keywords: Ecopreneurs, First Generation Entrepreneurs, Sustainability, Interpretive Structural Modeling

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Introduction

There is a growing concern toward more sustainability in our society. As a consequence, more and more entrepreneurs are entering into that field (Choi and Gray, 2008). Environmental business management has focused its attention on why and how the existing firms can become greener. However, the field of green management has begun to broaden its arena, and recently there has been a growing recognition of the importance of linking sustainability and innovation, the role of small and medium enterprises, the importance of sustainability in strategic business development, and green practices in industries. The adoption of environmentally responsible business practices will open up an additional range of opportunities for entrepreneurs. The move to a sustainable business framework provides numerous niches which enterprising individuals can identify. This includes the development of new products and services, improving the efficiency of existing firms, new methods of marketing, re-configuring existing business models and practices. Ecopreneurship is not only important because it provides new opportunities for the first movers who identify and exploit such opportunities, but also because it has the potential to be a major force in the overall transition to a more sustainable business paradigm.

Ecopreneurship is a combination of two words, 'ecological' and 'entrepreneurship'. Thus, it can be defined as entrepreneurship through an environmental lens. For a company to have a positive environmental influence, a real improvement can be created only if the production processes, products, and services are environmentally superior. Ideally, Ecopreneurship pulls the whole market towards environmental progress. Ecopreneurs strive for business success through environmental solutions for the mass market.

Environmental issues are of low priority for companies that are located in the lower right hand, and consider environmental protection as a trustee duty. Companies that are located in the middle consider environmental goals as supplementary to the business attempt to pilot and control environmental impacts in an efficient manner, and companies located in the upper right hand treat environmental issues as central to their core business.

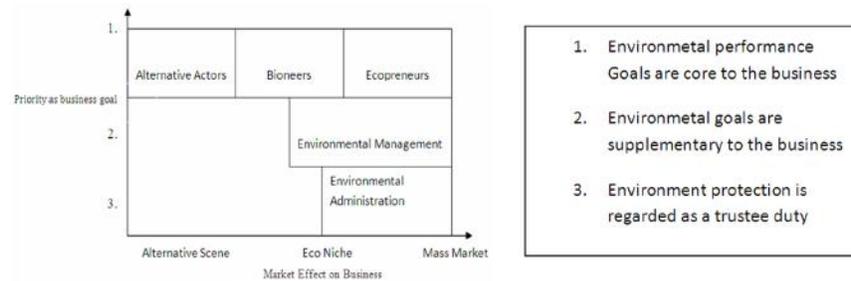


Figure 1: Business Continuum: Relation Between Priority Given to Environmental Issues as Business Goals and Market Effect of Business

Source: Schaltegger and Petersen, 2001:10

The green entrepreneur's activities have an overall positive impact on the natural environment and they move towards a more sustainable future. All their business is structured and operated in such a way that every component has a neutral or positive impact on the environment. Environmental and social entrepreneurs, or ecopreneurs, lead socially committed, break-through ventures that are driven by environmental, social and economic goals.

Objectives of the Study

- To find out the key factors for first generation entrepreneurs through Ecopreneurship.
- To develop a model to identify the relation among the success factors for first generation entrepreneurs through Ecopreneurship through Interpretive Structural Modeling (ISM).
- To examine how ecopreneurs can create an economically viable business.

Literature Review

A strong link is identified between entrepreneurialism and environmentalism. The success of the Green-Works business model stems from the business' symbiotic relationships: first with large corporate bodies, which are keen to quantify their Corporate Social responsibility (CSR) efforts; second, with the community and social partners, who provide employment and

training for disadvantaged people and a route to relatively risk free growth; and third, with the government and social institutions, which provide special concessions and support. The strong economic foundations of the model provide sustainability for the environmental and social objectives of the organisation (Dixon and Clifford, 2007).

Environmentalism can be understood only in terms of attitudes; it cannot be subsumed into, or understood in purely economic terms because of the power of the moral dimension. Entrepreneurship is primarily an individualistic economic action, but it too can be driven by moral attitudes (Anderson, 1998).

It's important to give Ecopreneurship serious consideration because we are rapidly losing our natural resources—the true capital of any nation. In the past decades, economic growth has been the only measure of the nation's progress (Joshi, *TOI*).

Ecopreneurship is also important because eco-innovations will be the future competitive advantage of companies and countries. They argued that if companies and countries want to be successful in the international market, they cannot rely on having low cost as their competitive advantage, but rather on new and innovative environmental technologies, services and processes which will be the more important sources of competitive advantage. The long-term sustainability of our economic system does not depend only on quantitative growth, but also on the ecological aspects of the growth and sustainable development (Klimova and Zitek, 2011, p. 2).

The world population is expected to increase by 50 per cent by 2050, and with it will come an increase in consumption (World Business Council for Sustainable Development, 2002). Although part of this consumption is important for relieving poverty in many emerging countries, most it will be done by affluent consumers and can have a negative impact on the ecosystems (Volery, 2002, p. 542). Ecopreneurship is therefore important to find the new technologies to protect the environment, and to ensure that there are enough resources to fill the needs of both the current population and future generations (Volery, 2002). Biodiversity loss also justifies entrepreneurial action to solve environmental problems. The entrepreneur's perception on Information Technology Innovation Adoption plays an important role of precipitating events on usage behaviour (S. Moghavvemi).

In a market system, sustainable development requires sustainability innovation, and entrepreneurs who can achieve environmental or social goals with superior products or processes that are successful in the marketplace of mainstream customers, contribute to solving environmental problem and creating economic value. They generate new products, services, techniques and organisational modes which substantially reduce environmental impacts and increase the quality of life (Schaltegger and Wagner).

Table 1: ISM Reference Table based on Literature Review

<i>S. No.</i>	<i>Factors</i>	<i>Variables</i>	<i>Reference</i>
1.	Green Work Business Model	V1	Sarah E.A. Dixon, Kingston Business School, Kingston upon Thames, UK. Anne Clifford, Kingston Business School, Kingston upon Thames, UK. Venus Talwar and Kavita Puri.
2.	Moral Dimensions and Environmentalism* (*Environmentalism is an ideology based on reaction to the excessive of industrial modernity)	V2	Cultivating the Garden of Eden: Environmental Entrepreneurship, Article citation: Alistair R. Anderson, (1998), 'Cultivating the Garden of Eden: environmental entrepreneurship', <i>Journal of Organisational Change Management</i> , vol. 11 Iss: 2, pp. 135–44.
3.	Economic Growth	V3	Anil P. Joshi, <i>Times of India</i> .
4.	Eco Innovations and Long Term Sustainability	V4	Klimova and Zlek, 2011.
5.	Technology Development and Environmental Management	V5	Stephen, University of Luneburg, Germany. Factors influencing Japanese entrepreneurs in high-technology ventures – Dennis M. Ray, Dominique v. Turpin. The Entrepreneur's Perception on Information Technology Innovation Adoption: An Empirical Analysis of the Role of Precipitating Events on Usage Behaviour – S. Moghavvemi.

<i>S. No.</i>	<i>Factors</i>	<i>Variables</i>	<i>Reference</i>
6.	Social Responsibility	V6	Sarah E.A. Dixon, Kingston Business School, Kingston upon Thames, UK. Anne Clifford, Kingston Business School, Kingston upon Thames, UK.
7.	Government and Social Institutions	V7	Sarah E.A. Dixon, Kingston Business School, Kingston upon Thames, UK. Anne Clifford, Kingston Business School, Kingston upon Thames, UK.
8	Economic Value	V8	Stefan Schaltegger and Marcus Wagner.

Interpretive Structural Modeling

Interpretive Structural Modeling (ISM) enables the individual or a group to manage the interrelations between two or more elements at a time without compromising and deviating from the actual properties of the original elements/issues (Morgado et al., 1999). ISM provides a framework for delineation of a hierarchy amongst variables, influencers or elements of any project under consideration (Warfield, 1974; Sage, 1977). This kind of modeling is seen as a useful tool that helps logical thinking and carefully approaching complex issues, and then communicating the results of that thinking to others. The term ‘interpretive structural modeling’ (ISM) connotes systematic application of elementary notions of graph theory in such a way that theoretical, conceptual, and computation leverage is exploited to efficiently construct a directed graph, or network representation, of the complex pattern of a contextual relationship among a set of elements (Malone, 1975). ISM is much more flexible than many conventional quantitative modeling approaches that require variables to be measured on ratio scales. It offers a qualitative modeling language for structuring complexity and thinking on an issue by building an agreed structural model (Morgado et al., 1999). ISM as a tool is interpretive because it is based on interpretation and judgement of group members on whether and how elements are related, and it is structural as it extracts the overall hierarchy from a complex set of variables. It has a mathematical foundation, philosophical basis, and a conceptual and analytical.

Methodology

Details of various steps involved in ISM are as follows:

1. Identify and list elements/variables relevant to the factors for successful Ecopreneurship under consideration, through a literature review.
2. Use ISM literature review and pilot survey to find the key factors for success of first generation entrepreneurs.
3. Develop a Structural Self Interaction Matrix (SSIM) for variables, indicating pair-wise relationships among variables being studied.
4. Convert the SSIM developed into a reachability matrix.
5. Test the reachability matrix for transitivity (if A depends on B and B depends on C, then by principle of transitivity, A depends on C), make modifications to satisfy the transitivity requirements, and derive the final reachability matrix.
6. Delineate levels by iterative partitioning of the final reachability matrix.
7. Translate the relationships of reachability matrix into a diagraph and convert it into an ISM.
8. Review the model for conceptual inconsistencies and make modifications in SSIM, if necessary.

Structural Self Interaction Matrix (SSIM)

For development of Structural Self interaction Matrix (SSIM), ISM methodology suggests that experts' views are used for defining contextual relationship among variables, in line with objectives of the study. In this research, an entire list of success factors for the first generation entrepreneurs through Ecopreneurship, identified from the literature review, was presented to a group of participants. The group was explained the background of study and was asked to deliberate whether the list of eleven barriers/hurdles and eleven enablers/drivers adequately covered all factors influencing m-banking, or there was a need to include any other factor(s). Four symbols were used to denote the type and direction of relationship between a pair of barriers, 'i' and 'j' (referring to serial number of a barrier in row and column respectively).

Table 2: Structural Self Interaction Matrix (SSIM)

<i>i</i>	<i>j</i>							
	V_8	V_7	V_6	V_5	V_4	V_3	V_2	V_1
V1	V	A	V	X	X	V	X	
V2	V	A	X	A	X	V		
V3	X	X	A	X	X			
V4	X	X	A	X				
V5	X	A	O					
V6	A	X						
V7	O							
V8								

The following four symbols are used to denote the direction of relationship between the two factors (*i* and *j*). The following four possibilities are considered for making SSIM as shown in Table 2.

Table 2

$i \rightarrow j$	\Rightarrow	If that is true, the relationship is symbolised as <u>V</u> .
$j \not\rightarrow i$		
$i \not\rightarrow j$	\Rightarrow	If that is true, the relationship is symbolised as <u>A</u> .
$j \rightarrow i$		
$i \rightarrow j$	\Rightarrow	If that is true, the relationship is symbolised as <u>X</u> .
$j \rightarrow i$		
$i \not\rightarrow j$	\Rightarrow	If that is true, the relationship is symbolised as <u>O</u> .
$j \not\rightarrow i$		

Reachability Matrix

SSIM developed from contextual relationships were converted into binary matrices called Initial Reachability Matrices, by replacing V, A, X and O by a combination of 1s and 0s in accordance with the VAXO rules. If entry (*i*, *j*) in SSIM = 'V', enter element (*i*, *j*) as '1' and (*j*, *i*) as '0' in initial reachability matrix (Table 3).

If entry (i, j) in SSIM = 'A', enter element (i, j) as '0' and (j, i) as '1' in initial reachability matrix If entry (i, j) in SSIM = 'X', enter element (i, j) as '1' and (j, i) as '1' in initial reachability matrix If entry (i, j) in SSIM = 'O', enter element (i, j) as '0' and (j, i) as '0' in initial reachability matrix

Table 3: Reachability Matrix

<i>i</i>	<i>j</i>								Driving Variables
	V1	V2	V3	V4	V5	V6	V7	V8	
V1	1	1	1	1	1	1	0	1	7
V2	1	1	1	1	0	1	0	1	6
V3	0	0	1	1	1	0	1	1	5
V4	1	1	1	1	1	0	1	1	7
V5	1	1	1	1	1	0	0	1	6
V6	0	1	1	1	0	1	1	0	5
V7	1	1	1	1	1	1	1	0	7
V8	0	0	1	1	1	1	0	1	5
Dependent Variable	5	6	8	8	6	5	4	6	

Level Partitioning

Table 4: Level Partitioning, Level 1 – V4, V5

<i>i</i>	<i>j</i>			Level
	Reachability Set	Antecedent Set	$RS \cap AS$	
V1	1,2,3,4,5,6,8	1,2,4,5,7	1,2,4,5	
V2	1,2,3,4,6,8	1,2,4,5,6,7	1,2,4,6	
V3	3,4,5,7,8	1,2,3,4,5,6,7,8	3,4,5,7,8	
V4	1,2,3,4,5,7,8	1,2,3,4,5,6,7,8	1,2,3,4,5,7,8	Level 1
V5	1,2,3,4,5,8	1,3,4,5,7,8	1,3,4,5,8	Level 1
V6	2,3,4,6,7	1,2,6,7,8	2,6	
V7	1,2,3,4,5,6,7	3,4,6,7	3,4,6,7	
V8	3,4,5,6,8	1,2,3,4,5,8	3,4,5,8	

Final reachability matrix obtained after incorporating transitivity requirements is used for level partitioning (Table 4). It involves comparing the 'reachability' and 'antecedent' sets of variables, and delineating levels on the basis of intersection sets. It leads to a reachability set for a variable by considering the variable itself and other set of variables that cause an

impact, whereas the antecedent set comprises the variable and a set of all those variables that have an impact on the primary variable. The hierarchy in ISM is decided by the level of similarity in reachability and intersection sets (Tables 5 to 8). These variables would not impact any other variables.

Table 5: Iteration Table Level 2 – V3, V8

<i>i</i>	<i>j</i>			<i>Level</i>
	<i>Reachability Set</i>	<i>Antecedent Set</i>	<i>RS ∩ AS</i>	
V1	1,2,3, 6,8	1,2, 7	1,2	
V2	1,2,3,6,8	1,2, 6,7	1,2,6	
V3	3, 7,8	1,2,3, 6,7,8	3,7,8	Level 2
V4	1,2,3,7,8	1,2,3, 6,7,8	1,2,3, 7,8	
V5	1,2,3, 8	1,3, 7,8	1,3, 8	
V6	2,3,6,7	1,2,6,7,8	2,6	
V7	1,2,3, 6,7	3,6,7	3,6,7	
V8	3, 6,8	1,2,3, 8	3, 8	Level 2

Table 6: Iteration Table Level 3 – V1

<i>i</i>	<i>j</i>			<i>Level</i>
	<i>Reachability Set</i>	<i>Antecedent Set</i>	<i>RS ∩ AS</i>	
V1	1,2,6	1,2, 7	1,2	Level 3
V2	1,2,6	1,2, 6,7	1,2,6	
V3	7	1,2,6,7	7	
V4	1,2,7	1,2, 6,7	1,2,7	
V5	1,2	1,7	1	
V6	2,6,7	1,2,6,7	2,6	
V7	1,2,6,7	6,7	6,7	
V8	6	1,2		

Table 7: Iteration Table Level 4 – V2

<i>i</i>	<i>j</i>			<i>Level</i>
	<i>Reachability Set</i>	<i>Antecedent Set</i>	<i>RS ∩ AS</i>	
V1	2,6	2, 7	2	
V2	2,6	2, 6,7	2,6	Level 4
V3	7	2,6,7	7	
V4	2,7	2, 6,7	2,7	
V5	2	7		
V6	2,6,7	2,6,7	2,6	
V7	2,6,7	6,7	6,7	
V8	6	2		

Table 8: Iteration Table Level 5 – V6, V7

<i>i</i>	<i>j</i>			<i>Level</i>
	<i>Reachability Set</i>	<i>Antecedent Set</i>	$RS \cap AS$	
V1	6	7		
V2	6	6,7	6	
V3	7	6,7	7	
V4	7	6,7	7	
V5		7		
V6	6,7	6,7	6	Level 5
V7	6,7	6,7	6,7	Level 5
V8	6			

Building up the ISM

After partitioning the levels, relationships between various factors are depicted by drawing a node for each variable, and connecting those nodes by arrows as per the direction of relationship. The diagram is examined and validated for transitivity, which is clearly described in methodology, and it is then converted into an ISM model (Figure 2).

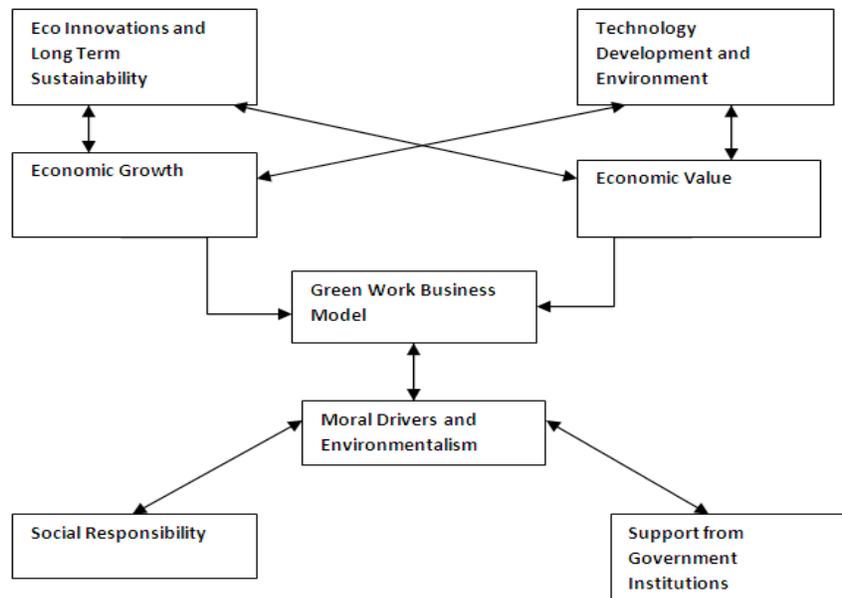


Figure 2: ISM Model for Success Factors for First Generation Entrepreneurs through Ecopreneurship

The model shows the success key factors for the first generation of entrepreneurs. Different levels were found as per their importance for ecopreneurship. The most important variable for ecopreneurship is eco innovation and long term sustainability, and technology development and environment. There is a positive and two-way correlation between economic innovation and economic growth; similar correlation exists between technology development and environment with economic value. All these four variables affect each other to a great extent. A green work business model would come up with the four variables stated above. The least important variables for ecopreneurship are social responsibility, and government and institutional support. But these two variables are strongly linked to modern drivers and environmentalism which again are correlated both the ways with Green Work Business Model.

Conclusion

A strong link is identified between entrepreneurialism and environmentalism. The field of Ecopreneurship is still in its infancy, but the number of ecopreneurs is growing. There is also a solid theoretical rationale for Ecopreneurship. Both the Schumpeterian and the Ecological Modernisation theories clearly explain why Ecopreneurship is one of the best solutions for environmental problems. Green businesses are models that can help show the way to increase productivity while reducing resource use in a manner that is harmonious with human health, and the sustainability of non-human species as well. Green start-ups make it easier to 'fix' environmental components and processes from the outset.

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