The Green Ocean Innovation Model

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Abstract

The aim of this paper is to focus on a new innovation management model that would closely mirror existing theories in corporate management and can be easily applied to real world business decisions. In order to present this discussion, the researcher would unravel the most significant theoretical portions of this new innovation model paradigm while laying down its important concepts and ideas. The Green Ocean model combines the best elements from Blue Ocean model and Red Ocean model and is applicable in many domains of activity.

Keywords: Green Ocean, innovation management, Blue Ocean, Red Ocean.

1. Introduction

Different types of organizational structures have different innovation potential but at the same time, this outcome depends on the company's culture and strategies (Rogers, 1995). Many innovations require a lengthy period, often many years, before they are widely adopted (Rogers, 1995). At such a juncture, it becomes critical to derive an innovation management model that can justify the costs incurred in sustaining innovation within the business framework (Eversheim, 2008).

The innovation management model being discussed for this paper is called the "green ocean strategy" which is a hybrid theory derived from the more popular theories, "blue ocean strategy" and "red ocean strategy". Our theory is not to be confused with similarly-named strategies that deal with environmental impact of business; rather, we're talking of a whole new paradigm that can intelligently blend the best portions of blue ocean and red ocean strategies to give sustainable, competitive benefits to an organization's innovation exercise. To understand how this theory would work, it's essential to develop a synergism in other theoretical models.

2. Blue and Red Ocean

Basically, the blue ocean strategy indicates a radical or disruptive innovation where companies innovate so that they do not have to compete with products from other companies, but create separate categories of products in their own right, thus, setting the benchmark as an early mover in the given segment (Boyer & Verma, 2009; Ziesak, 2009; Aaker, 2011). This means the blue oceans are untapped and uncontested markets that provide little or no competition for the business. For instance, when Apple had launched iPhone in 2008, it was a pioneer in the smartphone segment, thus, their innovation succeeded in terms of the blue ocean strategy.

In contrast, the red ocean strategy refers to a saturated market in which there is fierce competition because it is already crowded with companies providing the same type of products and services, leading to price wars which are detrimental to innovation (Boyer & Verma, 2009). Taking Apple's example again, recently, it launched the latest version of its smartphone for end users, iPhone 5, at a time when the market is already saturated with Blackberry, Nokia, Samsung and other Android phone segments, a clear example of a red ocean strategy.

Both strategies have their own merits and disadvantages when it comes to applying innovation. While the blue ocean strategy allows a company to pursue a new market, often, it can lead to disasters. It is something akin to Christopher Columbus sailing across uncharted waters to discover the New World; there's a huge probability that such missions would fail.

It is believed that only 1% of new ideas succeed to see the light of the day whereas a vast majority, around 99%, are destined to fail (Mastermind Coach, 2012; Holt & Cameron, 2010; Kotler, 2012; Bessant & Tidd, 2011). Clearly, the inventor or business guru is taking a huge leap of faith when it comes to the blue ocean strategy, however, the rewards are huge and the monetary promise is significant. That is why seasoned innovators like Apple, Dell and Microsoft invest a huge amount of money to get the invention right, so that they can straightaway steam ahead through a competent blue ocean strategy. In contrast, most other firms like to keep their innovation areas to the bare minimum, competing in known territories with a red ocean strategy so that their business is immune to downturns and they are able to reasonably pay their employees well (Gondek, 2011; Koontz, 1990).

3. Green Ocean

At this point, it is relevant to introduce the topic of our discussion; the green ocean strategy (not to be confused with its environmental namesake), is a hybrid mechanism which combines the best things that characterize blue ocean and red ocean strategies. The keyword is *sustainability*; in discussing this theory, the researcher asserts that there can be no one-size-fits-all formula governing the innovation mechanism of an organization. As has been already covered, an organization's innovation is a befitting response to its structure, market conditions and internal culture. Clearly, the best innovation model for organizations should be able to combine the best elements of a blue ocean and a red ocean strategy, thereby, allowing organizations to sustainably compete in a rigorous market, and at the same time, brisk ahead of competitors through a pursuit of innovation. The extent to which companies may succeed in the green ocean strategy, as will be explained in this paper, depend on its ability to self-analyze its sustainability levels in a highly competitive business world. To illustrate the latter, the researcher would demonstrate key statistical/practical models in the practical section of this paper.

In this section, we shall discuss theoretical methodologies in the quest of green oceans. Later, we shall practically apply and test these tools and frameworks in action by means of imaginary models, enriching and refining the model in the process. The green ocean strategy will serve as a safety valve for companies trapped in the red ocean rut, facing intense competition, mounting price pressure, increasing bargaining power of customers, and flat demand despite overwhelming choice, essential characteristics of the blue ocean regime (Kim & Mauborgne, 2005; Siegemund, 2009; de Bes & Kotler, 2011; Burt, 2011).

In order to set a company on a strong, profitable, growth trajectory in the face of industry conditions using innovative revenue streams, yet ensuring it does not deviate from its core business objectives, the green ocean strategy will ensure a healthy balance for the company, preventing the huge risks that accrue due to going out all alone in an uncertain business environment. To complement our understanding of the blue ocean strategy, it has to be kept in mind that most businesses need to have a fair knowledge of risk and rewards before it plunges ahead with a firm mind (Siegemund, 2009; Holt & Cameron, 2010).

4. Research and methodology

As per research guidelines, a green ocean strategy would enable the organization to focus on a significant percentage of its core business (*red portion*, which we shall call *x*) and a significant percentage for new innovative strategies (*blue portion*, which we shall call *y*). The research objective here would be to find out the exact percentage of a company's spending budget that can be utilized for either x or y variables. Indeed, both x and y variables require a strategic thinking which would follow the general course of a business's growth trajectory in its target geographies, major consumers, buyer trends and other interrelated aspects. To verify the authenticity of these percentages, the model description should focus on what worked best with the company over the past few years. Such a task is best entrusted to company core advisors as well as advisory committee members, and C-level employees who look after everyday business decisions of the company.

The objective of finding out x and y variables stems from the researcher's intuitive need to satisfy quantitative results that can be derived from real business use cases in innovation. Any innovation model must firmly allow the researcher to come with a realistic evaluation plan which yields statistically significant results. These **research questions** have to be answered in order to yield these exploratory results:

Q1. Is the industry attractive or unattractive (Holt & Cameron, 2010)?
Q2. Is the industry driven by technology pioneering or value pioneering (Siegemund,2000)?
Q3. What is the value/cost trade-off (Gondek, 2011)?

Q4. How can the company's entire system be aligned in pursuit of differentiation and low cost (Gondek, 2011)?
Q5. What is a realistic percentage of total R&D spending budget that can be applied to blue ocean and red ocean elements of the business?

Basically, blue and red oceans have always coexisted and always will. Practical reality, however, demands that companies understand the strategic logic of both types of oceans. At present, competing in red oceans dominates the fields of innovation in theory as well as practice, even as businesses need to create blue oceans with an ever-growing intensity (Gondek, 2011). It's time to even the scales in the field of strategy with a better balance of efforts across both oceans. For although blue ocean strategies have always existed, for the most part, these strategies have been self-conscious.

But, once, corporations realize that the strategies for creating and capturing blue oceans have a different underlying logic from red ocean strategies, they will be able to create more blue oceans in the future, while at the same time, being more proficient in their red ocean strategy. The green ocean innovation model looks beyond the limitations of blue and green ocean strategies. It combines the best elements of both to gain statistical significant results which aid innovation efforts in their best manner. This aspect will be examined in the next section.

4.1. Brief discussion of tools used:

Research, in common parlance, is defined as a 'search for knowledge' (Eversheim, 2008). Being an academic activity, the definition of research should be clarified in a technical sense. In its simplest form, research is defined as the pursuit of truth using study, observation, comparison-making and reaching of conclusions (Eversheim, 2008). Such a knowledge domain can only be based on scientific methods (Eversheim, 2008).

Although research is considered the most heart and soul of every business activity, there is no consensus on how it should be carried out. Research is a method of enquiry or investigation; it is systematic and methodical approach and it increases knowledge (Eversheim, 2008). Research relies on facts, experience and data, concepts and constructs, hypotheses and conjectures, and principles and laws. There are different paradigms for research which are classified under qualitative or quantitative research.

Accordingly, quantitative data can be described as any data which is expressible numerically in its form. Literature Reports and reviews are the usual research methods used under this paradigm. Research can claim that unless innovation can be expressed in numerical terms, it cannot be accurately measured (Eversheim, 2008). Qualitative data covers a range of material collected from previous research, literature review, case studies and unstructured interviews. Some researchers would argue that the qualitative approach is better as it provides greater depth to the objectives stated out in advance.

In order to discuss the practical implications of the green ocean innovation model, the author will use SPSS software – Salstat 2. The goal of this research is to perform a multi-variate test for a relationship between innovation strategies, core business spending budget and R&D spending budget. Our present approach would be to have summary statistics from all available cases that have valid values. Correlation presents a key instance where pairwise deletion is the default. It is therefore, not unusual for correlations procedure in SPSS to be based on somewhat different cases. If you want to establish an association between dependent and independent variables, you must be able to predict the amount of correlation between the two.

This leads us to another important statistical tool that will be used in this research paper, the method of regression model analysis. It is a very useful tool for making predictions of likely values of the dependent variable and to test whether a specific variable (or set of variables) is important in predicting a dependent variable (OECD, 2009). Since these items cover a range of domains, such as financial success, customer satisfaction, employee satisfaction, all indicative of innovation success, the values from a five-point Likert scale may be used to form one overall dependent variable that will be used in the regression analysis. This way we can reduce the statistical error attached to individual items, as well as reducing the foci of how success is measured among the sample of innovation variables (OECD, 2009). The dependent variable, thus, measures innovation, per se, rather than a distinct aspect of it. Ordinary least square regression method would yield steady results. All raw data used is for representation purposes only, although the statistical yield would be of importance.

4.2. Performing the tests

As far as this specific subject of Green Ocean strategies in innovation are concerned, both qualitative and quantitative methods may be applied but quantitative data will give speedier results. Literature that is available is with opinions of people involved in the project as well as the concerned authorities. This has enabled the author to understand the totality of the situation and multiple methods have been used to establish different views of the phenomena. With qualitative data, it is possible to preserve chronological flow, see precisely which events lead to which consequences and derive fruitful explanations. In qualitative study any number of approaches may be used to generate theory. The research flow on innovation being discussed in this paper is a significant constituent of allied subjects such as operations research, production, planning and control etc. Thus, measuring innovation largely measures a lot of other variables too.

In order to perform ordinary least square regression test, we'll consider a sample of 500 companies, which have worldwide operations in various verticals like agriculture, manufacturing, energy, construction, transport, banking and finance, other services like IT. This would give us an adequate coverage of all areas where innovation is applicable. Our green ocean objective is to give a certain amount of red ocean percentage (x) vis-à-vis the blue ocean percentage (y) to ensure the final results are in accordance with statistical significance parameters. This will be measured in terms of innovation predictors as discussed below.

The major predictors of innovation in such a large enterprise would include employment strategies used over at least one year, since human manpower is considered the most critical aspect of innovation in any enterprise (Bessant & Tidd, 2011). Thus, we will be utilizing human manpower variables to measure the percentage of blue ocean or red ocean strategy that this given organization must follow (whether, in-house talent was used for innovation or a part of the R&D was outsourced to third parties), external contractors used, relationship between external suppliers and so on. All the data relating to employment has been tabulated in figure 1.

To put this data in perspective, we need to understand how it impacts the final regression values. For instance, if the organization increases its flexible hours contracts in a given year, the degree of dependence with its overall strategy can be measured by central or marginal impact. Since, the overall intention of this research paper is to determine whether the right mix of innovation variables concerning manpower is being adhered to measure the utility of the regression analysis, viz. former employees, part-time workers and other connected authorities, the author has tried to research different qualitative and quantitative parameters related to the innovation field plan. In answering the different innovation parameters in question, they have been broadly categorized into three categories (indicative, but not exhaustive):

1. Determining the overall percentage in terms of blue ocean strategy. This is done by utilizing more percent data as indicated in leftmost column of fig.1.
2. Determining the overall percentage in terms of red ocean strategy. This is done by utilizing less percent data as indicated in a column of fig.1
3. Determining the overall percentage in terms of green ocean strategy. This is done by utilizing same percent data as indicated in a column of fig1.

5. Results and Outcome

The objective of using a green ocean strategy is to ensure organizations are able to use similar methods and techniques to get identical results, year after year. With the green ocean strategy, organizations neither have to hire additional workers, nor invest in more outsourcing projects than required. This would help retain employment of current workers, thus, managing good relations at the workplace while allowing the organization to pursue its innovation objectives in a sustainable, year-by-year pace.

To start the ordinary regression data analysis for the equity sample, there is a need to clarify the exploratory data requirements for this paper. In this paper, the researcher has attempted to present the key innovation techniques (covered in literature review) so they would reflect a more practical side of the theoretical discussions elaborated on previously. For the purpose of systemic evaluation, all this data has been combined to determine the precise value variables relevant for current situation needs, and the true extent of the impact of innovation in the business environment.

There is a very close relationship between percentage numbers of an organization's employees, and its impact of various innovation variables. This phenomenon has been captured using realistic indicator criteria such as red ocean strategy impact, blue ocean strategy impact and green ocean strategy impact. The separate innovation reports can be also individually assessed for their market importance. Only those evaluation models, as described in Literature review, have been used for statistical analysis. As can be seen in Figure 2, all the innovation variables have been tested to find maximum potential impact on the given predictors of employment; maximum impact has been generated by green ocean strategy where the statistical significance is not more than 0.13c whereas it's higher for both blue ocean and red ocean strategies at 0.20e and 0.20 e respectively. Clearly, having a green ocean innovation model has a striking, basic level impact on the given strings of tests.

6. Limitations of study

The employment data in Fig.1 used for assessing the significance of innovation variables is just a sample representation of a possible real-world organization. The schematic nature of the data will have no impact on study outcomes as the data as each data parameter has been individually tested for their statistical significance.

7. Summary and conclusions

The purpose of making this regression test was to determine whether there was any significant correlation between employing any of the innovation strategies for employment in the organization, assessing its impact on business value for the organization. This was to be determined based on statistical significance of green ocean innovation model which has been found to be higher than that of either Blue Ocean or red ocean methods. In discussing the results, the main objective will be to determine areas in which the organization should improve both its assessment of blue ocean strategy as well as red ocean strategy.

From these results, it is clear that the organization need to improve on areas addressed by green ocean innovation strategies in which there are a need to maintain current employment indices with relation to market opportunities in order to achieve greater customer satisfaction. Such areas include percentage of staff involved in innovation, total number of employees, networking, relationship with suppliers and other parameters which have to be properly addressed, in order to stay close to a green ocean model.

The final green ocean strategy (x+y) variables can be expressed in numerical terms: flexible hours contracts at 54.6%, short-term/temporary contracts at 39%, part-time workers at 51%, reduction in outsourcing by almost 37% and bringing back former talented employees on the payroll for short-term contracts at 44%. This is assuming former employees have the necessary skills-set which can help the organization in its innovation need.

8. Further study and recommendations:

To further study this subject, the following areas of green ocean innovation model can be applied:

- Doing an ANOVA test to understand to check the validity of hypotheses such as the statistical significance of green ocean variables.
- Applying the methods (regression analysis) discussed in this chapter to a real world case study.
- Applying a 360 degree learning mechanism and self-assessment tool to determine which methods would work best for the organization when it comes to shoring up its innovation capabilities.

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Figure 1: Employment strategies used in the sample organization over last one year

	More per cent	Same per cent	Less per cent	CENTRAL to overall strategy per cent	MARGINAL employment per cent
flexible hours contracts	33.3 *16.5*	54.6 *58.3*	5.5 *5.6*	33.0 *25.7*	67.0 *74.3*
short-term/temporary employment contracts	49.6 *26.3*	39.3 *49.0*	7.8 *7.6*	36.1 *27.4*	63.9 *72.6*
part-time workers	36.3 *15.7*	*51.3 57.3*	8.6 *8.6*	29.3 *16.7*	70.7 *83.3*
outsourcing of R&D or product/service development	- *32.9*	- *36.7*	- *9.5*	- *37.1*	- *62.9*
redundancies	27.1 *10.2*	37.8 *44.7*	34.4 *24.4*	33.6 *18.1*	66.4 *81.9*
secondments from/to other organisations	18.9 *15.3*	46.8 *48.7*	14.2 *10.9*	12.5 *13.4*	87.5 *86.6*
bringing back former employees on flexible contracts	14.2 *7.7*	44.1 *49.6*	20.0 *14.7*	9.7 *7.5*	90.3*92.5*

Figure 2: Innovation strategies

Predictors	**Innovation Variables**		
	Blue Ocean Strategy	Red Ocean Strategy	Green Ocean Strategy
Percentage of staff involved in innovation	-0.09b	0.08b	-0.10c
Annual turnover		0.20e	-0.15d
Percentage of turnover spent on innovation	-0.13d	0.10c	
Total number employees			-0.10b
Percentage of temporary employees			
Networking	0.07a	-0.14e	0.09b
Staff relations	0.20e		
Relationships with suppliers	0.14e	-0.10c	0.07a
All staff			
Flexible contracts		-0.11d	
Retention policies			
Innovators			
Flexible contracts			-0.07b
Retention policies	-0.06a		
Outsourcing R&D			
Sector			
Agriculture etc			
Manufacturing		0.10b	-0.36c
Energy/Water		-0.16d	
Construction			0.11b
Transport		0.09a	0.13c
Banking, finance, etc			0.13c
Other services			
	F=15.69e	F=13.46e	F=14.02c
	AdR2=0.12	AdR2=0.14	AdR2=0.16

Significance a 0.10 b 0.05 c 0.01 d 0.001 e 0.0001