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AN EXPLORATORY INVESTIGATION ON EFFECTIVE RISK HANDLING ATTITUDES OF TOP BUSINESS LEADERS IN RELATION TO THEIR APPROACHES TOWARDS INNOVATION

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ABSTRACT

Top business leaders are arguably different: in their innovation capabilities, strategy formulation and deployment as well as risk attitudes. The paper makes an attempt to research both quantitatively and qualitatively about the effective risk taking and handling attitudes as well as their innovation approaches. While analyzing such attributes, it was quantitatively confirmed that there is indeed a correlation existing between the two. This is also consistent with logic. There is always a risk which is taken and handled by the top business leaders in implementing something innovative, strategy implementation or product deployment in the form which has never existed before. Qualitative research establishes some deeper connections as well as some of the salient points. The key results of our exploratory research are important, especially for the HR, or R&D organizations, which are trying to recruit leaders and managers at the top management level in their organizations.

KEYWORDS
Risk handling, Innovation, Leaders.

INTRODUCTION

Effective leaders are a great asset to an organization's future. Leadership is a complex process involving multifarious factors and cross-functional issues. Leadership has been defined as a process whereby an individual (leader) influences strongly a group of individuals or an individual (follower) to achieve a common goal [1]. Leadership is a purposeful relationship, which occurs episodically among participants, who use their individual skills in influence, to advocate transforming change." [2]. In the other words leadership is the ability to step outside the culture to start evolutionary change processes that are more adaptive.

For an organization to continuously progress, it must innovate its processes, products and services. Hence, top leaders are constantly faced with the ever present challenges of stimulating innovation. Innovation has been typically proved in earlier studies to be triggered by a decline in corporate growth or competitiveness. It can occur especially at the peak times of crisis for an organization and that organization creates the new wave or rides the curve of a new innovative product or service.

Risk and innovation are inherently involved in [3]:

- *Launching a new product*
- *Implementing a new business model*
- *Entering a new market*
- *Improvements in product/service/process*
- *Handling crisis*
- *Combinations of above*

The purpose of the present study was to further explicate the nature of the risk taking abilities and innovation. The objectives were:

- To profile leaders involved in complex and uncertain cross-functional process like Innovation and calibrate them with the variable of uncertainty: Risk Taking
- To aid in understanding of parameters for selection of the right leader at the top/executive level who will have the leadership skills, charisma and determination to lead a major innovation initiative.

METHODOLOGY

A correlational approach was used to investigate the leadership traits [1, 3, 4, and 5] of risk-taking and innovation of top business leaders in the world. Wikipedia [4] was used as a secondary data source as an unbiased source.

Qualitative analysis was also carried out to ensure depth in the research and probe deeper.

Around twenty four top business leaders [5] were categorized into three categories (low, medium and high, as perceived by leadership experts and their reputation) based on their innovation capabilities. Two leaders from each category were chosen through stratified random sampling indicating a sample size of 25%.

The leaders undertaken for the exploratory research are:

- Bill Gates
- Steve Jobs
- Jack Welch
- Michael Dell
- Jeff Bezos
- Lakshmi Mittal

INSTRUMENTATION

Top 6 business leaders were rated on various parameters [1,3,4,5] that were developed for Innovation and Risk. The variables in each category of innovation and risk were defined as below:-

- INNOVATION
  - Experimentation with New Technologies (Typically breakthrough technologies, radical innovation)
  - Academic/Technical Capabilities
  - Development of Products, their Business Models and Their Features (Typically incremental innovation, and more related with business aspects)
  - Overseeing Business Details and Restructuring
  - Accurate Prediction of Future Trends
- RISK
  - Start Working Early (minimal/nil experience)
  - Start Own Business (at early age of 20-30)
  - Demonstration and Implementation of their new technology/process
  - Being Unpopular (Persistent on their ideas, making it through the resistance to their implementation)
  - Engaging in Argumentation (Publicly being expressive and strong in marketing, and being able to defend their companies against lawsuits)

DATA COLLECTION

Only secondary unbiased data source, Wikipedia, was considered for ratings of leaders on the above parameters. For each occurrence, or similar occurrence of keywords/phrases of a particular variable on the leader's webpage, they were awarded 1 point. The system of awarding points was cross-checked to ensure that duplicate recurrences of points referring to the same point/context were avoided.

The highest point in each parameter across all leaders was taken to be the dividing factor. Then, the scores of all leaders were divided by the score on that particular dividing factor. Through this method, the scores were normalized across all variables for the parameters of both innovation and risk for each leader.

RESEARCH HYPOTHESIS

H1

H1: Effective Leaders high on innovation will rate high on risk taking attitudes and effective risk handling.

Risk taking involves decision making at the top management level to venture into previous unexplored areas and opportunities. This requires acute observation of what will be the future trends or what technologies or business processes will ride the next shock wave [2, 5].

Innovation requires having future visions for services and products and developing them creatively with originality [1, 4, 5]. It is also inherently involved with development of Business strategy or policy, which is formulated creatively, the likes of which don't exist [5].

If innovation and risk taking abilities were both plotted on a Venn diagram using the above concept, they can be expected to have an overlap. This overlap would possibly be for thinking differently than mainstream approaches, as well as different style of implementation and application.

H2

H2.a: Technical/Academic capability of innovation or having high level of technical knowledge is highly correlated for risk taking in effective leadership.

High technical/academic capabilities correspond to high knowledge and greater understanding of newer technologies as well as upgraded skillset [6] which can be possibly empowering to work on or develop new technologies leading to creation, expansion or development of businesses. This may also reflect as a part of leadership quality.

H2.b: Intellectual capabilities of forming innovative strategies and developing business processes are highly correlated for effective risk taking amongst top business leaders.

High capabilities for strategy formulation and implementation, as well as capability to innovate new business processes correspond to better management of the business establishment [1,4,5] which can be possibly correlated to effect change and new systems which can be correlated with taking the risks involved in initiative-taking and implementation.

ANALYSIS AND RESULTS

H1

Study of Correlation Coefficients [6, 7] was undertaken to understand the relationship between the Innovation and Risk Taking abilities. The table I shows the results after analysis was carried out.

TABLE I: INNOVATION-RISK TAKING CORRELATIONS OF TOP BUSINESS LEADERS

	CORRELATION TABLE					
			VARABLES FOR RISK TAKING			
			var1 (Work early)	var2 (Own business)	var3 (New Tech.)	var4 (Risk of Unpopularity)	var5 (Argument)
	Var1 (Experimentation with new tech.)	Pearson Correlation	0.618*	0.673*	-0.05276	0.392	0.588
		Sig. (1-tailed)	0.045305	0.031431	0.460465	0.221014	0.109781
		N	6	6	6	6	6
VARIABLES	Var2 (Acad/Tech Capabilities)	Pearson Correlation	-0.089	-0.3117	-0.05196	0.32*	-0.16893
FOR		Sig. (1-tailed)	0.433427	0.273797	0.461062	0.04811	0.374506
INNOVATION		N	6	6	6	6	6
	Var3 (Product Devp.)	Pearson Correlation	0.552*	0.913**	0.581**	0.500309	0.5688
		Sig. (1-tailed)	0.127932	0.005493	0.113831	0.156076	0.119406
		N	6	6	6	6	6
	Var4 (Oversee Business & Restructuring)	Pearson Correlation	0.069843	0.449908	-0.08156	0.938**	0.644*
		Sig. (1-tailed)	0.447703	0.185337	0.438966	0.002838	0.043807
		N	6	6	6	6	6
	Var5 (Future Trend Prediction)	Pearson Correlation	0.161515	0.653*	0.817*	0.618*	0.437968
		Sig. (1-tailed)	0.379917	0.049769	0.023509	0.045293	0.192526
		N	6	6	6	6	6
	*	Correlation is significant at the 0.05 level (1-tailed).					
	**	Correlation is significant at the 0.01 level (1-tailed).					

The following points emerged from the above correlation analysis:

- Top business leaders which took the risk of starting their own business and started it early were correlated with experimentation with newer technologies, which is also proved by numerous other examples in qualitative research outside the scope of this analytical study.
- Effective business leaders who were famous for bringing innovative products in the market as well as development of products were again highly correlated with starting their own business and implementation of new technologies or processes within their own businesses, as well as with starting early in their lives.
- Top leaders who are famous for overseeing every detail of their company's business strategy and restructuring were the ones who ran the risk of being unpopular (like Bill Gates, Jack Welch) as well as indulging in arguments successfully and defending their company's/strategy's position.
- Moreover, those leaders who had voiced their future trends analyses had high correlations with running their own businesses, implementation of new processes or technologies and running the risk of being unpopular.

The above table confirms H1 with adequate significance level for each variable of innovation that is correlated with some of the variables of risk taking. Hence, effective leaders possessing some of the attitudes of innovation are statistically proved to have a risk taking attitude in some aspect or another.

H2

Principal Component Analyses (Factor Analysis) [6,7] was carried out to lump the parameters into factors of Risk Taking and Innovation, to simplify our understanding.

TABLE IIA: FACTOR ANALYSIS ON INNOVATION

Component Score Coefficient Matrix		
	Component	
	1	2
var001	0.010400119	0.657586019*
var002	-0.129946273	0.535740902*
var003	0.531805543*	0.009302664
var004	-0.239112269*	0.17325947
var005	0.536252312*	-0.161667821
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
INNOVATION	FACTOR ANALYSIS	

TABLE IIB: FACTOR ANALYSIS ON RISK TAKING

Component Score Coefficient Matrix		
	Component	
	1	2
var001	-0.190221062	0.781308672*
var002	0.158742915	0.402600312*
var003	-0.13432778	0.036996965
var004	0.48611584*	-0.193807707
var005	0.485062283*	-0.141609543
Extraction Method: Principal Component Analysis. .		
Rotation Method: Varimax with Kaiser Normalization		
FACTOR ANALYSIS RISK TAKING		

*Significant dependency of that particular parameter on the particular factor

^ Parameters are in the same order as in Table I

From the above Principal Component Analyses (Factor Analyses), the various factors were found for the two variables and these were recognized as under:-

- Innovation
  - Innovation in Strategy (Factor 1)
  - Innovation in Technology/Product (Factor 2)
- Effective Risk Taking
  - In crisis handling (Factor 1)
  - In launching a new technology/business mode (Factor 2)

After understanding these factors exist according to the research analysis carried above, two hypotheses come into picture: H1a and H1b. For each factor in Innovation, it was hypothesized that it would have correlation with the Risk Taking factors.

To statistically verify the H2a and H2b hypotheses, Correlation analysis and Linear Regression Analysis [7] were carried out.

The Correlation analysis is as shown in Table III.

TABLE III: CORRELATION ANALYSIS AFTER PRINCIPAL COMPONENT ANALYSIS

		VAInnov1	VAInnov2
VARisk1	Pearson Correlation	0.8375731985*	0.081067878
	Sig. (1-tailed)	0.018715544	0.439332286
	Sum of Squares and Cross-products	3.2219	0.1752
	Covariance	0.64438	0.03504
	N	6	6
VARisk2	Pearson Correlation	0.7488827227*	0.185397137
	Sig. (1-tailed)	0.04335729	0.36254527
	Sum of Squares and Cross-products	1.049975	0.14605
	Covariance	0.209995	0.02921
	N	6	6
*	* Correlation is significant at the 0.05 level (1-tailed).		

Both the variables/factors of Effective Risk were directly correlated on the first variable/factor of innovation, i.e., Innovation in Strategy.

To further validate with more rigorous statistical testing, Linear Regression was carried out separately for both the variables of Effective Risk Handling to see their relationship with each factor of Innovation. The aim was to determine a functional relationship of Effective Risk Handling with each innovation type. The results have been tabulated in Table IV.

TABLE IV: LINEAR REGRESSION ANALYSIS

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.01804554	0.66923511		0.026964428	0.980181511
	VAR0In01	0.97057919	0.36561235	0.84397838*	2.654667399	0.076687179
	VAR0In02	-0.0888848	0.65076599	-0.04342339	-0.136584859	0.900009685
a	Dependent Variable: VAR00003 (Risk1)					

Coefficients(a)						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.53286335	0.29491473		1.806838741	0.16852252
	VAR0In01	0.30916158	0.16111597	0.73751799*	1.918876006	0.150804084
	VAR0In02	0.05716084	0.28677586	0.07660934	0.199322344	0.854755498
a	Dependent Variable: VAR00004 (Risk2)					

Both the variables of Risk had insignificant weak correlation on product based innovation type.

Thus, accumulating the above two analyses,

- H2a was not confirmed.
- H2b was confirmed.

QUALITATIVE RESEARCH

Findings

- Bill Gates rates very high on both of product based and strategy based types of innovation. This, in turn, helps him to effectively handle risks or crisis in handling a new product or formulating a new business strategy. Perhaps, this is why he's most successful. (Nowadays, he has retired from CEO. This as well as statistical analysis accounts only for the period when they were CEO.)
- Successful business leaders who have started their own company were initially involved completely in product based innovation; as their firms grew bigger, they molded themselves into innovators in strategies. [8]They have higher involvement in overseeing their business details as well as in developing new products.

DISCUSSION

- High correlation was also found between the risk of running unpopular with the greater degree of overseeing business strategy and corporate restructuring. This implies that leaders who take bold creative initiatives handle risk related to resistance to their initiatives.
- Evidence was found that top business leaders who have been successful at handling risk effectively are more innovative and original in their approaches.

IMPLICATIONS

- The importance of this research lies in creating a parameter list for the HR process recruiting for top management or executive level for an R&D organization; they need to see a candidate's ability in terms of their innovation in their corporate governance and strategy formulation and implementation based on their envisioning future trends. Such CEOs will bring great success to the company.
- A candidate's suitability at the top level has meager relevance to his innovation skills in high-end technology. However, business oriented product development has strong dependency on the factor of strategy-based innovation. This implies that at top management, a person must be able to capitalize on the new technology which has been invented and develop it further for the market and end-user in mind. This strategic process is crucial for success of the company which continuously innovates.

LIMITATIONS

There is a possibility of systematic error due to reliance on self-reporting methods. However, such errors don't affect the quantitative analyses, especially the correlation analyses as such, which makes statistical testing valid.

This study focuses only on top business leaders or CEOs. This indicates a narrow universal set and the results apply only to business leaders or CEOs. However, stratified random sampling was done to adequately represent innovators in product and strategy.

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