
MEASURING LEVELS OF FUNDAMENTAL ATTRIBUTION ERROR ASCRIBED TO LEADERSHIP OF ENTREPRENEURIAL ORGANIZATIONS ACROSS NATIONAL CULTURES

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ABSTRACT

This study empirically assesses respondent's attribution to organizational outcomes across multi-national communities. As applied to entrepreneurship, the Fundamental Attribution Error (FAE), nominally defined as the naturally occurring cognitive bias of humans to over-attribute organizational outcomes to leadership dispositions and in the case of celebrity entrepreneurship, a heightened attribution to the news-worthy disposition of celebrity-entrepreneurs. Likewise, there would be a biased and corresponding under-attribution of organizational outcomes to circumstantial factors. Within this current research, respondents within differing cultures report on their perceptions of importance of founder dispositions to entrepreneurial outcomes. A survey instrument measuring differential disposition and circumstantial attribution was developed and results showed strong FAE across cultures. Evidence was found that perceivers external to the organization exhibit strong attribution error globally and that business leaders attribute business success to their own talents and reinforce FAE. A small difference in levels of FAE between individualistic and collective cultures was found. Implications of the findings are discussed in relation to organizational behavior, organizational development, organizational outcomes and rates of return on invested capital.

Keywords: Entrepreneurship, Management, Small Business Management, Organizational Behavior, Fundamental Attribution Error, International Management, Investment Analysis, Global Management

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INTRODUCTION

“One of the most widely researched areas within psychology is attribution theory” (Heider, 1958; Kelly 1967). Lee, Hallahan, and Herzog (1996) state, “Attributions, or making causal explanations for behavior, are basic and common human tendency. Understanding what causes things to occur in the world provides perceivers with some capacity to foresee the consequences of events and with knowledge to guide their own behavior.” Ross (1977) outlined, “The most common explanation is that the bias is due to perceiver’s causal theories about the determinants of human behavior, implying situational factors have little impact on human behavior. This ubiquitous underestimation of situational influences on human behavior is usually called the fundamental attribution error.” Gawronski (2004) continues, “There is a long history of research in social psychology showing that perceivers draw correspondent dispositional inferences from other’s behavior even when the observed behavior was highly constrained by situational factors.” Ceding there a few business situations less highly constrained than new entrepreneurial endeavors where success is impacted by a multitude of circumstantial market and economic factors, we acknowledge FAE and created a measurement tool to test the strength and variance of FAE across various nations.

For entrepreneurial endeavors, the number of circumstantial events impinging on organizational success cannot be underestimated. For the nascent McDonalds organization to have survived as an ongoing entity, hundreds of competing firms had to perish. Many innovations had to have been in place (i.e., the multimixer) and hundreds of antecedent events must have occurred (i.e., Founder Ray Kroc meeting the McDonald brothers). All of these antecedent circumstances were critical to organizational success, yet perceivers heavily discount these circumstantial events. This is largely due to audiences not being aware of these hidden events. Many

people attribute the success and existence of McDonalds to the only factor they note as news-worthy, the biography of Ray Kroc as a well-publicized entrepreneur. Ray Kroc himself attributed the success of McDonalds to his own dispositional talents as he often spoke about his own self-described set of dispositions. The natural tendency to focus on the founders' dispositions and simultaneously under-regard the multitude of circumstantial factors highlights the phenomena of FAE within entrepreneurship. Jellison and Green, (1981) reflect this tendency, "In personal psychology... individuals prefer to attribute causality to internal or dispositional properties. Several studies document the pervasiveness and tenacity of this tendency of the average person, when perceiving the behavior of others, to emphasize internal causes even in light of salient environmental factors."

Even after his death, many people consider the past CEO Steve Jobs as a prime casual factor in the success of Apple, Inc.. People consider Bill Gates as synonymous to Microsoft even though he has not been active in the management for many years. The FAE may lend business leaders and investors to invest capital in projects supported by the owner and under-capitalize projects supported by the remaining organization, possibly under-funding critical technology. Jobs' decision-making performance was important but so was the transistor, and the invention of the flat-screen pixel-display, and charge-coupled display devices. Yet these critical circumstantial events and factors are judged to be of lesser importance to organizational success. Within, we postulate that for new business ventures, respondents will demonstrate a natural tendency to link leadership dispositionalism to organizational outcomes.

The natural origins of tendency to attribute dispositional causation are well outlined in the literature. Krull, et al, (1999) outlined four generalized causes of FAE when they stated, "First perceivers may display the bias because they lack awareness of the situational forces that influence behavior... Second... they underestimate the power of the situation to influence behavior... Third... expectations influence their perceptions of the behavior... Fourth... perceivers may lack the cognitive resources or motivation necessary to fully consider how the situation may have influenced the actor's behavior."

In prior research (Fiore, Lussier, 2014) evidence was found to support the hypothesis that public sample respondents over-attribute the impact of factors dispositional to entrepreneurs while simultaneously under-attributing the impact of circumstantial-situational factors when assessing organizational outcomes. This tendency is strong even when noting the lack of information available regarding circumstantial events. In light of the prior discussion, a test for over-

attribution of entrepreneurial business outcomes perceived to be under the control of the entrepreneur (i.e. dispositional) vis-à-vis' situational-circumstantial factors surrounding entrepreneurial endeavors was conducted across national borders.

Furthermore, we highlight a small sample of entrepreneurs' personal historical statements indicating ex-ante doubts of business outcomes matched with ex-post statements of certainty of ensuing outcomes. This indicates internal over-attribution of the CEO-founders personal (dispositional) impact on subsequent business outcomes. Here we examine evidence there may not be ex-ante belief in the actual business outcome. Entrepreneurs naturally issue positive communication, signaling the importance of dispositions enhancing these fundamental attribution errors reinforcing FAE. This paper explores a series of archive-based recollections of the entrepreneur's ex-ante thoughts to demonstrate that many legendary-business CEO-entrepreneurs did not expect the organization's extraordinary ex-post-facto market successes.

Despite such evidence, CEOs habitually link organizational success to their own perceived dispositional factors. Hence, the validity of dispositional factors as nominal cause-effect attributions to outcomes arises.

BIASED ATTRIBUTION

Fundamental Attribution Error (FAE) or attribution bias, describes the tendency to over-value dispositional or personality-based explanations for observed behaviors while under-valuing situational circumstantial explanations for those behaviors. The fundamental attribution error is most visible when people explain the behavior of others. This discrepancy is called the actor–observer bias. Li, et al, (2012) summarize the subject well, “Attribution theory, one of the cornerstones of the study of social cognition, concerns people’s explanations for behavior.”

Kunda (1999) describes human tendency to over-identify the impact of a leader's actions with a group's success. She states (p. 430), “... studies have also demonstrated that we are often too quick to jump to conclusions about others' abilities, traits and attitudes based on small samples of their behavior, we fail to appreciate the extent to which situational forces had contributed to that behavior.” She continues, “We simply don't realize how powerful the situation is... we fail to correct our impressions for situational constraints even if we understand these constraints... Our ultimate conclusions about a person may remain contaminated by our initial inferences about this person...” Kunda (p. 441) specifically addresses fundamental attribution error, “When we observe or hear about another person's

behavior, we often fail to appreciate the extent to which this behavior may have been shaped by circumstances. Instead, we assume that the behavior was driven by the person's enduring underlying disposition." The present paper builds on Kunda, and Kahneman's et al, Nobel Prize work in behavioral psychology.

DISCUSSION

A generalized tendency by humans to over-attribute perceived dispositional or personality based factors when evaluating a leader's performance is well specified in the psychological literature. The corresponding tendency to underweight environmental, circumstantial or situational forces is also well noted. This tendency holds even though circumstantial factors most likely have a significantly greater cumulative impact on the outcome than do dispositional factors. It seems natural the immediately observable factors, factors such as; a person's affect, education, background, posture, voice, mental strength, vocabulary and facial expressions encourages people to attribute organizational success or failure to these visible factors. Situational factors of the economy, competition, technological failure and so forth are circumstantial events not normally readily available for noteworthy inspection and analysis and therefore are naturally discounted in a person's analysis of business outcome causation. It is important to note that circumstantial-environmental causative factors are usually myriad, cumulative, and aggregate and in all probability have a sum total greater effect on organization outcome than any one person's mental or physical impact. Both Kahneman and Kunda note humans make quick and unsubstantiated judgments and often tie effect-causation of business outcomes to the founder. It is noted the person identified as the entrepreneurial leader usually plays a role in causing FAE.

Beyond FAE, over-attribution of organizational success to the contributions of the CEO-founder may be magnified by a similar prevalent bias outlined by Kahneman (2011) where he denotes the prevalent bias of "unwarranted entrepreneurial optimism." Kahneman wrote, "People tend to be overly optimistic about their relative standing on any activity in which they do moderately well." He explains, "pervasive optimistic bias" can be detrimental. For example, "...only 35 percent of small businesses survive in the U.S. When surveyed, however, 81 percent of entrepreneurs assessed their odds of success at 70 percent, and 33 percent of them went so far as to put their chances at 100 percent." These reality-distorting views can lower the proper attribution to circumstantial success/failure factors and degrade the relative value of the managerial team as an important contributing factor to new

business success.

Kahneman and others also note a relevant “planning fallacy” which may be one of the most pervasive bias exhibited by humans, defined as, “our tendency to overestimate benefits and underestimate costs, and foolishly to take on risky projects.” The biases outlined here have real and substantial costs to society yielding lower rates of growth in the economy. Any misappropriation of capital results in lower investment returns. Buehler, Griffin, Ross, (1994) wrote, “... dispositionalism drives people to make overly confident predictions about others and even themselves with little allowance for the uncertainty of pertinent situational details... sometimes resulting in “the planning fallacy” or the tendency to underestimate the number of situational constraints and their power to subvert the strongest of intentions.”

It is proposed the rise of the media-driven CEO celebrity may lead to stronger attribution errors. Most of the world knows of Jack Ma’s seemingly instantaneous creation of Alibaba. Hence, executive management should attribute more of resulting economic value to the impact of organizational dynamics, organizations behaviour and organizational development.

In summary, it is important for decision-makers to actively identify and compensate for persuasive biases of; FAE, planning fallacy, and excess optimism, to conduct effective strategic management and produce optimal investment decisions.

APPLICATION OF ATTRIBUTION ERROR TO ENTREPRENEURSHIP

Attribution error bias may lead both the general public, investors and the board of directors to overemphasize the impact of the celebrity enhanced CEO-entrepreneur’s dispositional characteristics when assessing causation of organizational outcome. This effect would simultaneously under-emphasize the value of corresponding organizational factors such as; team-building, hiring talented people, using new technologies, brainstorming, the use of strategic partners, financial analysis, the use of intellectual property, and group dynamics. Additionally, the board of directors may be induced by biases highlighted in this current study to under-value the potential impact of circumstantial factors on outcomes such as; a change in interest rates, levels of foreign competition, the labor market, national economics and natural disasters. Mis-identification of authentic cause-effect linkages to business outcomes most likely leads to inappropriate managerial conclusions and decisions. Critically, in the task of strategic planning, such phenomena may lead to systematic under-consideration for circumstantial eventualities.

ENTREPRENEUR'S EX-ANTE STATEMENTS GENERATING FAE

The authors note evidence to suggest FAE is promoted within the organization. These strong-leadership narratives are generated largely because they help attract capital. To highlight dispensational attribution promoted by CEO-entrepreneurial leadership, the authors provide archival quotes from well-known entrepreneurs. We examine statements made by celebrity leaders regarding ex-ante organizational growth and compare those statements to the actual ex-post growth and later statements about the properties of their own organizational effectiveness.

Although these quotes were found ex-post organizational success, the presented quotes are the entrepreneur's own ex-ante statements on expected outcomes. Additional examples are found in the previously published work (Fiore, 2012).

We present two examples of celebrity entrepreneurs creating FAE within organizations with large market capitalizations. It is interesting to note, in every other sample of ex-post archived statements examined by the authors, the entrepreneur attributed organizational success to a set of dispositions.

Fred DeLuca, (Co-founder of Subway, (Doctors Associates, Inc.))

Ex-Ante

Quote: “Subway actually started by accident, I was, ah, just out of High School... was working at a hardware store... and my folks took me to see Pete Buck... I said, Pete, do you have any ideas on how I can pay my way through college? He said you should open a submarine sandwich shop... that first day, after we decided to go into business... the next thing we did was... we decided to make a plan... what are going to do after we opened the first store, so, we set a goal, we were going to open 32 stores in 10 years, that was our goal, that was our plan... actually, that was our agreement. He gave me \$1,000... I went off to find a little store to rent.”

Actual

Attribution: Success was a circumstantial accident.

Ex-Post

Quote: “I was willing to try solutions that other people may not even have thought of.”

FAE: When DeLuca explains the overwhelming success of Subway, he

attributes organizational success to his innate vision and courage, a set of dispositions.

Steve Ells, (Founder of Chipotle, Inc.)

Ex-Ante

Quote: “I had the notion of becoming a chef... thought of opening my own (full size) restaurant, I knew I needed some way to fund that restaurant... that’s where the notion of Chipotle came in...”

Actual

Attribution: Success was a circumstantial accident, the creation of Chipotle was merely a secondary goal to Ells and at the nascent formation stage the venture was literally disposable to Ells. There was no ex-ante determined strategic goal. Success was a circumstantial accident.

Ex-Post

Quote: “I had a strong vision.”

FAE: Ells attributes the success of Chipotle to his innate vision, a disposition.

The quotes presented highlight a strong disparity between ex-post success and ex-ante intentions therein exposing an “internally-generated” source of FAE bias as a tendency to attribute organizational success to dispositional factors. As FAE is a generalized tendency in the population, we provide evidence for FAE reinforcing narratives produced internally by CEO-leadership. We suspect stories of strong leadership excites investors, thereby increasing the availability of capital, reducing the cost of capital, and enhancing growth and success. The interaction of two sources of bias most likely interact to promote a reinforcing, symbiotic and sustained level of FAE.

ATTRIBUTION ACROSS NATIONS

THE LITERATURE

Many studies in social psychology propose a variation of FAE phenomena across and within cultures. Shweder and Bourne (1984, p. 191) proposed cultural differences in dispositionalism exist as people may be “culturally primed.” Lee et. al. (1996, p. 735) suggested, “dispositionalism is related to both the perceiver’s culture and the domain of the attribution task.”

Kitayama et al (2006) argued that a cultural ethos can develop as a population

migrates and that migration is motivated by necessity. Such migration may satisfy the desire for independence, hence certain cultures may generally evolve to comprise higher levels of “independent” attributes compared to collective societies. Those authors explain cultural attitudinal differences of Northern Japan to Southern Japan and the American West to the American East via such reasoning. Independent individuals associate happiness with personal achievement and people honoring personal achievement are more prone to “commit a dispositional bias in causal attribution.” Those authors state, “Thus, for people with independent agency, happiness should depend primarily on personal achievement, whereas for those with more interdependent orientations, happiness should depend more on social harmony.” This conjecture was found significant by Kitayama and subsequent research also provided support for the concept of acculturation of cognitive tendencies within cultures.

The idea of acculturation of attributive cognition is supported throughout the literature. Choi et al (1999) wrote, “East Asians are less likely to show.. a preference for explanations of behavior in terms of traits, dispositions... of the target”. Norenzayan and Nisbett (2000) stated, “Miller (1984) showed that Hindu Indians preferred to explain ordinary life events in terms of situational context in which they occurred, whereas Americans were much more inclined to explain similar events in terms of presumed dispositions.” They attribute these cultural differences to the lasting effects of history, wherein Chinese farmers were more inclined to cooperate on terrace farming practices and their society tended to be collectivistic in nature whereas, in Greece and Italy the land was mountainous and people were required to fish and hunt, thereby activities which promoted tended to be individualistic basic nature.

Nakamura (1988) maintains the cognitions of East Asians are more holistic than Westerners. Thomas and Mueller (2000) stated, “... unlike the idealized American entrepreneur, characterized by rugged individualism, there is growing evidence that Asian entrepreneurs rely on familial ties in developing their business.”

Hence, in the present research, we hypothesize that the existence of variation of FAE across cultures, and that levels of FAE may be causally and culturally linked to levels of individualism and collectivism of each society. Furthermore, we speculate growing use of media and signals radiating from within the company and CEO him/herself are producing stronger levels of FAE.

IMPORTANCE TO THE FIELD

The over-attribution of economic outcome to the dispositional factors of the entrepreneur most likely leads simultaneously to the discounting of circumstantial outcome factors in decision-making. This error in cognition may have a harmful effect on entrepreneurial activity and decision-making, and most likely encourages sub-optimal economics and rates of return. Capital invested based solely on founder-backed projects as “perceived” to be important while ignoring circumstantial factors most likely result in sub-optimal financial outcomes.

For example, a board normally subject to FAE bias may decide to increase a CEO’s pay package and decrease R&D, wherein R&D expenditures may, in fact, produce a better yield on investment. Likewise, a board of directors heavily influenced by FAE may vote to increase a Founder’s stock options, wherein such action may marginally decrease shareholder wealth. A board subject to FAE may likely expect the founder to have operational abilities he or she may not, in fact, have.

Likewise, pronounced FAE may induce a board to identify the “entrepreneur’s work habits” as a factor more significant than the potential impact of a “fire at a factory” or a “change in national economics” even though there is a strong possibility these circumstantial factors may have a greater sequential and time-wise, cumulative impact on the outcome of the business. Importantly, the existence of the FAE may induce decision-makers to under-appreciate the impact of critical organizational dynamics in organizational outcomes.

HYPOTHESES

Employing Hofstede’s cultural classifications, the following alternative hypotheses are developed from the stated literature and the theory outlined within.

- H1a: Respondents will show significant differences when ranking the importance of circumstantial versus dispositional causes of entrepreneurial organizational outcomes.
- H2a: Respondents will show significant differences when ranking circumstantial versus dispositional causes of organizational outcomes across international cultures.
- H3a: Cultures exhibiting individualist characteristics will exhibit higher levels of preference for dispositional causes of organizational outcomes as compared to collectivist cultures.
- H4a: Cultures exhibiting collective characteristics will exhibit higher levels

of preference for circumstantial causes of organizational outcomes as compared to individualist cultures.

METHODOLOGY

SAMPLES

Worldwide faculty participating in the 2014 Babson College’s Global Entrepreneurship Monitor Reports were sent emails asking if they would participate in the current study and translate and administer the survey instrument. This sample was assumed to be actively involved in international teaching and research. Of the twenty-two countries asked to participate, China, Thailand, the U.S.A., and Hungary agreed and the survey instrument was sent to them. Russian faculty refused to participate. Surveys were returned via U.S. mail or by scanned email.

The responding sample countries include collective and individualistic societies. For the purpose of the present study, the current authors rely on the Hofstede (2001) paradigm of cultural dimensions wherein Hofstede classified the USA and Hungary to be “individualistic” societies, and China and Thailand to be “collectivist.”

A total of 275 usable surveys were obtained [China (n=62), Thailand (n=68), U.S.A. (n=95), and Hungary (n=50)]. Table 1 shows the study participants by country and gender.

Table 1
Study Participants by Country and Gender

		Gender		Total
		MAN	WOMAN	
Nation	CHINA	36 (58%)	26 (42%)	62 (100%)
	HUNGARY	23 (46%)	27 (54%)	50 (100%)
	USA	63 (66%)	32 (34%)	95 (100%)
	THAILAND	Unidentified	Unidentified	68 (100%)
Total		122 (59%)	85 (41%)	275 (100%)

THE INSTRUMENT

In prior research, a survey instrument categorizing Dispositional and Circumstantial outcome factors testable to significant categorization was developed (Fiore, 2012). Of the 32 tested items in a proposed survey instrument, 31 factors were found to be significantly distinguishable wherein 15 classified factors were dispositional and 16 were considered circumstantial factors. In that study, a one-sample Chi-Square test was applied to test if there was a significant difference in categorization responses on each of the 32 variables. Respondents strongly agreed that 31 of the items with their assessment of categorizing dispositional and circumstantial factors as significant so 31 items were retained. Table 2 shows the 31 event factors considered by respondents to be either dispositional or circumstantial.

Table 2
List of 31 Dispositional and Circumstantial Factors effecting
Business Outcomes

Dispositional	Circumstantial
The Entrepreneur's Knowledge	A Fire at the Business
The Entrepreneur's Preparation	A Competitor's Bankruptcy
The Entrepreneur's Mental Strength	A Labor Shortage
The Entrepreneur's Background	Change in National Economics
The Entrepreneur's Industry Training	The Weather
The Entrepreneur's Academic Training	Change in Technology
The Entrepreneur's Business Experience	Sabotage
The Entrepreneur's Intelligence	Change in Inflation
The Entrepreneur's Business Skills	Natural Disasters
The Entrepreneur's Personal Work Habits	Economy
The Entrepreneur's Office Environment	Foreign Competition
The Entrepreneur's Leadership	Interest Rates
The Entrepreneur's Financing	Market for the Product
The Management Team's Effectiveness	Competitor's Financing Costs
The Quality of Entrepreneur's Product	Global Warming Effects

In the current study, respondents were asked to consider a large entrepreneurial company with a founder who had a strong influence in the company's economic outcome. This instruction purposefully primed perceivers to respond with an entrepreneurial situation in mind. A specific company or entrepreneur was not employed as one particular company or person may not be known or understood by all nationalities. The survey solicited responses indicating respondent's perceptions of the relative importance of the 15 dispositional and 16 circumstantial factors to the success of a company. The survey instructed the dispositional and circumstantial factors be ranked in importance using a discreet scale of 7 = Essential to 1 = Not Important, to the outcome of the company.

In the United States, the survey was administered in English. In the case of non-English speaking countries, the instrument was translated by the participating faculty member. The possible circumstantial and dispositional business outcome factors were randomly placed on the actual survey instrument to prevent obvious classification and respondent predisposition.

RESULTS

All 31 causative factors were analyzed by the Multi-Dimensional Scaling (MDS) technique. MDS was used in order to explore how the response items that are spatially distributed as dispositional or circumstantial factors by the study participants. MDS is a statistical technique which creates a map displaying the relative positions of a number of objects, giving a visual map of the distances between them. The technique calculates either metric or the non-metric solution. Within MDS, the orientation of the image is arbitrary. The MDS map shows the relative proximity of all attribution elements in the identified (two in this case) dimensions and presents clusters and dispersions along these two dimensions. In short, close proximity and clusters suggest potential similarity of the elements or domains; and dispersion of the elements suggests difference their domain. Through qualitatively examining these domains and their proximity and direction of the dispersions, we can infer meanings of the axes and clusters.

DIFFERENCE IN DISPOSITIONAL VERSUS CIRCUMSTANTIAL ATTRIBUTION

Figure 1 shows the resulting spread of the 31 items (integrated score by all participants) in the two dimensional space in relation to a origin. Other than two items (change in technology and market for the product), most of the circumstantial factors

(denoted “c”) were spread in the top right-side of the plane, and all the dispositional factors (denoted “d”) were spread in the bottom left-side. The factor “Change in the technology” and “Market for the product” were perceived to be more closely related to the circumstantial factors than dispositions. This result implies those two factors could be perceived by respondents as factors which entrepreneurs had control over.

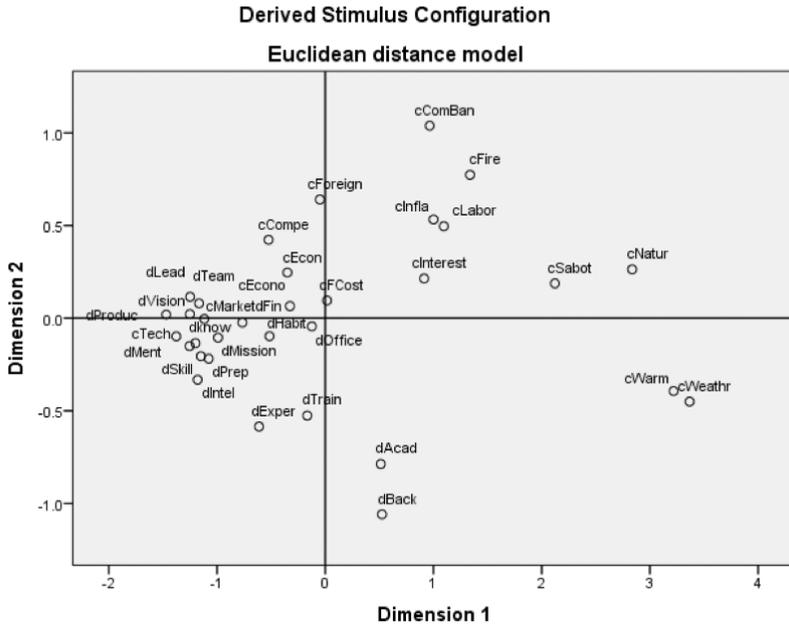
This noticeably distinctive spread on the MDS two dimensional space suggests distinction of the two dimensions. Further examination of the factor spread shows support for the horizontal dimension of “man-made” (west-bound) versus “nature-driven” (east-bound). The vertical separation dimension of “Micro-person” factors (south-bound) and “Macro-global” causations (north-bound) were also robust.

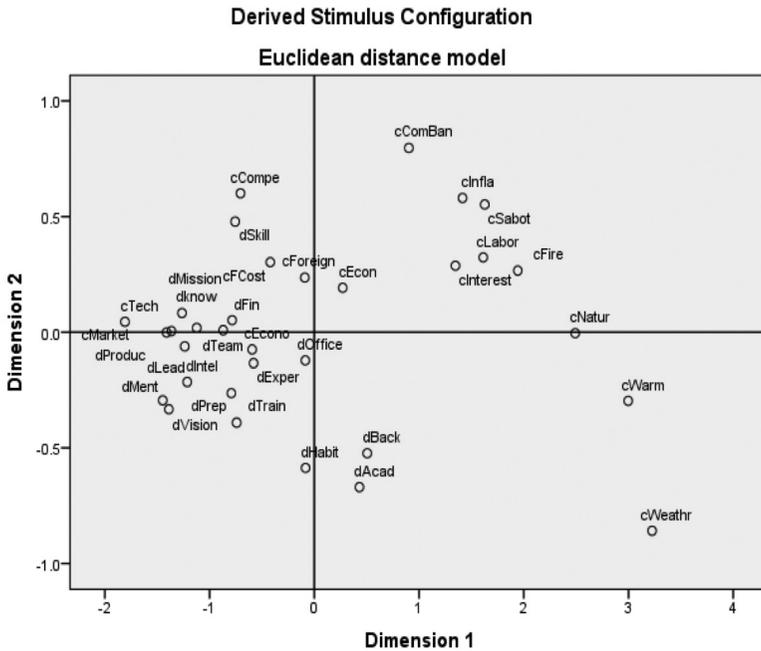
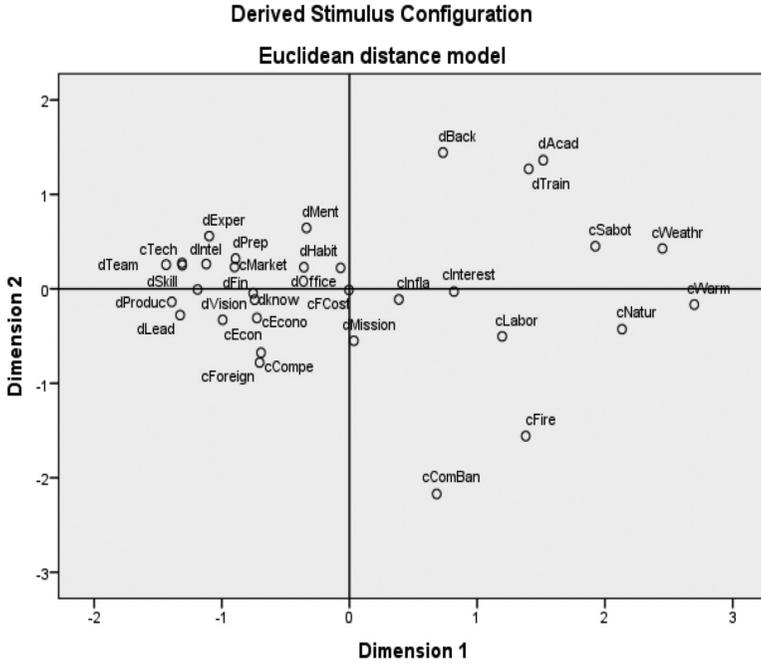
DIFFERENCES AMONG NATIONS

Figure 2 shows data from four countries were analyzed separately for MDS, and the resulting diagrams were exhibited next to each other for the purpose of comparison. In Figure 2, four separate figures are presented in the order of the U.S., China, Thailand, and Hungary. Except for a few items, the spread pattern of the four country responses are very similar, indicating participants perceive the importance of these FAE items and their relative positions of attributions are not very different from country to country.

In summary, all participants by country in the study presented a similar cognitive structure of these entrepreneurial success factors of circumstances and dispositions. Hence, this result causes the authors to reject hypothesis 2a (Respondents will show significant differences when ranking circumstantial verses dispositional causes of organizational outcomes across international cultures.)

Figure 1
Overall Examination of FAE Items Structure
(all four country respondents integrated)





ANOVA

Analysis of Variance was conducted to test for differences in mean scores of FAE among four countries. Table 3 provides results. Except for a few items, all the FAE items demonstrated statistically significant differences among four countries ($p < .01$ for most of the items). Participants scored higher on dispositional items than circumstantial ones. American participants showed higher scores for dispositional items and Thai participants showed higher scores for circumstantial items. In order to visually show the differences of the scores by category and by the country, all 31 items were sorted by the score of American participants and graphed in Figure 3.

Table 3
Mean scores of FAE among four countries and Results of Analysis of Variance Test

Category	Item	Mean Score				Sum of Squares		Mean Squares	F-Ratio	Sig.
		USA	CHINA	THAI	HUNG	Between Groups (df=3 for all)	Within Groups (df=271 for all)			
Circumstances	Market	6.40	5.48	5.91	6.28	201.3	732.7	67.1	24.81	0.00
	Technology	6.27	5.89	6.12	6.70	87.9	670.6	29.3	11.84	0.00
	Competitor prod	5.72	5.10	5.71	5.56	86.0	696.2	28.7	11.16	0.00
	National Econ	5.61	5.39	6.01	4.58	19.4	308.7	6.5	5.67	0.00
	Global Econo	5.59	5.05	5.93	5.42	62.1	446.5	20.7	12.56	0.00
	Financing cost	5.46	4.29	5.46	5.24	94.4	672.4	31.5	12.68	0.00
	Foreign compet	5.45	4.19	5.72	5.04	245.2	680.7	81.7	32.3	0.00
	Interest rate	4.91	4.19	4.91	3.64	26.0	360.7	8.7	6.51	0.00
	Inflation	4.66	4.19	5.16	3.50	88.1	648.8	29.4	12.27	0.00
	Fire at business	4.61	3.69	4.99	3.16	69.9	574.8	23.3	10.98	0.00
	Competitor bankr	4.61	3.94	4.84	4.02	35.5	233.8	11.8	13.7	0.00
	Labor shortage	4.52	4.81	5.06	3.34	61.9	464.4	20.6	12.04	0.00
	Sabotage	3.61	3.08	4.59	3.30	202.2	716.5	67.4	25.5	0.00
	Natural Disaster	3.09	2.53	4.60	2.32	17.0	573.2	5.7	2.68	0.05

	Global warming	2.60	2.48	4.34	1.98	127.6	753.5	42.5	15.3	0.00
	Weather	2.44	2.45	4.34	1.66	37.9	840.5	12.6	4.07	0.00
Disposition	Product Quality	6.59	6.52	6.12	6.24	23.5	316.4	7.8	6.71	0.00
	Vision	6.47	5.84	6.10	6.00	15.3	343.6	5.1	4.01	0.00
	Leadership	6.46	6.11	6.24	6.06	23.1	337.1	7.7	6.19	0.00
	Knowledge	6.45	5.69	5.96	6.06	17.1	719.9	5.7	2.14	0.10
	Mangt Team	6.33	6.39	6.28	5.72	27.8	524.6	9.3	4.78	0.00
	Financing	6.33	5.31	5.97	5.66	11.7	607.0	3.9	1.74	0.16
	Preparation	6.28	5.92	6.03	5.62	9.6	478.2	3.2	1.82	0.14
	Skills	6.27	6.23	6.26	5.50	10.9	224.7	3.6	4.4	0.00
	Mental Strength	6.15	6.40	5.60	6.20	0.9	355.5	0.3	0.22	0.88
	Mission	6.07	5.55	5.21	6.00	15.5	247.4	5.2	5.68	0.00
	Work Habit	6.05	5.18	5.66	4.80	23.6	303.5	7.9	7.02	0.00
	Intelligence	6.04	6.19	6.09	6.10	42.3	295.2	14.1	12.94	0.00
	Experience	5.52	5.52	5.93	5.44	61.5	419.0	20.5	13.26	0.00
	Office Environm	5.52	4.92	5.43	4.82	24.8	414.3	8.3	5.4	0.00
Training	5.21	5.19	4.57	5.48	7.3	216.9	2.4	3.04	0.03	
Background	4.78	4.32	4.88	4.32	17.2	292.4	5.8	5.33	0.00	
Academic Train	4.56	4.98	4.56	4.38	35.6	485.0	11.9	6.63	0.00	

Figure 3
Circumstances and Dispositions by Country

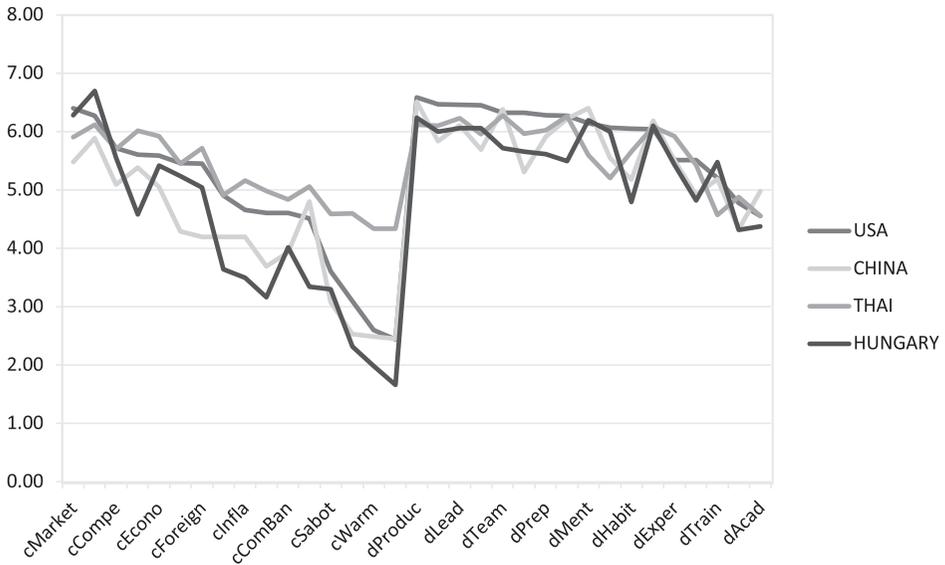


Figure 3 visually displays circumstantial factors on the left and dispositional factors on the right. Thai participants scored highest among the four countries on most of the circumstantial items; and American participants scored the highest among four countries on most of the dispositional items.

Table 4
Correlation among Four Countries by FAE scores

	USA	CHINA	THAI
USA	1.00		
CHINA	0.93**	1.00	
THAILAND	0.88**	0.83**	1.00
HUNGARY	0.95**	0.91**	0.81**

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

While the four country participants demonstrated statistically significant differences in rating each FAE item, it is interesting to note their patterns of ratings on all items in relation to each other were very similar. In order to investigate this

similarity of pattern on a numerical basis, the average scores of all 31 items (Column 3 through 6 on Table 3) were correlated by the four different countries. Table 4 shows the results of this correlational analysis and correlations show statistical significance. These high correlations indicate very similar cognitive structure of FAE items as we noted through the multiple multidimensional scaling analyses above. Again, the results lead to rejection of H2a.

While all four country participants rated very similarly in relation to each other of the FAE items (high correlation between countries), Americans rated the highest of the dispositional factors overall and Thai participants rated the circumstantial factors the highest among four nations. This result supports the proposal Americans are likely to explain organizational outcomes by a leader's dispositions than are other cultures.

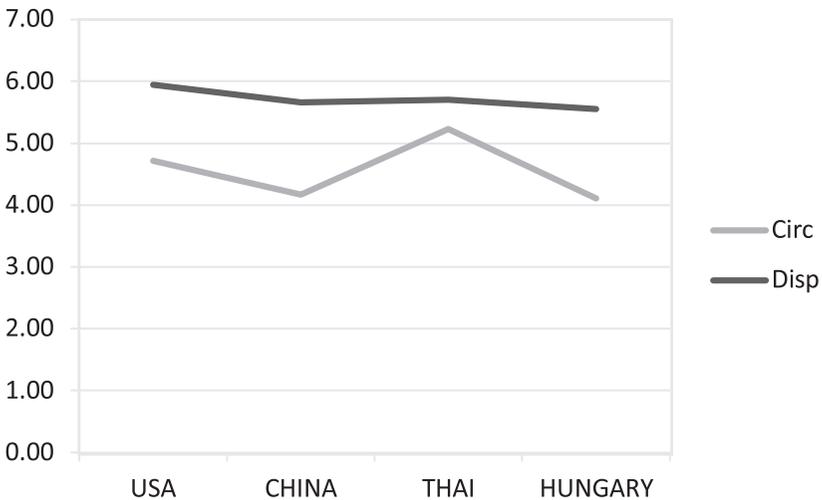
Thai participants give a high level of importance to circumstantial factors. Table 5 shows average scores of circumstance factors and all disposition factors compared among four countries. Figure 5 illustrates the differences among aggregate scores of the perceived importance of circumstance and disposition factors.

It is interesting to note Thai participants showed the narrowest gap between dispositional and circumstantial factors. Thailand may be considered the strongest Buddhist nation among the four, wherein such faith is rooted in the belief of a "supernatural fate" perceived to be beyond human control. Generally, Americans and Hungarians have Christian traditions, generally showing belief that humans expected to control nature. The Chinese have gone through the Cultural Revolution, generally reducing traditional Buddhist beliefs possibly explaining why Chinese respondents rated circumstantial factors significantly lower (average score of 4.17) than dispositional factors (average score of 5.66). In explaining outcomes, American participants highly rated dispositional factors (5.95) the highest among four countries as important and circumstantial factors significantly lower (score of 4.72).

Table 5
Average scores of Importance of Circumstances and Dispositions by Country

Country	Circumstance	Disposition
USA	4.72	5.95
CHINA	4.17	5.66
THAILAND	5.23	5.70
HUNGARY	4.11	5.55

Figure 4
Average Scores of Circumstances and Dispositions by Country



FURTHER RESEARCH

It is suggested more detailed research on attribution be performed on a greater number and range of collective and individualist cultures. A study of the extent of FAE and tendency of attribution to dispositionalism and company performance correlated with stock market returns could provide additional evidence of the financial effect of dispositional tendencies. Recent research (Liu, et. al. 2018, Koh, 2011) has suggested firms with celebrity CEOs produce lower rates of return for investors than lesser-known leaders. We note notable celebrity Jack Welch, Jr. CEO-Chairman of GE for twenty years and GE stock now at \$9/share.

Further research on the impact of the FAE to different samples, demography,

stakeholder groups, nations and industries could yield useful results. A more complete analysis of the strength of attributions exhibited by the general public and FAE generated by CEO-entrepreneurial leadership would also yield important research results.

CONCLUSIONS

The results of the present study support ten important facets of FAE applicable to entrepreneurial situations and management. It was found;

1. there exists a global tendency of perceivers to attribute organizational outcome to the perceived dispositional factors of CEO-leadership within entrepreneurial situations.
2. a global tendency of perceivers to have lower regard for the impact of circumstantial factors while assessing the outcomes of entrepreneurial business organizations.
3. a global tendency of perceivers to make decisions based on the perceived importance of influential leader's skills while considering circumstantial factors less important when assessing business cause-effect outcomes.
4. anecdotal evidence suggesting the celebrity status of the founders may produce and enhance the effect of FAE and possibly reduce long-run returns on investment.
5. a tendency for CEO-entrepreneurial leaders to purposefully create ex-post intentionality and invent dispositional skills even though evidence of ex-ante intentionality may not have existed.
6. a tendency for CEO-entrepreneurial leaders to attribute organizational outcomes to his or her personal dispositional factors while ignoring a multiplicity of important circumstantial events in assessing causation of business outcomes.
7. a possibility for decision makers to allocate capital sub-optimally in capital budgeting using biased assumptions of the value of founding leadership dispositions skewing allocations away from circumstantial factors.
8. a tendency for decision makers in collective societies to be less impacted by FAE biased managerial decisions than in societies considered to be individualistic.
9. A tendency for Americans to be highly affected by FAE.
10. The similarity of FAE responses from differing cultures may show a global standard in FAE in the human mind.

Executive boards within a country exhibiting high levels of FAE (notably America) may more likely expect the founder to have operational or organizational abilities which he or she may in fact, not have. Although the entrepreneur may recognize and seize the initial opportunity, it is likely the organization's subsequent development, strength and situational circumstances are large factors in determining subsequent success. Attention to, and management of circumstantial factors and events may produce more economic value than relying on a leader's personal dispositions.

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