

Decoding Leaders Experiences of Innovation, Adaptation and Change Through the Lens of Dispositional Attitudes Toward Risk in a Global Fortune 500 Organization

**James E. Tinker
Johnson and Johnson**

**Gail F. Latta
Xavier University**

This mixed-methods case study explores how differences in dispositional attitudes toward risk among middle and senior managers are reflected in their perceptions of innovation, change management, and adaptive leadership. Interview and survey data were collected from a sample of leaders implementing organization-wide change in a global healthcare organization. Quantitative analysis revealed no significant difference between middle and senior managers' general risk propensity, although both participant samples demonstrated higher risk propensity than the general US population. Qualitative analysis, consisting of both theoretical and open coding of narrative responses, revealed variations in risk propensity among both middle and senior managers. These variations in risk propensity were reflected in differential managers' perceptions of innovation, change and adaptive leadership. Results of this study have implications for enterprise leaders and human resource professionals who are leading talent development and strategy in their organizations. Looking through the lens of risk propensity could help organizations identify and prepare managers for the leadership challenges associated with implementing innovation and change in competitive environments.

Keywords: risk, risk propensity, risk attitudes, innovation, change management, adaptive leadership, sales leadership, human resource development

INTRODUCTION

Contemporary organizations face increasing pressure to innovate, and to either hire or develop leaders capable of guiding the organizations they serve through continuous cycles of change (Heifetz, Grashow, & Linsky, 2009). Both from a technological and process perspective, constructs like innovation can be a positive driver of change in organizations seeking to both adapt to evolving environmental conditions and respond to new customer demands (Harris & Ross, 2014; Furr & Dyer, 2014). Linked to innovation is adaptive leadership, which provides a pragmatic framework for practitioners seeking to develop nimble organizations that view change as inevitable, affording opportunity for continuous improvement (Furr & Dyer, 2014). Literature relating to organizational change, innovation and adaptive leadership intersect conceptually, to varying degrees, with the literature on risk-taking (Garcia-Granero, 2015). However, it is

empirically unclear to what extent attitudes toward risk among middle and senior managers shape how these leaders approach tasks of fostering innovation, implementing change, and practicing adaptive leadership. Moreover, the predominantly quantitative research paradigm utilized in studying the relationship between risk attitudes and innovative behavior (Amiable, Conti, Coon, Lazenby, & Herron, 1996; Brown and Eisenhardt, 1995; Chisea, Coughlan, & Voss, 1996; Covin & Slevin, 1986; Isaksen, Lauer, & Ekvall, 1999) may not capture all the nuance inherent in these complex processes. If attitudes toward risk do play a role in shaping innovative behavior, change management, and adaptive leadership, there is potential value to be gained from documenting the interplay of these constructs qualitatively in an applied organizational context.

To that end, the purpose of this case study is to explore how differences in dispositional risk attitudes of middle and senior managers are reflected in their perceptions of change management, adoption of innovation, and practices of adaptive leadership. Data was collected from a sample of middle and senior leaders in a global healthcare organization using both survey and interview techniques. The mixed-methods research design provided a normative, quantitative assessment of leaders' attitudes toward risk as a context for exploring the qualitative differences reflected in their experiences and perceptions of innovation, change, and adaptive leadership. Data collection coincided with the culmination of a major strategic change initiative implemented across the entire organization, providing an ideal backdrop to capture managers' rich, contextual experiences of innovation, change and adaptive leadership in the context of ongoing change and interpretation through the normative lens of general risk propensity.

LITERATURE REVIEW

The conceptual foundation for this study emerged from the convergence of four independent streams of research relating to organizational change (Latta, 2009, 2015), diffusion of innovation (Rogers (1995), adaptive leadership (Heifetz, 2009), and dispositional attitudes toward risk taking (Garcia-Granero, 2015). Within the vast literature relating to each of these broad streams of organizational research, the following seminal works factored significantly into developing the theoretical framework for this study.

Change Management and Organizational Culture (Latta, 2009, 2015)

The OC³ Model of Organizational Change in Cultural Context (Latta, 2009, 2015) served as the primary conceptual framework for exploring leaders' perspectives on innovation, risk, change management and leadership in this study (see Figure 1). Organizational change is deeply rooted in the cultural dynamics of tacit belief systems, and the underlying values, assumptions and behavioral norms that sustain these complex social structures. The OC³ model was developed to highlight the central role organizational culture plays in the process of implementing strategic organizational change. In addition to documenting the mediating and moderating effects of organizational culture at every stage of the strategic change process (Latta, 2009), the OC³ model also highlights the dynamics of cultural resistance and facilitation throughout the implementation of a change initiative (Latta, 2015). Research documenting these complex organizational dynamics formed the basis for the OC³ Model, which was appropriated as a foundation for the qualitative interview component of this study.

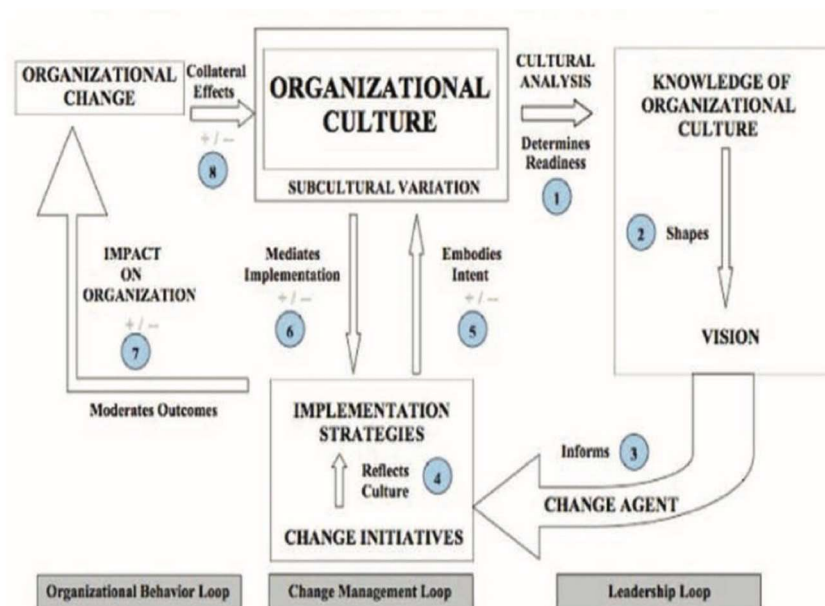
The OC³ Model provided a framework for exploring themes of risk (Garcia-Granero et.al., 2015), innovation (Rogers, 1995), change management (Latta, 2009), and adaptive leadership (Heifetz, 2009) among middle and senior managers actively engaged in implementing an organization-wide strategic change initiative in the case study organization. Participants were guided through a structured interview designed to elicit experiences related to the key stages of organizational change as operationalized by the OC³ model. This process further assessed the impact of change on the underlying sociocultural systems in their organization.

Diffusion of Innovation (Rogers, 1995)

The concept of diffusion of innovation, popularized in the seminal works of Rogers (1995), has become a classic paradigm for how new ideas are transmitted through social systems and adopted over time. The

core components of Rogers' (1995) theory involve the diffusion of ideas, the innovation decision process, social systems, early adopters, and resisters to change. The theory has evolved into the science of dissemination, in large part due to advances in modern technology and communications, which has enhanced our understanding of how social systems are influenced (Dearing, 2008). Diffusion of innovation describes the phenomena of how the adoption of innovation spreads throughout a social system. Rogers' (1995) provides a framework for examining the process of innovation, including stages of adoption and resistance to innovation. He conceptualized innovation as being an idea, process, or object that embodies an improved method of doing something. Garcia-Granero (2015) highlighted the interplay between innovation and risk, demonstrating that risk taking leads to desirable outcomes for innovation. Innovation has also been associated with creative thinking in the literature that describe risk taking and experimentation as enablers of innovative ideas (Detzner & Gunderman, 2020; O'Donoghue, 1998). Diffusion of innovation was one of four themes explored with participants in this study as it relates to their experience of implementing strategic organizational change.

FIGURE 1
OC3 MODEL OF ORGANIZATIONAL CHANGE IN CULTURAL CONTEXT (Latta, 2009)



Adaptive Leadership (Heifetz, 2009)

Adaptive leadership is a contemporary approach to environmental adaptation, operationalized for practitioners by Heifetz (2009). Heifetz is a consultant who promoted the nascent leadership theory of adaptive leadership to help practitioners better understand the relationships among leaders, organizational systems, and change. Heifetz (2009) cites the importance and interrelatedness of social systems as part of the change process. Uhl-Bien & Arena (2018) posit that adaptive leadership is multi-factorial and illustrate this through their exploration of what they term organizational adaptability. Organizational adaptability is achieved through the combination of innovative thinking, risk taking, and change leadership. Uhl-Bien & Arena (2018) also discuss the importance of creating adaptive space, which aligns with what Heifetz (2009) posits as critical elements of the adaptive environment, requiring organizations to call out elephants out in the room, share responsibility, value independent judgement, and build leadership capacity. Developing the capacity of leaders for adaptation in organizations has been viewed by some as a central driver of organizational performance (Schimschal & Lomas, 2019).

Dispositional Attitudes Toward Risk-Taking (Garcia-Granero, 2015)

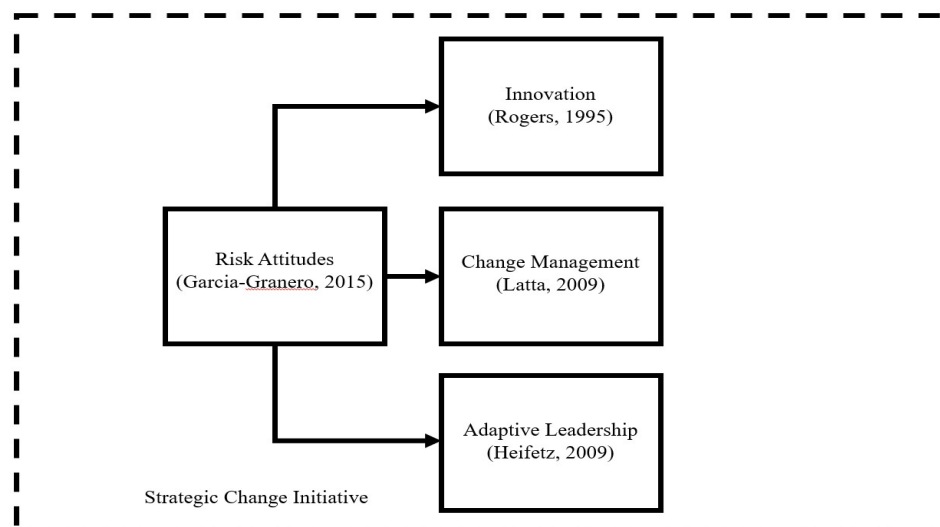
Risk is inherent in all organizations that must make decisions and evaluate trade-offs every day. Organizations that seek to manage process and product risk often require commitment of significant time and resources with no guarantee of a certain outcome (Garcia-Granero, 2015). In exploring the potential impact of risk attitudes in organizations, Garcia-Granero (2015) highlight the concept of entrepreneurial orientation. There is significant debate in the literature regarding whether the evaluation of risk should be viewed as domain specific, assessed across multiple domains or assessed as a general disposition (Zhang et.al., 2018). This study adopts a dispositional approach, assessing generalized risk propensity as a lens through which to interpret managers experiences and perceptions of organizational change. This approach reflects a stream of research that focuses on risk as a moderating construct in organizational innovation.

THEORETICAL FRAMEWORK

The OC³ Model (Latta, 2009) provided a framework for exploring themes of risk (Garcia-Granero et.al., 2015), innovation (Rogers, 1995), change management (Latta, 2013), and adaptive leadership (Heifetz, 2009) for this mixed-methods study of change implementation. A recently implemented strategic change initiative in the case study organization provided a common context for eliciting experiences, perceptions, and feelings about the entire change implementation process across all study participants. Utilizing the conceptual framework of Latta's (2009) OC³ Model of Organizational Change in Cultural Context (see Figure 1), participants were guided through a structured interview focusing on the key stages of organizational change, while eliciting perspectives on innovation, change management, risk and adaptive leadership, and probing for insights regarding the underlying socio-cultural systems.

The theoretical framework for analyzing results of this study is presented in Figure 2. The overarching study objective focuses on understanding how differences in risk attitudes are reflected in leaders' perceptions of innovation, change management, and adaptive leadership. The figure illustrates the purported importance of leaders' attitudes toward risk in shaping their perceptions of innovation, change management and adaptive leadership in the context of implementing an organization-wide strategic change initiative.

FIGURE 2
THEORETICAL FRAMEWORK FOR EXPLORING VARIABLES IN THE CONTEXT OF STRATEGIC CHANGE



RESEARCH QUESTIONS

Four overarching research questions (RQs) guided this mixed-methods case study of dispositional attitudes toward dispositional risk propensity and organizational change. The research questions utilize risk propensity as a normative metric through which to interpret variability and similarities among middle and senior managers' experiences, perceptions and attitudes toward innovation, change, and adaptive leadership:

***RQ1:** To what extent do the expressed experiences, perspectives and attitudes toward risk taking during change implementation among middle and senior managers in a global health care company reflect differences in dispositional attitudes toward risk-taking?*

***RQ2:** To what extent do the expressed experiences, perspectives and attitudes toward innovation during change implementation among middle and senior managers in a global health care company reflect differences in dispositional attitudes toward risk-taking?*

***RQ3:** To what extent do the expressed experiences, perspectives and attitudes regarding organizational change among middle and senior managers in a global health care organization reflect differences in dispositional attitudes toward risk at every stage of the change implementation process?*

***RQ4:** To what extent do the expressed experiences, perspectives and attitudes regarding adaptive leadership during change implementation among middle and senior managers in a global health care organization reflect differences in dispositional attitudes toward risk-taking?*

INSTRUMENTATION

The independent variable in this mixed-methods study was assessed quantitatively using a validated normative indicator of dispositional risk propensity (Zhang et.al., 2015). The dependent variables were assessed qualitatively using a semi-structured interview protocol derived from the OC³ Model of Organizational Change in Cultural Context (Latta, 2009).

Risk Propensity

Researchers have taken various approaches to assessing attitudes toward risk-taking, developing a variety of normative quantitative instruments. The General Risk Propensity Scale (GRIPS) was used in this study to provide a quantitative measure of risk propensity (Zhang, 2017). The GRIPS is an 8-item, self-reporting instrument utilizing a 5-point Likert scale ranging from "strongly disagree" to "strongly agree". Acceptable factor loading metrics have been reported for individual scale items, ranging from .62 to .80 (see Table 1).

TABLE 1
GRIPS QUESTIONS AND FACTOR LOADINGS

Factor 1 – General Risk Propensity	Factor loading
Taking risks makes life more fun	.80
My friends would say that I'm a risk taker	.73
I enjoy taking risks in most aspects of my life	.78
I would take a risk even it meant I might get hurt	.64
Taking risks is an important part of my life	.71
I commonly make risky decision	.62
I am a believer of taking chances	.75
I am attracted, rather than scared by risk	.75

Source: Zhang et.al., 2015, p. 5

Zhang et.al. (2015) developed the GRIPS as a domain-general measure of risk disposition, and an alternative to the prevailing domain-specific measure of risk disposition. Zhang et.al. (2015) conducted five studies with 1523 participant in developing evidence for its construct validity. The GRIPS demonstrated incremental predication of work, academic, and life outcomes in comparison to other self-reporting measures of risk taking, specifically the five-factor model of personality and the Domain-Specific Risk-Taking Scale.

Interview Protocol

The interview protocol for assessing dependent variables was derived from Latta's (2009) OC³ Model of Organizational Change in Cultural Context. The interview protocol was structured to elicit participants' perceptions regarding innovation, change and adaptive leadership as they pertain to each stage of the model. The interview questions were framed to elicit participants' perceptions relating to the key operational elements and challenges leaders face during each of the eight stages of the model. A recent strategic change initiative was used as context for administering the interview protocol. The structure of the protocol provided a flexible roadmap to assess experiences of middle and senior managers during a real-world change process, providing a logical sequence of planned questions with embedded flexible probes tied to the overarching thematic coding structure of the study.

POPULATION & DATA COLLECTION

The population for this study was a convenience sample of senior and middle managers in a global health care organization. These individuals are medical device sales leaders evenly distributed across major cities in the United States. The organization is a global leading brand in surgical equipment committed to advancement of surgical outcomes through innovation. The senior and middle managers are responsible for 8-10 direct reports. This organization was selected because it had recently implemented a company-wide strategic change initiative, relying on middle and senior managers to serve as change agents during the implementation process. The first author is employed by the organization and was therefore familiar with the change initiative. Permission was granted to conduct the study on condition of preserving institutional and individual participant confidentiality.

Data collection occurred over a three-month period in 2019. All interviews were completed using Zoom teleconferencing software, a platform that enabled both recording and transcription of the qualitative interviews. After completing their interviews, participants were immediately sent a link to the GRIPS assessment instrument administered via Qualtrics. A single attention check item was added to the GRIPS survey to screen for participants who responded indiscriminately to the items on the assessment. A

participant code was used to link GRIPS data confidentially to deidentified interview transcripts for analysis. During data collection one co-investigator conducted the interviews, while the other monitored responses to the GRIPS assessment to ensure data collection saturation had been reached with respect to the qualitative data, and a roughly equivalent number of participants were identified as having a low, middle and high propensity toward risk.

Forty (40) middle managers randomly selected from a regionally stratified organizational roster were contacted via company email and invited to participate in the study. Twenty-six (26) middle managers contacted agreed to participate in the study; four (4) failed the attention check question on the GRIPS assessment and were eliminated from the study, reducing the response rate for middle managers to 55%. All ten (10) senior managers in the organization were sent a similar invitation to participate, with 9 completing all participant requirements for a response rate of 90%. The resulting final sample contained 22 middle managers and 9 senior managers, a 62% response rate. Table 2 presents the breakdown of participants by management level, gender, and organization tenure.

DATA ANALYSIS

Data analysis was carried out in four stages: First, the recorded audio interviews were transcribed and deidentified to ensure participant confidentiality during analysis. Once member checking was complete, content analysis was applied to each interview transcript using both theoretical and open coding. Only after content analysis had been completed on all interview transcripts was the quantitative GRIPS data scored and participants divided into low, middle and high-risk propensity groups. Finally, participants' coded interview data were linked to the appropriate risk propensity group using participant codes for comparative analysis and interpretation.

**TABLE 2
PARTICIPANT DEMOGRAPHICS**

Participants	Male	Female	Tenure 0-9 years	Tenure 10-19 years	Tenure 20+ years
Middle Management (n=22)	16 (72%)	6 (27%)	3 (14%)	14 (66%)	5 (23%)
Senior Management (n=9)	8 (88%)	1 (11%)	1 (11%)	1 (11%)	7 (78%)

Transcriptions were produced within 48 hours of the interview and sent to participants for member checking. The purpose of member checking was to ensure accuracy and afford participants an opportunity to provide additional thoughts and insights that might have surfaced post-interview. Audio recordings were deleted once the transcript had been verified. Interview coding was initiated as soon as member checking was completed. On the basis of the GRIPS assessment, managers were placed in one of three categories reflecting low, medium and high levels of risk propensity. Content analysis of the qualitative interview transcripts was completed prior to linking participant responses to their scores on the GRIPS.

To guard against researcher bias during data analysis, content analysis of the interview transcripts was completed by the same co-investigator who conducted the interviews, while the other co-investigator monitored responses to the GRIPS assessment. Data collection continued until saturation had been reached with respect to the qualitative responses and a sufficient distribution of participants had been recruited to equally populate all three GRIPS categories. Only then were the themes derived from the content analysis of interviews linked to results of the GRIPS assessment for interpretation. Coded themes from the interviews were interpreted by comparing the qualitative data for managers who scored differently on the quantitative assessment of risk propensity.

RESULTS, SCORING GRIPS & CONTENT ANALYSIS

General Risk Propensity (GRIPS) Analysis

A total of 31 middle and senior managers participated in both phases of data collection and produced qualifying data for analysis. GRIPS scores ranged from 2.5 to 4.5 and were grouped for analysis into three risk groups: low (2.5-3.4), middle (3.5-3.9) and high (4-4.5). Table 3 presents the breakdown of participants based on management level and GRIPS scores. A t-test was conducted to determine if there was a significant difference between the GRIPS scores of middle and senior managers. Results revealed no significant difference, $t(29) = -.309$, $p = .760$, between the GRIPS scores of middle managers ($M=3.60$, $SD=.56$) and senior managers ($M=3.67$, $SD=.44$).

TABLE 3
DISTRIBUTION OF MANAGERS BY GRIPS SCORE AND MANAGEMENT LEVEL

Management Level	Risk Group = Low	Risk Group = Medium	Risk Group = High
Middle Manager	9 (41%)	6 (27%)	7 (32%)
Senior Manager	3 (33%)	4 (45%)	2 (22%)

Percentage reflects comparison of managers within each risk group

Content Analysis of Interview Transcripts

Content analysis of transcribed participant interviews using both theoretical and open coding was carried out using qualitative analysis software, NVivo 12. All thirty-one interviews were coded using a pre-established coding scheme including constructs derived from each of the theories reflected in the study's theoretical framework. Table 4 lists the primary categories and subcategories that were coded in NVivo 12. The primary categories enabled the co-investigators to code for general themes associated with the four foundational theories reflected in the theoretical framework, while the sub-categories provided a view of dimensionality related to each code for specific themes nested within the primary categories.

TABLE 4
THEORETICAL CODING SCHEME USED IN CONTENT ANALYSIS OF INTERVIEW TRANSCRIPTS

Risk, (Garcia-Granero, 2015; Zhang, 2015; Weber & Blais, 2002)	Innovation (Rogers, 1995)	Change (Latta, 2009, 2015)	Adaptive Leadership (Heifetz, 2009)
Sub-Categories: Managerial	Sub-Categories: Innovation Decision Process	Sub-Categories: Change readiness	Sub-Categories: Name Elephants in Room
Climate Health/Safety	Diffusion Social Systems	Organizational culture Change Facilitation	Shared Responsibility Value Independent Judgement
Financial	Early Adopters	Change resistance	Build Leadership Capacity
Ethical	Resisters	Implementation strategies Change Impact	

Open coding was carried out simultaneously to capture any additional content not reflected in the theoretical coding scheme. A small number of emergent themes were identified during open coding and systematically applied across all interview transcripts. Each emergent theme was categorized under one or

more of the four theoretical categories as presented in Table 5. Most emergent codes were related to change management, although one was relevant to adaptive leadership.

**TABLE 5
EMERGENT THEMES IDENTIFIED IN INTERVIEW TRANSCRIPTS USING OPEN CODING**

Emergent Themes	Theoretical Category
Building Trust	Adaptive Leadership, Change Management
Tenure	Change Management
Executive Leader Influence	Change Management

Coding in NVivo 12 enabled analysis of both prevalence and saturation relative to each content code across all interview transcripts. Prevalence refers to the number of participants’ interviews that included at least one mention of a particular theoretical category, subcategory or emergent theme. Saturation refers to the total number of times a theoretical category, subcategory or emergent theme was identified across all interview transcripts. Both prevalence and saturation rates were further broken down for analysis by each managerial group (middle vs. senior managers). Interpretation of study results consisted of a comparative analysis of the differential representation of each theoretical category, subcategory and emergent theme (in terms of both prevalence and saturation) in the coded interview transcripts for managers who scored low, medium and high on risk propensity. Results of these analyses are presented in the sections that follow.

Differential Perspectives on Content Themes by Risk Groups

Study results presented below are organized to address the four stated research questions guiding this study. Analysis focuses on the extent to which middle and senior managers expressed experiences, perspectives and attitudes regarding risk (RQ1), innovation (RQ2), organizational change (RQ3), and adaptive leadership (RQ4) during a period of strategic change implementation in a global health care organization, reflective of differences in scores on the GRIPS assessment of dispositional risk propensity. Data presented reflect differential perspectives based on saturation rather than prevalence because saturation enabled the researchers to assess the extent to which participants placed greater focus and attention on specific theoretical categories. Evaluation of coding saturation also revealed more meaningful variations and comparisons across risk propensity and management level than prevalence coding alone.

Differential Perspectives on Risk

Across all risk propensity groups, middle and senior managers differed in the concerns they expressed about managing risk, based on the themes extracted from their interview data (see Table 6). Middle managers across all risk propensity groups were primarily focused on climate risk (37% low, 28% medium, 24% high) and managerial risk (22% low, 23% medium, 29% high) based on coding saturation. Descriptive analysis of the climate risk data revealed middle managers’ cautionary observations of employee behavior and general concern for potentially dysfunctional organization climate. With respect to managerial risk, middle managers reflected concern for changing team dynamics and the effects of change.

TABLE 6
RANK ORDER OF RISK THEMES AMONG MIDDLE AND SENIOR MANAGERS BY
GRIPS SCORES

Risk Group	Middle Managers		Senior Managers	
	GRIPS Score	Coding Saturation	GRIPS Score	Coding Saturation
Low	2.5-3.4 (41%)	Climate (37%)	3.3-3.4 (33%)	Climate (31%)
		Managerial (22%)		Risk (general) (24%)
		Financial (20%)		Health/Safety (16%)
		Risk (general) (11%)		Financial (14%)
		Health/Safety (8%)		Managerial (10%)
Med	3.5-3.9 (27%)	Ethical (2%)	3.5-3.9 (44%)	Ethical (5%)
		Climate (28%)		Risk (general) (32%)
		Managerial (23%)		Managerial (26%)
		Financial (21%)		Financial (21%)
		Risk (general) (13%)		Climate (18%)
High	4.0-4.5 (32%)	Health/Safety (12%)	4.0-4.4 (22%)	Health/Safety (3%)
		Ethical (3%)		Ethical (0%)
		Managerial (29%)		Risk (general) (31%)
		Climate (24%)		Climate (24%)
		Financial (20%)		Health/Safety (24%)
		Risk (general) (15%)		Financial (16%)
		Health/Safety (12%)		Managerial (5%)
		Ethical (0%)		Ethical (0%)

In contrast to middle managers, analysis of narrative responses of senior managers revealed a greater tendency to view risk from a broader, strategic view, concerned with implications for how the organization viewed risk and how organizational structures and rules may limit the ability to take risk. General risk emerged as a top concern among senior managers across all risk propensity groups (24% low, 32% medium, 31% high), along with climate (31% among low and 24% among the high risk propensity groups) and managerial risk (26% amongst the medium risk propensity group), which also emerged as top concerns among senior managers. Among middle managers, general risk never rated higher than 15% among concerns of the low (11%), medium (14%) and high (15%) risk propensity groups.

Concerns related to general risk among senior managers' in the high-risk propensity group were specific to the impact of change at the individual level and the implications of change on the current organizational climate. Health/safety risk (24%) also emerged as a relatively high concern among senior managers in the high-risk propensity group. Both middle and senior managers showed the least concern for ethical risk across all risk propensity groups (2% low, 3% medium, 0% among middle managers; 5% low, 0% medium and 0% high for senior managers).

Differential Perspectives on Innovation

Middle managers in the low risk group showed a significant concentration of coding saturation in the general innovation category (71%). Responses from middle managers in the medium and high-risk groups were also heavily weighted in the general innovation category, 73% and 71% respectively (see Table 7).

TABLE 7
RANK ORDER OF INNOVATION THEMES AMONG MIDDLE AND SENIOR MANAGERS
BY GRIPS SCORES

Risk Group	Middle Managers		Senior Managers	
	GRIPS Score	Coding Saturation	GRIPS Score	Coding Saturation
Low	2.5-3.4 (41%)	Innovation (71%)	3.3-3.4 (33%)	Decision Process (43%)
		Early Adopters (8%)		Innovation (36%)
Med	3.5-3.9 (27%)	Diffusion (7%)	3.5-3.9 (44%)	Diffusion (12%)
		Decision Process (5%)		Decision Process (17%)
		Social Systems (5%)		Early Adopters (4%)
		Resisters (4%)		Social Systems (2%)
		Innovation (73%)		Resisters (0%)
High	4-4.5 (32%)	Diffusion (12%)	4.0-4.4 (22%)	Diffusion (27%)
		Early Adopters (5%)		Decision Process (42%)
		Decision Process (4%)		Diffusion (39%)
		Resisters (3%)		Innovation (15%)
		Social Systems (3%)		Early Adopters (2%)
		Resisters (<1%)	Social Systems (2%)	Resisters (0%)

Middle managers across all risk groups focused responses on the general theme of innovation versus the more specific components of innovation represented in the subcategories derived from Rogers (1995). In the descriptive analysis, middle managers viewed innovation relative to its impact on their current and future environment. The descriptive analysis revealed that middle managers across all risk groups expressed a positive bias towards innovation, both technological and process. These findings accord with Rogers's (1995) positioning innovation as something that is evaluated by a social system and adopted because it represents an improvement over previous methods. Rogers (1995) also contends that the willingness to adopt innovation often entails the willingness to take on more risk.

While the middle manager group was mostly uniform across their responses toward innovation regardless of risk group, the senior manager group varied significantly in their responses to innovation by risk group. Senior managers in the low risk group focused primarily on the innovation decision process (43%), followed by the general theme of innovation (36%). In the descriptive analysis, senior managers were not just focused with the general theme of innovation, but more in tuned with the decision processes behind innovation. Senior managers in the medium risk group were primarily focused on the general innovation category (50%), followed by diffusion of innovation (27%). Senior managers in the high-risk group focused heavily on the innovation decision process (42%) and diffusion of innovation (39%) categories. The stronger focus on diffusion of innovation for senior managers is supported in the descriptive analysis with a prevalent theme of senior leaders seeing their role as a catalyst and primary agent of change.

Differential Perspectives on Change Management

Middle managers in the low risk group primarily focused on organizational culture (24%) and change facilitation (22%) (see Table 8). Middle managers in the medium risk group focused on change facilitation

(29%) and organizational culture (23%). Middle managers in the high-risk group also placed a primary focus on change facilitation (28%) and organizational culture (21%). In the descriptive analysis on change, managers expressed concern and sometimes optimism toward the potential impact change might have on organizational culture. Specific to change facilitation, the descriptive analysis reflected a strong sense of personal responsibility for middle managers to navigate their team through a change process. This focus on organizational culture and change facilitation aligns with Latta's (2015) view that change is culturally embedded, stressing the importance of cultural and content alignment as potential accelerators or inhibitors of change.

Senior managers showed more variation in their responses to change by risk group as compared to middle managers. Senior managers in the low risk group focused on change impact (24%) and change facilitation (23%). Senior managers in the medium risk group focused on change facilitation (27%) and organizational culture (21%). Senior managers in the high-risk group placed a high amount of emphasis on change facilitation (43%), followed by implementation strategy (16%). Senior managers across all risk groups were more focused on implementation strategies and change impact overall than middle managers. The descriptive analysis supports a view that senior managers see themselves as the initial instigator for change implementation, with all change initiating from a strategic vision. Latta (2009) validates the need for senior change agents to constantly assess the strategy and impact of change as it will ultimately influence the outcome of change.

Differential Perspectives on Adaptive Leadership

Middle managers in the low risk group focused primarily on shared responsibility (33%) and independent judgement (22%) (see Table 9). Middle managers in the medium risk group primarily focused on shared responsibility (35%), followed by independent judgement (25%). Middle managers in the high-risk group focused on two areas, shared responsibility and independent judgement, with equal weighting (32%). Shared responsibility had high coding saturation across all middle manager groups. The emphasis on shared responsibility was supported in the descriptive analysis with a prevalent theme of accountability to oneself and others in terms of driving results. The strong focus on independent judgement supports a core component of adaptive organizations, Heifetz (2009) describes the adaptive organization as one that can evolve and adapt by entrusting more powers to its employees to create a more agile organization.

TABLE 8
RANK ORDER OF CHANGE THEMES AMONG MIDDLE AND SENIOR MANAGER BY GRIPS SCORES

Risk Group	Middle Managers		Senior Managers	
	GRIPS Score	Coding Saturation	GRIPS Score	Coding Saturation
Low	2.5-3.4 (41%)	Organizational Culture (24%)	3.3-3.4 (33%)	Change Impact (24%)
		Change Facilitation (22%)		Change Facilitation (23%)
Med	3.5-3.9 (27%)	Change Readiness (19%)	3.5-3.9 (44%)	Organizational Culture (18%)
		Change Impact (17%)		Implementation Strategies (14%)
		Implementation Strategies (10%)		Change Readiness (14%)
		Change Resistance (8%)		Change Resistance (5%)
		Change (general) (0%)		Change (general) (2%)
		Change Facilitation (29%)		Change Facilitation (27%)
High	4-4.5 (32%)	Organizational Culture (23%)	4.0-4.4 (22%)	Organizational Culture (21%)
		Change Impact (16%)		Change Impact (18%)
		Change Readiness (15%)		Implementation Strategies (16%)
		Implementation Strategies (10%)		Change Readiness (15%)
		Change Resistance (7%)		Change Resistance (3%)
		Change (general) (<1%)		Change (general) (<1%)
High	4-4.5 (32%)	Change Facilitation (28%)	4.0-4.4 (22%)	Change Facilitation (43%)
		Organizational Culture (21%)		Implementation Strategies (16%)
		Change Impact (18%)		Change Impact (14%)
		Change Readiness (16%)		Organizational Culture (12%)
		Implementation Strategies (10%)		Change Readiness (11%)
		Change Resistance (6%)		Change Resistance (3%)
Change (general) (1%)	Change (general) (1%)			

Senior managers in the low risk group focused primarily on naming elephants in the rooms (35%), followed by shared responsibility (22%). Senior managers in the medium risk group focused on shared responsibility (37%), followed by the general theme of adaptive leadership (20%). Senior managers in the high-risk group focused on the general theme of adaptive leadership (33%) and shared responsibility (31%).

CONCLUSIONS AND IMPLICATIONS

This article reports results of a single case study documenting how middle and senior managers' perceptions of their own experiences of risk taking, innovation, organizational change, and adaptive leadership are differentiated on the basis of their dispositional risk propensity. Results provide a level of contextual understanding regarding leader's experiences relating to study constructs often lacking in strictly quantitative studies. The descriptive analysis provided affords contextual insights into the attitudes, thoughts, and beliefs of middle and senior managers across varying risk propensities. Implications of the study's principle findings are discussed in the following sections.

TABLE 9
RANK ORDER OF ADAPTIVE LEADERSHIP THEMES AMONG MIDDLE AND SENIOR MANAGERS BY GRIPS SCORES

Risk Group	Middle Managers		Senior Managers	
	GRIPS Score	Coding Saturation	GRIPS Score	Coding Saturation
Low	2.5-3.4 (41%)	Shared Responsibility (33%)	3.3-3.4 (33%)	Name Elephants in Room (35%)
		Independent Judgement (22%)		Shared Responsibility (22%)
Med	3.5-3.9 (27%)	Adaptive Leadership (17%)	3.5-3.9 (44%)	Independent Judgement (20%)
		Build Leadership Capacity (14%)		Adaptive Leadership (13%)
		Name Elephants in Room (14%)		Build Leadership Capacity (10%)
		Shared Responsibility (35%)		Shared Responsibility (37%)
High	4-4.5 (32%)	Independent Judgement (25%)	4.0-4.4 (22%)	Adaptive Leadership (20%)
		Name Elephants in Room (18%)		Independent Judgement (16%)
		Build Leadership Capacity (13%)		Name Elephants in Room (16%)
		Adaptive Leadership (9%)		Build Leadership Capacity (11%)
		Adaptive Leadership (9%)		Adaptive Leadership (33%)
		Shared Responsibility (32%)		Shared Responsibility (31%)
High	4-4.5 (32%)	Independent Judgement (32%)	4.0-4.4 (22%)	Build Leadership Capacity (13%)
		Name Elephants in Room (13%)		Name Elephants in Room (13%)
		Adaptive Leadership (14%)		Value Independent Judgement (10%)
		Build Leadership Capacity (9%)		

Differentiation in General Risk Propensity

With respect to general risk propensity, the distribution of GRIPS scores among middle and senior managers in the case study revealed that the participant sample demonstrated significantly higher risk propensity than the general US population. The vocation of sales manager takes on a greater component of risk since compensation is highly dependent on sales performance. Based on this increased level of job pressure, it is possible that sales manager roles in this industry may attract individuals with a higher propensity for risk.

In contrast, the senior manager group was primarily concentrated in the medium risk group, which may suggest that individuals who ascend to senior management could have a greater tendency to take a more balanced approach to risk taking. Senior managers, based on a higher level of authority, may also make decisions that have greater breadth and impact than middle managers, with conservative organizations favoring managers with low to medium risk propensity. Iconic CEO’s like Steve Jobs and Elon Musk continue to stand out as outliers, leaders with high risk propensity who foster climates where risk taking is encouraged.

Regarding the pervasive evidence of concern for climate risk among all middle, and some senior managers (except senior managers in the medium risk propensity group), Garcia-Grenaro (2015) observes that organizational climate can often provide employees cues, positive or negative, on how to behave and what is acceptable. Change can threaten these cultural norms, disrupting the work climate for the organization (Latta, 2015). The data reported here suggest an awareness of the potential threat to climate among managers at all levels regardless of their risk propensity.

The evidence also demonstrated strong concern for managerial risk. The research questions were assessed against a backdrop of sweeping change, where managers faced significant uncertainty in terms of

how change might impact their team. Garcia-Granero (2015) reinforces this concern, stating that managers are constantly faced with uncertainty and must make decisions where the outcome is not assured.

The data revealed that middle and senior managers consistently expressed very limited concern for ethical risk regardless of risk propensity. The low focus on ethical risk may suggest limited concern or existence of legal or ethical issues as participants reflected on a period of sweeping change. This outcome may infer positive implications for the subject organizations in terms of their ethical and legal structure.

The focus of senior managers on the general theme of risk might be reflective of their broader, more strategic role in the organization and the broader view of risk taking. While middle managers might be more inclined to view risk in the context of how it might impact them at the tactical level, senior managers seemed more concerned with the impact of risk on the broader organization and how it might impact competitiveness in the overall health care environment they compete in.

Differentiated Perspectives on Innovation

Middle managers across all risk levels focused on the general theme of innovation and far less on the specific aspects of innovation as described by Rogers (1995). Garcia-Grenaro (2015) contends that managerial risk taking has positive effects on creative and innovative behaviors. This view is supported in the data proportionally, where middle managers in the highest risk propensity group provided more reflections on innovation per participant than any other risk propensity groups. The descriptive analysis also supports what is stated by Rogers (2003), who supports the view that middle managers in the contemporary world grapple with the reality of an increasingly complex environment where the need to innovate is unavoidable. Middle managers primarily viewed innovation as technical or product innovation. The prevalent view of innovation as a new product to sell to consumers limited the discussion, especially in terms of other forms of innovation like process innovation, which includes discussion on processes and methods that represent a superior alternative compared to previous methods (Rogers, 1995).

While middle managers were more inclined to speak about innovation primarily in the context of new products, senior managers placed greater focus on innovation decision making processes, especially amongst the low and high-risk senior manager groups. This difference likely represents functionally the higher influence that senior managers may have on innovation decisions, whether it is investing in new technological innovation, acquisitions, or enacting broader process innovation initiatives.

Differentiated Perspectives on Change Management

Middle and senior managers in the medium and high-risk propensity groups placed the greatest focus on change facilitation as compared to the low risk groups. Senior managers in the high-risk propensity group were the most overweight in terms of responses specific to change facilitation. The evidence supports that most middle and senior managers were very aware of their role as change facilitators, with the potential to either augment or undermine change effects based on their interventions and leadership (Latta, 2015).

The evidence also supported a strong recognition of the role of organizational culture throughout discussion of strategic change. The qualitative interview instrument questions were informed by Latta's (2015) OC³ model of organizational change in cultural context. While participants were not generally aware of Dr Latta's study, responses from both middle and senior managers validated the pervasive role of culture as a potential accelerator or inhibitor of change. Overwhelmingly positive attitudes toward change readiness signaled a deeply embedded cultural acceptance of change, which has positive implications for future change initiatives in this target organization.

Middle and senior managers were very similar across all risk propensity groups in terms of the areas of change they focused on. Senior managers, especially in the high-risk propensity group, placed increased emphasis on implementation strategies. As described in the descriptive analysis, senior managers were more concerned with how strategic change was implemented in the organization and were also more critical of the implementation strategies used to implement change, as well as its collateral impact on front line leaders and individuals within the organization.

Differentiated Perspectives on Adaptive Leadership

The evidence in this case study revealed a strong sentiment among middle and senior managers, across all risk propensity groups, that success is a shared responsibility, with themes from the descriptive analysis focusing on individual and team accountability. Middle managers in the low and medium risk propensity groups placed significant emphasis on valuing independent judgement. Heifetz (2009) contends that a core component of adaptive organizations is the willingness to solicit and accept feedback from all levels of the organization, especially from those at the lowest level that have direct interface the customers.

Senior managers, especially in the low risk group were more willing than middle managers to name elephants in the room. The willingness of senior managers to be critical of the organization also reflects significant personal risk they are taking to address challenges in the organization. Heifetz (2009) believes that organizations cannot grow and learn unless they are willing to openly address shortcomings in the organizations. Senior managers, especially in the high-risk propensity group, also placed more focus on the general construct of adaptive leadership, which ties back into the descriptive analysis where senior managers reflected on their strategic purpose to foster and create adaptive organizations.

The findings of this study have implications for enterprise leaders and human resource professionals who are leading talent development and strategy in their respective organizations. Looking through the lens of risk propensity could help organizations identify and prepare managers for the leadership challenges associated with implementing innovation and change in competitive environments. Organizations may find value in conducting their own assessment of attitudes toward risk as a way of preparing managers to meet the need for change, innovation, and adaptive leadership in order to compete successfully in their respective industries. These insights may enable organizations to be more intentional about talent acquisition and recruitment. Internally, organizations can foster the desired profiles and capabilities centered on risk taking, innovation, change management, and adaptive leadership within their own leadership development programs. The ability to align leadership development with the needs of the organization has the potential to drive enhanced alignment between leader dispositions and organizational goals.

LIMITATIONS

The study was limited by its size but provided a basis to further explore variability in how managers relate experiences of risk, change, innovation, and adaptive leadership. Data collection occurred in a single business organization within the United States that may not be representative of other organizations. Also, since the results of the study were generated from a convenience sample of middle and senior managers in a single medical device business unit, the generalizability of the data may be limited. Case study research has limitations in terms of external validity and applicability to other contexts outside of the specific target organization. Only interview and self-reported data were collected as part of this case study. Other artifacts and data sources were not consulted to inform the interpretation of the research questions.

RECOMMENDATIONS FOR FUTURE RESEARCH

An expanded study inclusive of multiple organizations in the United States and abroad could establish the external validity of these findings. Corroborating evidence of the patterns that emerged from this qualitative data could determine how pervasive the reported patterns may be across industry sectors. Such findings could contribute to theory development relative to the specific role of risk propensity in managing change, and its collateral effects on how leaders assess risk, innovation, change, and adaptive leadership.

Use of the quantitative GRIPS assessment instrument in this study provided a valuable window into the distribution of risk propensity among managers in one large, international organization operating in the competitive, fast-paced health technologies industry. Further research employing quantitative measures of the other variables in this study, including innovation, change management, and adaptive leadership, could provide a normative profile that reveals how variability on these dimensions is distributed across a variety of industries.

The role of organizational tenure and executive leader influence had strong resonance as emerging themes and warrant further exploration. The role of organizational tenure may be of specific interest to human resource professionals as organizations weigh the benefits of long-term employee retention against costly incentives like pensions and 401K programs that reward such tenure.

This study included analysis of risk propensity in relation to adaptive leadership. Future research is needed to explore the role risk plays in other forms of leadership. For example, Jones (2001) outlines the impact of charismatic leaders on disrupting cultural norms and implementing wide-spread organizational change. Further research could further elaborate the role risk propensity may play in charismatic leaders' effectiveness in bringing about organizational change. Such research could help identify potentially mediating and moderating factors accounting for executive leaders' effectiveness in competitive organizational environments that call for innovation, adaptation, and change.

REFERENCES

- Amabile, T.M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39(5), 1154–1184.
- Brown, S.L., & Eisenhardt, K.M. (1995). Product development: Past research, present findings, and future directions. *Academy of Management Review*, 20, 343–378.
- Campbell, D.T., & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56(2), 81–105. <https://doi.org/10.1037/h0046016>
- Chiesa, V., Coughlan, P., & Voss, C.A. (1996). Development of a technological innovation audit. *R&D Management*, 13, 105–136.
- Covin, J.G., & Slevin, D.P. (1986). The Development and Testing of an Organizational-Level Entrepreneurship Scale. In R. Ronstadt (Ed.), *Frontiers of entrepreneurship research, 1986: Proceedings of the Sixth Annual Babson College Entrepreneurship Research Conference* (pp. 628–639). Wellesley, Mass: Retrieved from <http://p2048-libproxy.xu.edu.nocdbproxy.xavier.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=ecn&AN=0348134&site=eds-live&scope=site>
- Dearing, J.W. (n.d.). Applying Diffusion of Innovation Theory to Intervention Development. *Research on Social Work Practice*, 19(5), 503–518. <https://doi-org.nocdbproxy.xavier.edu/10.1177/1049731509335569>
- Detzner, A.A., & Gunderman, R.B. (2020). How Safety Can Undermine Creativity. *AJR. American Journal of Roentgenology*, 215(1), 25–26. <https://doi-org.nocdbproxy.xavier.edu/10.2214/AJR.19.22505>
- Garcia-Granero, A., Llopis, O., Fernandez-Mesa, A., & Alegre, J. (n.d). Unraveling the link between managerial risk-taking and innovation: The mediating role of a risk-taking climate. *Journal of Business Research*, 68(5), 1094-1104. doi:10.1016/j.jbusres.2014.10.012
- Harris, R., Bennett, J., & Ross, F. (2014). Leadership and innovation in nursing seen through a historical lens. *Journal of Advanced Nursing*, 70(7), 1629. doi:10.1111/jan.12325
- Heifetz, R.A., Grashow, A., & Linsky, M. (2009). *The practice of adaptive leadership : tools and tactics for changing your organization and the world*. Boston, Mass.: Harvard Business Press, c2009. Retrieved from <https://login.nocdbproxy.xavier.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cat01905a&AN=ohiolink.b27421943&site=eds-live&scope=site>
- Highhouse, S., Nye, C.D., Zhang, D.C., & Rada, T.B. (2017). Structure of the DOSPERT: Is there evidence for a general risk factor? *Journal of Behavioral Decision Making*, 30(2), 400–406. <https://doi.org/10.1002/bdm.1953>
- Isaksen, S.G., Lauer, K.J., & Ekvall, G. (1999). Situational outlook questionnaire: A measure of the climate for creativity and change. *Psychological Reports*, 85, 665–674.
- Jackson, D.N. (2004). *Jackson Personality Inventory*, revised. Manual Sigma Assessment Systems, Incorporated.

- Jones, H.B. (2001). Magic, meaning and leadership: Weber's model and the empirical literature. *Human Relations*, 54(6).
- Latta, G.F. (2009). A Process Model of Organizational Change in Cultural Context (OC3 Model): The Impact of Organizational Culture on Leading Change. *Journal of Leadership & Organizational Studies*, 16(1), 19–37.
- Latta, G.F. (2015). Modeling the cultural dynamics of resistance and facilitation: Interaction effects in the OC³ model of organizational change. *Journal of Organizational Change Management*, 28(6) 1013-1037.
- O'Donoghue, A. (1998). Risk-taking and creative thinking pay off. *The Lamp*, 55(4), 22–23.
- Paunonen, S.V., Haddock, G., Forsterling, F., & Keinonen, M. (2003). Broad versus narrow personality measures and the prediction of behaviour across cultures. *European Journal of Personality*, 17(6), 413–433.
- Rogers, E.M. (2003). *Diffusion of innovations*. New York : Free Press, 2003. Retrieved from <https://login.nocdbproxy.xavier.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=cat01905a&AN=ohiolink.b22405776&site=eds-live&scope=site>
- Schimschal, S.E., & Lomas, T. (2019). Gritty leaders: The impact of grit on positive leadership capacity. *Psychological Reports*, 122(4), 1449–1470. <https://doi-org.nocdbproxy.xavier.edu/10.1177/0033294118785547>.
- Uhl-Bien, M., & Arena, M. (2018). Leadership for organizational adaptability: A theoretical synthesis and integrative framework. *The Leadership Quarterly*, 29(1), 89–104. <https://doi-org.nocdbproxy.xavier.edu/10.1016/j.leaqua.2017.12.009>
- Zhang, D.C., Highhouse, S., & Nye, C.D. (2018). Development and validation of the general risk propensity scale (GRIPS). *Journal of Behavioral Decision Making*, pp. 1-16. <https://doi-org.nocdbproxy.xavier.edu/10.1002/bdm.2102>