Judgment Risk Indicator

Behavioral Risk Profiling Assessment

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1.0 About the Judgment Risk Indicator

The Judgment Risk Indicator is a behavioral-based risk assessment that enables clients to gain strategic and competitive advantages by identifying and developing top talent. The assessment also helps to mitigate risk by raising red flags to people who exhibit risk-taking behaviors that expose your organization to financial loss, litigation – or worse, such as:

- o "Betting the farm"

- o "Playing it too safe"

- o Throwing good money after bad

- o Following the crowd

- o Missing opportunities

- o Ignoring underlying evidence

- o Short-term thinking

- o Overconfidence

BEHAVIORAL ECONOMICS

What makes the Judgment Risk Indicator innovative and what differentiates it from other assessments is that it is underpinned by the science of behavioral economics and a branch of study known as 'decision-making under risk and uncertainty'. The emerging field of behavioral economics draws on the scientific disciplines of psychology and economics to better understand human decision making. It was first believed by classical economists that when people make decisions, they generally do so in a manner that best serves their own self-interest. In the 1950's, Herbert Simon,

a Nobel Prize laureate, pioneered research that demonstrated people are not always as rational as once believed. He coined the term "bounded rationality" to describe the findings that there are limits to our abilities to reason, and because of this, people often depart from rational behavior.

Other researchers, most notably Daniel Kahneman and Amos Tversky, began to build on the theories of bounded rationality and the science evolved into what is now known as behavioral economics, and the closely linked fields of behavioral finance, experimental economics, and judgment and decision-making (JDM). A culmination of behavioral economics research points to one absolute and frightening reality: that there are internal and external forces that drive our decisions. These forces take the shape of judgment biases that often cause people to make poor decisions and behave irrationally. Indiscriminate by nature, judgment biases have a detrimental impact on all decision-makers, regardless of a person's age, education, culture or gender. In fact, they are so systematic that certain types of irrational behavior and bad decisions are very predictable.

DECISION-MAKING UNDER RISK AND UNCERTAINTY

In addition to uncovering and scientifically quantifying new judgment biases, Kahneman and Tversky also

pioneered a branch of behavioral economics called 'decision-making under risk and uncertainty'. Kahneman was awarded a Nobel Prize in Economics for his work in this field in 2002 (unfortunately Tversky passed away beforehand).

Decision making under risk and uncertainty research explains the roles that risk preferences and risk appetite play in deciding whether a risk is worth taking, and in determining how much people are willing to stake on it. This is very important in risk management, especially in cost and benefit analysis. The prudent risk management approach is to weigh the risks and rewards equally. "Excessive" risk appetite and "reckless" risk taking often arise when risks are mismanaged, or ignored, in the pursuit of greater rewards. It is also vital in helping to quantify what is an acceptable level of risk and what is not.

The Judgment Risk Indicator exploits the predictive powers of behavioral economics and decision-making under risk and uncertainty to determine what, if any, judgment biases an individual is susceptible to. Those who are more susceptible to judgment biases are at a higher risk of making errors in judgment. As is often the case, poor judgment translates into financial loss and those losses are frequently amplified by risk appetite – sometimes with catastrophic effect, as the subprime crisis has clearly demonstrated.

On the other hand, those who are less susceptible to judgment biases are more apt to take calculated risks and make more profitable decisions. Identifying and developing these talents in people boosts job performance and creates strategic and competitive advantages. The Judgment Risk Indicator can also supplement an organizations existing suite of assessment tools, such as personality tests, to create a "whole person" approach to talent management.

2.0 Assessment Framework

The assessment is divided into two parts: Judgment Bias and Risk Appetite

PART I: JUDGMENT BIAS

Part I of the assessment analyzes two categories of judgment biases where people are known to depart from rational thinking: Probabilities & Statistics and Behavioral Biases. Research shows that people have difficulty judging risk because they often miscalculate probabilities (i.e. "'odds" or "chances"). The Judgment Risk Indicator assesses competencies in these areas and tests for judgment biases that are known to contribute to poor business and financial decisions, such as:

- o **Overconfidence**

- o **Status Quo Bias**

- o **Confirmation Bias**

- o **Illusion of Validity**

- o **Framing Effects**

- o **Herding**

People are frequently unaware of their own judgment biases. They are sometimes learned and, more often than not, innate in all of us. The good news is that judgment biases can be alleviated through education. This begins with use of the Judgment Risk Indictor to diagnosis a person's own individual biases and behavioral change comes from Upside Risk's talent development program *'Putting the "I" in Risk Management'*.

PART II: RISK APPETITE

Risk appetite is assessed by determining the level of comfort a person has in taking business and financial risks. While some embrace risk, others try to avoid it at all cost.

Academic research has primarily focused on the risk appetite of an individual when investing (and gambling) their own money. The Judgment Risk Indicator is innovative because it assesses an individual's risk appetite when spending company money. This measure is particularly important because the global economics crisis was caused, in part, by reckless risk-taking with others people's money. It is measured by evaluating a person's risk appetite in the context of business scenarios that entail decision making under risk and uncertainty, such as:

- o **Risk vs Return Preferences**

- o **Perceptions of Risk**

- o **Expressed Risk Behaviors**

- o **Risky versus Safe Options**

Risk appetite is a personal preference. Having a high or low risk appetite is not necessarily a good or bad thing on its own. However, it is vitally important to match the right person to the risk-taking requirements of a job role. Poor judgment in combination with an excessive risk appetite can be a recipe for disaster – particularly in job roles where there is often a lot at a stake when taking risks.

3.0 Product Benefits and Use

Upside Risk delivers three separate Judgment Risk Indicator (JRI) reports that are used by clients in three distinct ways:

SELECTION: *JRI Snapshot report - $100 USD*)

The JRI Snapshot report helps clients to make better informed pre-employment hiring decisions:

o Identify talent that is capable of taking calculated risks which results in more profitable outcomes

o Identify individuals who fit the risk taking requirements of a job role

o The predictive nature of the assessment helps to prevent financial loss and litigation before problems arise by raising red flags to individuals of concern

o Assessment use demonstrates to stakeholders, regulators and others that proper due diligence is incorporated into your organization's hiring practices

DEVELOPMENT: *JRI Training & Development report - $125 USD*.

Upside Risk delivers educational workshops that utilize the JRI Training & Development report to develop talent and mitigate risk across the workforce:

Putting the "I" in Risk Management
A workshop designed to raise awareness of risk in order to promote personal accountability and limit irresponsible risk taking at the individual and corporate levels.

Calculated Risk Taking and Profitable Decisions
A workshop designed to develop talent and support business growth by providing key decision makers with skill set required to take calculated risks.

BENCHMARKING: *JRI Group Benchmark Scorecard - $50 USD per person*.

The JRI Group Benchmark Scorecard and Upside Risk's HRisk Analytics help your organization to make better informed personnel decisions:

o Compare and evaluate the risk profiles of groups of individuals such as teams, job candidates and departments

o Identify and develop high potential talent for promotion and leadership roles (a recent report shows that a top performer outperforms an average one by 2:1)

o Mitigate risk by spotting areas of concern early on

o Identify people who are – and are not – a good fit for the strategic direction of your organization

4.0   Report Illustration and Content

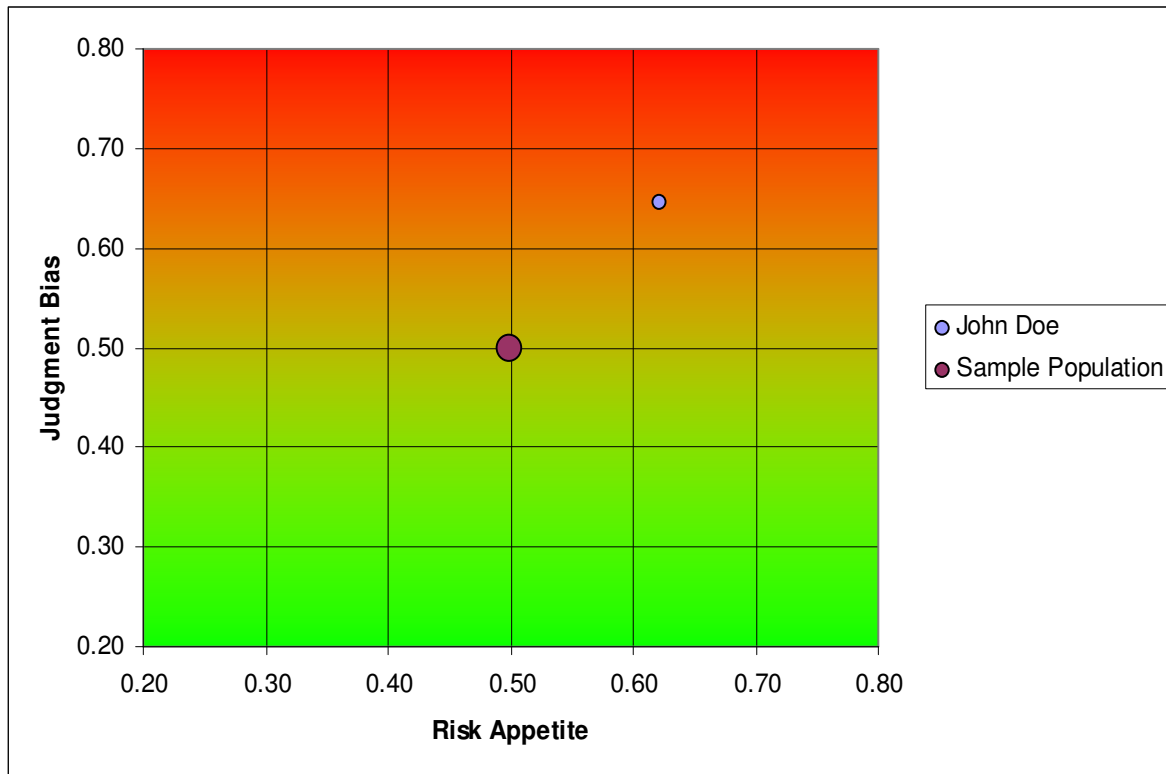### JRI SNAPSHOT REPORT – Cumulative Results of Individual Risk Profile

Judgment Bias Scale	Risk Appetite Scale
Very High Risk of making errors in judgment (.65 to .80)	Very High risk appetite (.65 to .80)
High Risk of making errors in judgment (.55 to .64)	High risk appetite (.55 to .64)
Moderate Risk of making errors in judgment (.45 to .54)	Moderate risk appetite (.45 to .54)
Low Risk of making errors in judgment (.35 to .44)	Low risk appetite (.35 to .44)
Very Low Risk of making errors in judgment (.20 to .34)	Very Low risk appetite (.20 to .34)

Key Risk Factor	Category	Risk Exposure
Judgment Bias		
Sample Size Bias	Probabilities and Statistics	**Very Low**
Base Rate Bias	Probabilities and Statistics	**Very High**
Conjunction Fallacy	Probabilities and Statistics	**Very High**
Gamblers Fallacy	Probabilities and Statistics	**Very Low**
Overconfidence A Score	Behavioral Bias	**Very Low**
Overconfidence B Score	Behavioral Bias	**Very Low**
Time Discounting	Behavioral Bias	**Very Low**
Confirmation Bias	Behavioral Bias	**Very Low**
Illusion of Validity	Behavioral Bias	**Very High**
Status Quo Bias	Behavioral Bias	**Very Low**
Herding	Behavioral Bias	**Moderate**
Framing Effects	Behavioral Bias	**Very High**
Overall Judgment Bias		**High**
Risk Appetite		
Status Quo	Choice Dilemmas	**High**
Sunk Cost Loss	Choice Dilemmas	**Very High**
Sunk Cost Gain	Choice Dilemmas	**Very Low**
Perception	Investment Decisions	**Very Low**
Benefits	Investment Decisions	**High**
Behavioral Bias	Investment Decisions	**High**
Willingness to Pay	Risk vs. Reward	**Very High**
Low Stakes	Lottery Choice	**Moderate**
High Stakes	Lottery Choice	**Moderate**
Overall Risk Appetite		**High**

JRI SNAPSHOT REPORT – Judgment Risk Indicator Matrix

The graph below is called the Judgment Risk Indicator matrix. It illustrates a person's overall assessment results when their Judgment Bias and Risk Appetite scores are shown together. The scales used to measure the results are also shown.

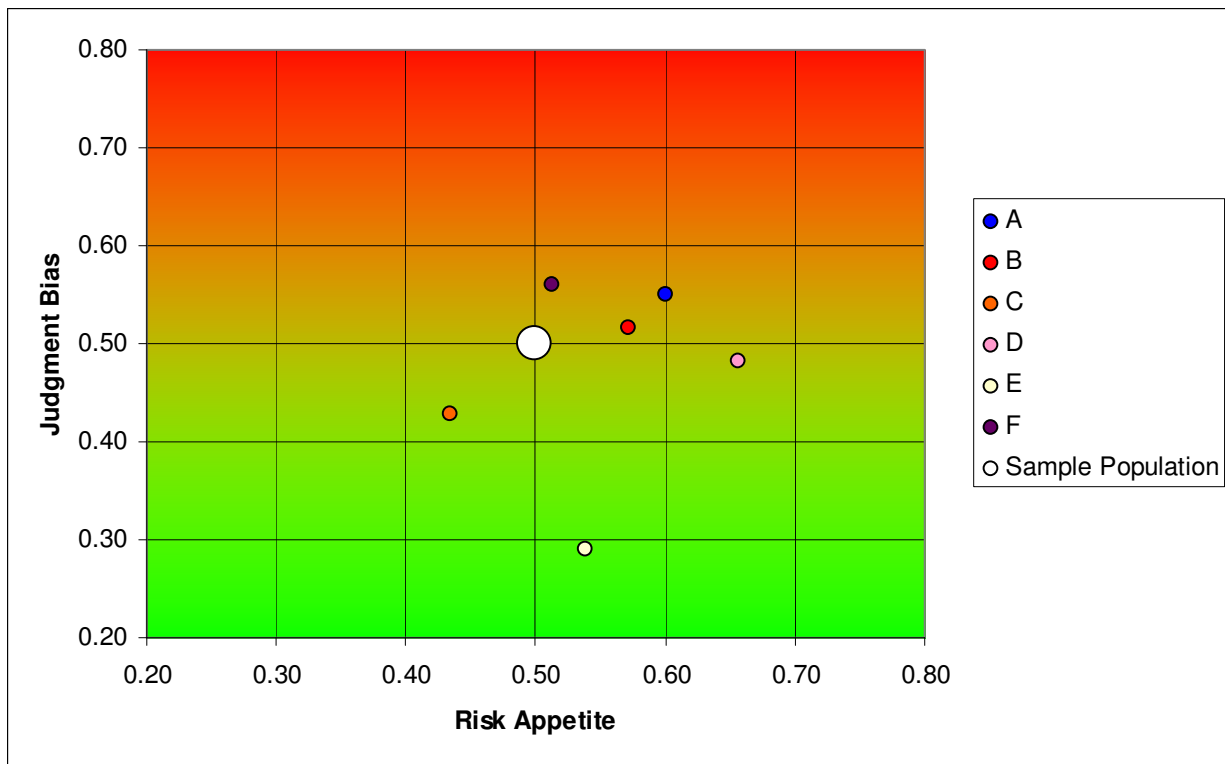| Judgment Bias Scale (vertical Y axis)	Risk Appetite Scale (horizontal X axis)
.65-.80 = Very High Risk of making errors in judgment	.65-.80 = Very High risk appetite
.55-.64 = High Risk of making errors in judgment	.55-.64 = High risk appetite
.45-.54 = Moderate Risk of making errors in judgment	.45-.54 = Moderate risk appetite
.35-.44 = Low Risk of making errors in judgment	.35-.44 = Low risk appetite
.20-.34 = Very Low Risk of making errors in judgment	.20-.34 = Very Low risk appetite

The overall "normed" population average is represented by the purple dot in the center of the graph while the individual's results ("John Doe") are represented by the blue dot. This particular risk profile would certainly raise red flags due to a "very high" Judgment Bias score that is combined with a "high" Risk Appetite score.

JRI GROUP BENCHMARK SCORECARD – Judgment Risk Indicator Matrix

The Judgment Risk Indicator matrix is also used by clients to compare the risk profiles of group members to the overall group average, and to compare group member to other members of the group.

Judgment Bias Scale (vertical Y axis)	Risk Appetite Scale (horizontal X axis)
.65-.80 = Very High Risk of making errors in judgment	.65-.80 = Very High risk appetite
.55-.64 = High Risk of making errors in judgment	.55-.64 = High risk appetite
.45-.54 = Moderate Risk of making errors in judgment	.45-.54 = Moderate risk appetite
.35-.44 = Low Risk of making errors in judgment	.35-.44 = Low risk appetite
.20-.34 = Very Low Risk of making errors in judgment	.20-.34 = Very Low risk appetite

The overall group average is represented by the white dot "Sample Population" plotted in the center of the graph while group members' results are represented by the colored dots and letters (A – F).

5.0 Judgment Risk Indicator Matrix Quadrants

The Judgment Risk Indicator matrix is divided into four quadrants starting in the upper left-hand corner and proceeding clockwise. Keep in mind that the descriptions for each quadrant will change in magnitude as an individual gets further away from the overall group average score (.50, .50). For instance, someone with the coordinates of (.76, .73) would be much more indicative of the Red Flag quadrant description than someone located at (.51, .53).

Quadrant I (Caution Zone) – Upper Left (.20-.49, .50-.80)

Individuals falling in the Caution Zone are at a higher risk exposure than other group members because their judgment bias results indicate a higher risk of making errors in judgment. This means they may be more prone to decisions that could result in financial loss. They generally have a lower risk appetite than other members of the group which means they are less comfortable taking risks. A higher risk of making errors in judgment in combination with a lower risk appetite may reduce the magnitude of potential losses.

Recommendation: These group members should receive judgment risk training in order to help them see where they are making their errors and how that pertains to their work performance. A cautious approach should be taken when monitoring the risk-taking activities of these group members.

Quadrant II (Red Flag Zone) – Upper Right (.50-.80, .50-.80)

Individuals falling in the Red Flag Zone are at a higher risk exposure than other group members because their judgment bias results indicate a higher risk of making errors in judgment. This means they may be more prone to decisions that could result in financial loss. They generally have a higher risk appetite than other members of the group which means they are more comfortable taking risks. A higher risk of making errors in judgment in combination with a higher risk appetite may increase the magnitude of potential losses.

Recommendation: These group members should receive judgment risk training in order to help them see where they are making their errors and how that pertains to their work performance. A vigilant approach should be taken when monitoring the risk-taking activities of these group members. Exercise extreme vigilance in cases where individuals deviate significantly from the norm (e.g. far upper right-hand corner of the Red Flag quadrant).

Quadrant III (Profit Zone) – Lower Right - (.50-.80, .20-49)

Individuals falling in the Profit Zone are at a lower risk exposure than other group members because their judgment bias results indicate a lower risk of making errors in judgment. This means they may be more apt at making profitable decisions. They generally have a higher risk appetite than other members of the group which means they are more comfortable taking risks. A lower risk of making errors in judgment in combination with a higher risk appetite may increase the magnitude of potential profits. This risk profile is indicative of people who may be more concerned with maximizing profit than minimizing loss.

Recommendation: These group members may not need judgment risk training except when their work performance indicates that it could be useful. A more passive approach should be taken when monitoring the risk-taking activities of these group members unless there are extenuating circumstances to believe otherwise. Again, keep in mind that the description for the Profit Zone quadrant will change in magnitude as an individual gets further away from the overall group average score (.50, .50).

Quadrant IV (Safe Zone) – Lower Left (.20-.49, .20-.49)

Individuals falling in the Safe Zone are at a lower risk exposure than other group members because their judgment bias results indicate a lower risk of making errors in judgment. This means they may be more apt at making profitable decisions. They generally have a lower risk appetite than other members of the group which means they are less comfortable taking risks. A lower risk of making errors in judgment in combination with a lower risk appetite may decrease the magnitude of potential profits. This risk profile is indicative of people who may be more concerned with minimizing loss than maximizing profit.

Recommendation: These group members may not need judgment risk training except when their work performance indicates that it could be useful. A more passive approach should be taken when monitoring the risk-taking activities of these group members unless there are extenuating circumstances to believe otherwise. Again, keep in mind that the description for the Safe Zone quadrant will change in magnitude as an individual gets further away from the overall group average score (.50, .50).

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6.0   Frequently Asked Questions

Q: Who developed the Judgment Risk Indicator?

A: The Judgment Risk Indicator was developed by Upside Risk in collaboration with Emory University behavioral economics professor C. Monica Capra. Upside Risk's Founder & CEO, Tyler D. Nunnally, is an accomplished entrepreneur who gained expertise in behavioral economics and decision making under risk and uncertainty while working in England with a spin-off consultancy of Oxford University. The scoring algorithms were developed by experts in quantum physics and mathematics, and the psychometric properties are supported by a Ph.D. in Industrial/Organization Psychology.

Q: How is the assessment delivered and how long does it take to complete?

A: It is delivered online and takes about 25 to 40 minutes to complete.

Q: How often should a person be retested and can a person's risk profile change?

A: Life circumstances such as a new baby, marriage, divorce, health issues or career change are known to have a profound effect on a person's risk profile. We therefore recommend retesting every 6 months to a year.

Q: What are the assessment's limitations?

A: The assessment provides a self-report measure and therefore reflects
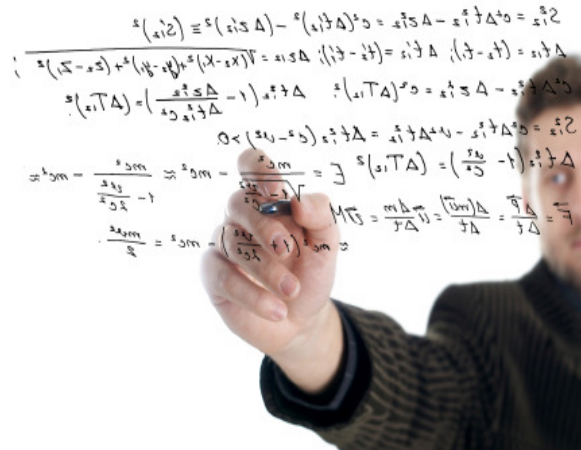
how a person says they would likely behave in a given situation. A person's actual risk behavior sometimes varies from their expressed views, particularly when real money is at stake. However, research shows that self-reports are valid predictors of how people will likely behave in the workplace.

Q: How are the results standardized?

A: Results are based on a comparison of risk profiles from others who have previously taken the assessment. Individual results are "normed" against the overall test population and a person's score reflects how they compare to others. Upside Risk can also validate the assessment against a clients' own population.

For further details please visit
www.Upside-Risk.com
or call +1.404.320.6047

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