TIME & CHANGE:
THE FUTURE OF RISK
ANNUAL REPORT 2018
A Note from the Directors

Businesses across the country and around the world are changing the way they look at risk management. They are systematically moving from risk transfer (i.e. insurance) to comprehensive enterprise risk management solutions. The Future of Risk Management is here.

Each year The Risk Institute surveys 500 risk management professionals to get their take on what they’re seeing in their departments and firms as it relates to risk. In our 2018 survey, the data revealed some compelling findings:

- 70% of firms report having an internal risk management function
- Companies are increasing funding for risk management, but the size of those units continues to decrease
- 44% expect to outsource some or all of their risk function
- Risk management is no longer siloed off from the rest of the firm – risk management has become every unit’s responsibility

Our survey highlights the changes happening across the industry, particularly the rapid changes happening today.

We’ll be unpacking more on what these findings mean for the future of risk management throughout the coming year, so be sure to follow us on Twitter and LinkedIn and on our website at fisher.osu.edu/risk.

This past year has been full of action, changes and learning. To our members, thank you for your support and vision for the future of risk management. We couldn’t do any of this without you.

Onward!

Philip S. Renaud, II  
Executive Director  
The Risk Institute

Isil Erel  
Academic Director  
The Risk Institute
Our Mission
The Risk Institute (RI) at The Ohio State University Fisher College of Business operates at the intersection of risk research and risk management practice. Focused on an integrated, interdisciplinary approach to risk management.

Last year we focused on building connections — across the university, across industries and across the nation.

This year our focus is on time and change — we want to get the word out about the future of enterprise risk management, the fourth industrial revolution and how to leverage a dramatically changing landscape to create value.

Rooted in Research: We fund and distribute leading edge risk research in order to leverage risk as opportunity

Committed to Collaboration: We partner with academics, students, and executives from a broad cross-section of industries

Dedicated to Education: We equip students and executives with the knowledge to lead their companies through risks, threats and opportunities with confidence

2018
BY THE NUMBERS

<table>
<thead>
<tr>
<th>Research/Projects</th>
<th>Outreach/Collaboration</th>
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</thead>
<tbody>
<tr>
<td>6 funded research projects</td>
<td>550 attended an RI event</td>
</tr>
<tr>
<td>$159,289 in research funded</td>
<td>64 million media impressions</td>
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<tr>
<td>4 countries represented</td>
<td>120+ collaborating organizations</td>
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<tr>
<td>8 class projects facilitated</td>
<td>1,500+ engagements on social media</td>
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<tr>
<td>11 RI events hosted</td>
<td>50 average attendees at each event</td>
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<tr>
<td>11 RI events hosted</td>
<td>100+ students involved with the institute</td>
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<tr>
<td>4 countries represented</td>
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COMMITTED TO COLLABORATION

Events

The Risk Institute is committed to bridging the gap between academia and practice. We do this by hosting numerous events — Risk Series, Annual Conference, and others — that bring practitioners and academics together to discuss the latest happenings in risk.

RISK SERIES V

October 11, 2017
FCPA & Ethics
November 14, 2017
M&A
January 25, 2018
Risk & The Impact of U.S. Protectionism
February 21, 2018
Risk & The Macro-economy
March 20, 2018
Weather & Climate Risk
April 12, 2018
Natural Catastrophic Losses & Resilience
June 14, 2018
Embracing Digital Risk: AI, Robotics, Data & Drones

Visit go.osu.edu/riskseries for more information

An impressive list of speakers featured at our events this year include:

ANEESH CHOPRA
First Chief Technology Officer of the United States

PAUL ZIKOPOULOS
Vice President Big Data Analytics, IBM

MATTHEW CARROLL
Immuta

NORBERTO ANDRADE
Privacy & Public Policy Manager, Facebook

MICHELLE DE MOOY
Director of Privacy & Data Project, Center for Democracy and Technology

PAUL BRODY
Principal & Global Innovation Leader, Blockchain Technology, EY

GREG KHAIRALLAH
Senior Manager for Data and Analytics, Amazon Web

HELEN PATTON
Chief Information Security Officer, Ohio State

NEIL HERSHFIELD
Deputy Director, U.S. Dept. Homeland Security

TOM KOULOPOULOS
Digital Educator & Best Selling Author

ERIC LEBSON
Vice President, Crumpton Group

VLAD KAPUSTIN
Corporate Vice President, New York Life Insurance Company

BILL FOALD
Executive Director, EY

MIKE BIPOLI
Mergers & Acquisitions, Gallagher Bassett

TOM O’HARA
Enterprise Risk Management Director, Huntington

GAVIN WAUGH
Vice President & Treasurer, The Wendy’s Company
Looking Forward

This year we are focused on continuing to build connections within and outside of the university. Join us for one of our many continuing professional development opportunities from our Annual Conference, an exclusive VIP Summit, Risk Series and numerous breakfast and shared sessions.

RISK SERIES 2019

11.08.2018
Executive Summit

01.14.2019
Predictive Metrics & Modeling

02.21.2019
Third Party Risk

03.21.2019
Cyber Crime, Data Fraud & Theft

05.08.2019
Executive Summit

06.13.2019
Cultivating an Organizational Risk Culture

See you there—learn more and register for our upcoming events at go.osu.edu/riskevents
Focus on Integrated Risk Management

Our annual survey on integrated risk management represents one of the ways The Risk Institute leads the risk management conversation with leading risk professionals.

The data reveals 70% of firms have an integrated risk management unit and companies are increasing funding for risk management, but the size of those units continues to decrease. Despite recognizing the need to invest in risk, firms are not investing in people.

Among the other 2018 findings:

- 60% of risk managers believe that AI will play a role in risk management in the future.
- 55% of respondents do not use predictive analytics, and those that do have been using them just 1-2 years.
- 44% expect to outsource some or all of their risk function.

ORGANIZATIONAL STRUCTURE AND TONE AT THE TOP
INTEGRATION OF RISK MANAGEMENT INTO DECISION MAKING
SCOPE OF RISK MANAGEMENT
RISK MANAGEMENT PROCESS
DIGITAL RISK / DATA ANALYTICS

Survey Topics

Companies are increasing funding for risk management, but the size of those units continues to decrease.

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28% of respondents have been a victim of a cyber attack. This number is significantly larger for financial firms.

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- 55% of respondents do not use predictive analytics, and those that do have been using them just 1-2 years.
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Read what this means for the future of risk management at go.osu.edu/riskresearch

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Collaborative Research at The Risk Institute

The Risk Institute provides value to its member community by facilitating and participating in collaborative research. We rely on top business experts at Fisher as well as experts at a broad range of other OSU colleges and departments, allowing us to delve into topics including:

- Weather and Climate risk to businesses as well as effectiveness of policy
- Distracted driving and its impact on insurance claims
- The impact of natural gas resources on price and delivery to consumer
- New technologies to assist with safe vehicle operation, particularly in relation to fleets

1. **The Real Effects of Climate Policy: Evidence from the California Cap-and-Trade Rule**
   - Kewei Hou, The Ohio State University
   - Sohnke M. Bartram, University of Warwick
   - Sehoon Kim, University of Florida

   Climate change is among the most intensely debated social issues of the current times. As a response to catastrophic risks due to climate change, governments around the world are pursuing for regulations to curb anthropogenic greenhouse gas emissions, such as cap-and-trade. However, little is understood about the implications of such risk transfer. This study will investigate how firms manage regulatory risk through their investment decisions and emission behavior, in order to better understand the interplay between climate policy and firm behavior and to inform policy making with regards to the effectiveness of regional climate regulation.

2. **Modeling of Catastrophic Weather Losses to Support Risk Management for the Insurance Industry**
   - Waleed A. Muhanna, OSU
   - Steven M. Quiring, OSU

   While catastrophic weather loss models are key tools that can be used by insurance companies (and their clients as well as emergency management organizations) to assess catastrophic risk, improve risk management decisions and optimize their storm response, there are still significant shortcomings in the industry-standard models including data shortages and data unavailability. This project will address these knowledge gaps by partnering with Nationwide Mutual Insurance Company to develop, calibrate and evaluate catastrophic weather loss models using both traditional statistical techniques as well as machine learning methods.

3. **Funded Research 2018**

   - **Big Data Risk Management: An Interdisciplinary Analysis**
     - Dennis Hirsch, OSU Moritz College of Law

   - **Towards an Understanding of the Demand for Low Probability Insurance**
     - Daniel J. Lee, Rice University
     - Susan K. Laury, Georgia State University
     - J. Todd Swarthout, Georgia State University

   As the effects of climate change become more pronounced, so does the need for insurance to mitigate the risk of loss from catastrophic events. However, field data suggests surprisingly low take-up of insurance products for high consequence, low probability (HCLP) events like floods and other natural disasters—even when these insurance products are heavily subsidized. This study proposes an empirical study that attempts to bridge the results historically seen in the lab to what is readily observed in the field by adding a dose of realism to the insurance purchasing decision.

   - **Towards an Understanding of the Demand for Low Probability Insurance**
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   - **Big Data Risk Management: An Interdisciplinary Analysis**
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   Big data analytics enables businesses to unravel market trends and customer preferences, make more informed business decisions and improve efficiency. Big data analytics can invade privacy and produce unfair, or even biased, results. This can damage corporate reputation, harm relationships with customers and regulators, and undermine corporate values. Hirsch and team will fill the gap by undertaking one of the first comprehensive studies on the topic.
The Risk Institute launched the Distracted Driving Initiative in February 2017. This is a nationwide initiative comprised of dozens of companies, government entities, and researchers seeking to combine leading-edge research with industry expertise in order to predict and curb distracted driving behaviors. The consortium identified a four-tiered approach: research, legislation, technology and environment/urban planning. Members of the initiative include: Nationwide, Motorists, Ohio Mutual, Honda, Ford, eFleet, SmartDrive, Root, The National Highway Traffic Safety Administration (NHTSA), Ohio Department of Public Safety, TrueNorth, Mobileye and Greenroad among others.

This year we completed two research projects: one on the state of driver’s education across America and the other on the behavioral psychology behind distracted driving.

Our Approach: The Future of Drivers Education
Distracted driving behaviors lead to more crashes, more claims and far too many lost lives. The Risk Institute, in a public/private partnership, seeks to change driver behavior by using an evidence-based approach to drivers education.

Change starts now — and it starts with us.

Prevalence of Specific Distracted Driving Behaviors
Participants reported the percentage of trips in which they drove and did each behavior. Behaviors are ordered from most to least reported.

Frequency of Distracted Drivers:
- perceived less risk from distracted driving
- overconfident in distracted driving ability
- had positive attitudes towards their cell phones
- overestimated how often others drove distracted
- male
- lower verbal intelligence

Overconfidence = Crashes
Self-reported “good” drivers are more likely to be driving distracted.
68% of drivers reported believing they were better-than-average drivers, while simultaneously reporting more distracted driving behaviors than less confident drivers.

Most states require at least 30 hours of classroom time and 6 hours of program-required driving.
States are increasingly becoming amenable to a hybrid approach to driver training.

States require at least:
4% Unknown
20% of states do not require drivers education
76% of states do require drivers education

Learn more about how we’re putting the brakes on distracted driving at go.osu.edu/itcanwait
DEDICATED TO EDUCATION

Meeting the Need for Trained Risk Experts

We are committed to providing students with the curricular and educational resources to be successful risk practitioners and risk-aware business professionals.

Fisher’s risk students work hard to excel in their chosen field, and there are organizations that recognize this. The Risk Institute has worked to make sure our risk students are made aware of scholarship opportunities that are available to them.

We also support a risk-focused student group: Gamma Iota Sigma.

Gamma Iota Sigma is an international professional fraternity organized to promote, encourage and sustain student interest in insurance, risk management and actuarial science as professions. The alpha chapter of the 50 year-old academic fraternity was on the verge of collapse in 2017, but a faithful student was determined to save the chapter. That Fisher student approached the Institute to help her do so, and membership has increased tenfold.

“The Risk Institute was not only integral to my experience at Ohio State, but also pushed me to think about risk holistically.”
— Averie Kenney Reiber, MBA 2018
The Risk Institute Team

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