

POTENTIAL FOR INTERNATIONAL ADAPTATION OF BEST PRACTICES OF POST-9/11 CORPORATE STRATEGIC PREPAREDNESS PLANNING

Mrs. Doaa M. Taha¹

The George Washington University, USA

Professor John R. Harrald²

The George Washington University, USA

Keywords

Strategic corporate crisis planning, international adaptation

Abstract

This paper presents selected outcomes of a medium-term research effort previously conducted on the strategic affect of the 9/11 terrorist attacks on US corporate disaster planning and management for large publicly held corporations. It outlines key parameters, lessons learned and best practices frameworks analyzed previously, with a view to proposing opportunities for follow-on research, notably as concerns institutions outside of the United States, and particularly in developing regions constituting emerging markets which pose the challenge of strategic risk management planning, for multinational corporations (both US-based and others) and any other significant international investment ventures. The paper and presentation allude more specifically to possible avenues for exploring risk management issues in the region of the Middle-East & North Africa (MENA) and the Gulf sub-region in particular, in view of the current regional economic boom coupled with relatively high risks induced by geo-political instability and the challenging context of institutional governance. This preliminary overview of Middle-East corporate strategic planning preparedness relies on initial exploratory investigations and empirical observations in the field.

Introduction

This paper is a best practices paper, however it builds heavily on past, recent and ongoing research components led by the authors, including a number of empirical research findings carried out in 2006 and early 2007, with a specific view to starting an exploratory research program into international dimensions of the mostly US-based previous research efforts. This is directly linked to an ongoing effort by the authors to mobilize support from international institutional partners, in both Governments and the private sector, to carry-out extensive follow-on research which would allow the development of comprehensive research-based frameworks for corporate best practices in strategic planning for crisis preparedness and response, disaster and contingency management, business continuity and recovery.

¹ Doaa Taha, ICDRM, EMSE, SEAS, The George Washington University, 1776 G street, NW, Washinbgton DC 20052, USA

² John Harrald, Director, Institute for Crisis, Disaster and Risk Management, Professor, Emergency Management and Systems Engineering (EMSE), School of Engineering and Applied Science (SEAS), The George Washington University, 1776 G street, NW, Washington DC 20052, USA

As such, a certain amount of direct observation-based empirical research was carried out, particularly in the Middle-East, with specific focus on the Arabian Gulf in the context of field assignments to the United Arab Emirates, Kuwait, and Saudi Arabia, other interactions in the Levant (Jordan), and off-site meetings with institutional partners from Algeria.

The main objective of this effort is to explore the most appropriate ways in which public authorities, quasi-Government institutions and the private sector could be engaged in appropriate research and action frameworks on strategic institutional and corporate crisis planning and management, by presenting some of the previous US corporate and academic findings and initiating preliminary dialogue on how this emerging knowledge could best be harnessed to benefit both international and local institutions active in a region such as the Middle-East, considered to be at once a potentially emerging market and a region characterized by a high degree of risk generated by periodic geo-political instability.

Thesis

Our thesis, in view of its direct reliance on preliminary and ongoing research programs, as well as the fact that it is being studied in view of projected follow-on research, will include some elements traditionally specific to research papers, such as an overview of underlying theory and prospective methodological choices rooted in related research endeavors carried out by the authors.

Our thesis is that, with globalization bringing into play greater interactivity for an increasing number of corporations and institutions (no longer limited to the large often publicly held multinational corporations, with small to medium enterprises / SMEs having greater access to global markets), corporations and institutions are required to adapt considerably in order to remain competitive: on the one hand, national markets are “invaded” by international products and services providers. In first world markets, low cost providers from developing countries make their appearance, and they are challenged by strong regulatory and quality control frameworks, in some cases these being the last boundary of masked protectionism on behalf of industrialized countries’ authorities (the case of Dubai Ports World is now notorious in this respect). One of the areas where these corporations need to increasingly adjust their compliance, is on matters related to various aspects of security management. In other cases, first world corporations, in order to remain competitive, must embark on the conquest of emerging markets so as to ensure growth, as their domestic markets saturate. More often than not, these corporations need to be prepared to engage in local partnerships, while upholding their own best practices standards in order to protect both their bottom-line and manage the inevitable “reputational” risk which could stem from these international operations. The “reputational” risk is compounded these days by the need to appease past perceptions of transnational corporations’ wrongdoing and exploitation in developing countries, thus leading these corporations to adopt uniform standards of safety across the regions they operate in. On the receiving end, newly emerging markets are attempting to attract more foreign investment, which leads them to researching ways in which to improve their governance standards as well as portray their geographic location as safe and able to protect the business community from any acute crisis of whatever sort (natural hazards, civil unrest, armed conflict, technological / infrastructural disasters, terrorism, etc.). In turn, these emerging markets locations allow industrialized countries’ international corporations to produce at competitive rates, while uplifting the state of well-being of local populations in ways that make these emerging markets increasingly attractive as production-bases.

Hence, all sections of the international business community, whether international corporations, host authorities or local institutions and corporations have a stake in improving the real and perceived levels of security, stability, preparedness and the related quality of their governance frameworks. In regions where political risk and geopolitical instability are a potent reality, such as the Middle-East, the case for researching ways in which international

best practices can be adapted and adopted for strategic institutional and corporate planning for crisis management, is particularly strong.

Sources of Information

The main sources of information have been, as concerns the conceptual premise of the thesis, research conducted in the context of an NSF-funded research program by the George Washington University's Institute for Crisis, Disaster & Risk Management, within the Department of Engineering Management and Systems Engineering of the School of Engineering and Applied Sciences (Washington DC), on the effect of 9/11 on US corporate strategic planning for risk, crisis and disaster management, and business continuity and recovery. The research effort led to the production of a series of reports and three Doctoral dissertations (the last one in final stage at the time of drafting the present paper), one of which focused particularly on issues such as best practices frameworks for strategic planning.

The main source of information for the prospective follow-on, constitutes in itself a challenge: indeed, even during the large US research program, the sensitivity of issues pertaining to 9/11 and the corporate governance, responsibilities and performance aspects of the research, led to a research protocol which ensured confidentiality for the participating corporations.

As concerns efforts led in context of the present prospective research focusing on the Middle-East poses similar but stronger challenges, both past, present and future. Indeed, at the time of drafting of this preliminary paper, the only way to access information freely has been to do so confidentially and on an ad hoc empirical observation basis which involved informal discussions with key actors, and institutional and corporate decision-makers. This is expected to form a great part of the initial groundwork into the future, but it should be augmented by formal approaches for support from Government authorities as well as private sector entities and individual experts.

This issue of information sources will be a key factor in designing appropriate research outlines which would support any review of the prevailing situation, with a view to developing best practices frameworks. As such, the issue merits in itself a quick overview of challenges concerning information sources in the Middle-East in general and the Gulf in particular, even if situations vary from country to country and often from region to region and from one institution to another within each country. The main challenges identified are:

- The lack of transparency of most governance systems in place across the region, and a prevalent feeling from civil servants, managers and employees, that they jeopardize their careers by speaking candidly of sensitive issues directly relating to the appropriateness of governance systems in place.
- The suspicion of many institutional interlocutors at motives behind such research endeavors, sometimes augmented by hostile perceptions of "western dealings" (and particularly those of the US) in the Middle-East
- The simple inexistence of accurate record-keeping and / or difficulty accessing what records are effectively kept. To be fair and consistent with a fairly bureaucratic reputation of the region, this usual hamper to simple institutional liaison could be turned into an asset, if access to government records is granted, seeing that these are often substantial, even if of uneven quality.
- Some challenges may simply be very similar to those encountered in the USA, ranging from excessive prudence due to the sensitivity of the subject (enhanced by the real issues of potential regional instability which create an added layer of pressure), coupled with the fact that the most "empowered" and informed

interlocutors are, by definition, very busy (even more so in institutional settings where they have poor system support) and the hen and egg problem of the relatively low priority that these subjects have for them (in many cases, there is also a deliberate ignorance of these within a culture where it is seen as being negative to speak of disasters and any major potential problems).

Of course, whenever possible, documentation has been a source of information, but mostly as concerns the US-based components of best practices and research into strategic corporate crisis planning. This will continue being the case.

At an appropriate stage it is envisaged to have sets of interviews with key decision-makers and operational individuals, perhaps using confidentiality-bound research protocols (although in the Middle-East, because of prevailing lack of institutional trust, managers tend to not believe that any such confidentiality may be implemented; also, the institutional landscape being much smaller, there is a concern that even generic descriptions of an institution will make it easily identifiable, and in institutions where power and access to information are extremely concentrated, often into a single pair of hands, that the interlocutors would also be just as easily identifiable if any significant information was shared).

At the present stage, while discussions have been initiated for proper informational sourcing with a half dozen institutions, deeper informal discussions on strategic corporate crisis planning and management have only taken place with a couple of these institutions.

In order not to jeopardize future potential for engagement and in view of prevailing gentlemen's agreements, this paper does not divulge which institutions and their leaders accepted to engage in these preliminary investigations, except to say that we were able to speak to a significant cross-section of interlocutors ranging from national high-level and working-level practitioners as well as international partners ranging from small services corporations to large multinationals. Also, internal documents shown could not be cited, hence a references and bibliography section mostly relevant to the US research components against which our approach is tailored.

Methodological choices concerning sample and project design

In view of the prevalent institutional landscape, the authors have prioritized Gulf 'quasi-Government institutions as the first and most relevant category of informational sourcing and participating partners for the projected efforts. Indeed, the rationale for that is the following:

- In the MENA (Middle-East and North Africa) region, even the private sector is driven by Government investments and spending through various forms of re-distribution of the natural resources wealth (mainly petrodollars).
- Governments have built-up large quasi-Government institutions in order to maintain a degree of control over resources while giving these institutions the role of catalysts of private sector development (most private sector firms are contracted by these Quasi-Government institutions to execute projects in all areas of endeavor.
- These quasi-Government institutions, because of their dual interface with Government and private enterprise, and their centrality in national economies and the political landscape, have the best access to information.
- Also, they tend to attract the best pools of managers in light of the fact that they are well-resourced and they have the most chance of being interested in our topics as well as to have the ability to carry forward future implementation imperatives with their

outreach capacity towards both Government and private enterprise (best practices dissemination).

- These quasi-Government bodies also have interactions both at the national and international levels (they are the most potent local partners to international firms and they themselves have substantial international investments).

Moving forward, we anticipate the continuation of the use of a certain number of basic investigative tools to create a framework for possible follow-on research based on:

- Operational research partnerships with Government authorities, quasi-Government institutions and private sector enterprises (with a particular focus on the large family business units which constitute an increasingly significant portion of MENA countries' GDPs).
- Structured interviews with practitioners at various levels of responsibility
- If possible, a quantitative review of key crisis preparedness parameters
- A highly qualitative analytical exercise about the prevailing situation – this could be done on the basis of technical audits of the governance systems of participating institutions as they relate to crisis preparedness.
- Data collection and analysis which, while multi-layered, would at least partly use case study methodology, in an effort to build-up a sufficient qualitative critical mass of knowledge on all aspects of strategic crisis and contingency planning, disaster management, business continuity planning and recovery imperatives.
- Much empirical observation is expected, supported by many “off-the-record” interactions, as has been the case until now.

Findings (including description of ad hoc modus operandi)

The present approach to the issues at hand was prompted by an evident need to investigate any international dimensions of a previous research effort aimed at studying the evolution of US strategic corporate planning for preparedness, response, mitigation and management of disasters (particularly those constituting extreme events) as well as the business continuity and recovery aspects of these imperatives.

The research project, after an initial study of the economic impacts of 9/11 on directly and indirectly impacted publicly held corporations, which yielded a counter-intuitive result showing that these corporations, in spite of massive initial losses, did manage to absorb the 9/11 shock (many going on to thrive thereafter), focused on analyzing specific sets of parameters allowing to understand how their strategic corporate crisis planning approaches evolved subsequently.

The research project, focused on a single case study methodology applied to four major confidentially participating corporations each constituting a unit of analysis, was thoroughly researched and designed against previous existing (though rare) data and was augmented by the participation of input from some of America's most respected experts from both Government and the private sector (all participating within the confidentiality clauses of the research protocol so as to ensure optimal openness in their assessments and input, in view of their very high profiles in both the policy, institutional and economic spheres of influence).

A set of common observations and best practices recommendations, even if probably needing future validation as the state of the art evolves, was developed and can be summarized as follows: most major US publicly held corporations directly impacted in the World Trade Center attacks of September 11th 2001, had significant crisis preparedness frameworks in place. However, most of these were insufficient to deal with an extreme event which was considered not to be the most likely crisis scenario pre-9/11. The September 11th response demonstrated that some of the existing measures in place were helpful in mitigating the disaster while others existed and were inadequate either through their design, implementation or both, and yet other measures were simply altogether inexistent. In view of the magnitude of the event, it was found that improvisation combined with pre-existing measures allowed a certain level of success in mitigating the disaster. Other parameters were difficult to analyze such as the impact of the prevailing world economic downturn at the time of the attacks.

A certain number of recommendations based on best practices observations were inferred in the findings and conclusions of the research effort and notably:

- The importance of raising crisis preparedness awareness at every level of the corporation, in ways which make strategic disaster planning an integral part of corporate and institutional culture across business lines horizontally and vertically, from the Boardroom to the most grounded technical levels of operation and to include all related contractors associated with operational imperatives.
- The importance of having a dedicated professional team which is appropriately resourced in order to stay abreast of best practices and have active stewardship of all crisis management imperatives, with the mandate of mainstreaming these. It is important that the seniority of the managers involved be sufficient to reflect the priority of crisis management given by the corporate leadership. The top leadership must be directly involved in these stewardship efforts.
- The importance of mainstreaming crisis management imperatives in ways that reciprocally leverage the corporation's own operational strengths towards crisis mitigation while designing preparedness frameworks that enhance the quality of mainstream business line governance in ways that improve business operations and their related outputs and results.
- The convergence of managing crisis-related risks and "reputational" risks, which are closely linked (a crisis can produce "reputational" risk exposure and inversely a "reputational" issue [such as a mainstream business fiduciary governance scandal for instance] can constitute a serious crisis with bottom-line implications).
- The importance of strengthening in-house capacity at crisis management in order to increase a corporation's independence towards other entities while at the same time this strengthens the corporation's capacity at managing necessary external cooperation imperatives.
- The importance of solid contracting, vending, sub-contracting and outsourcing arrangements in order to complement the corporation's own in-house capacity.
- The importance of maintaining strong relationships with authorities in order to leverage the substantial tax-payer dollars invested in government-supported safety and crisis preparedness schemes, including those aimed at protecting corporations, especially those viewed essential to the national economy, and hence of national security interest.

- The importance of information and communications management, both internally for operational response, continuity and recovery needs and externally for these same needs as well as managing stakeholder communications (with employees and their families, Boardroom, shareholders, authorities, contractors, partners, the media, etc.) in ways that optimize the protection, deployment and integration of assets (human, technological, financial, infrastructural, situational, virtual, etc.).
- The importance of well-designed and appropriately located and maintained off-site redundancy sites for critical infrastructural, informational, communications and technological assets.
- The importance of combining flexibility with discipline in order to optimize chances of success of inevitable improvisations.

As concerns the approaches made in the MENA region, the most significant was made in a Gulf country, and other less advanced engagements elsewhere have partially validated both some of the information we have presented above in the Information Sources section (which were findings unto themselves because this informational component is so important to the topic at hand) as well as others that we broach here, some of which merit repetition because of their apparently strong relevance to the challenges of promoting formal frameworks of best practice in the region.

We shall hence present these preliminary findings in reference to most of the observations which we feel to be pertinent at this still preliminary stage, while we focus mainly on that single Gulf country as a representative sample of the region, even with the cautionary principle that each situation is unique. Hence, our discussion flows directly from this approach.

Discussion & Conclusions

The most significant engagement was with a quasi-Government holding which operates a number of large institutional entities with varying approaches to strategic crisis planning ranging from total ignorance of the subject to reports of detailed planning. The entity which has been most interested in collaborating is one that was in the process of approaching professional institutions to design a framework for strategic contingency planning with a view to developing an operational disaster management program and generalizing it to the mother-holding across all entities and proposing further expansion at the level of at least the concerned emirate and perhaps at the national federal level in order to subsequently engage the GCC (Gulf Cooperation Council which groups all of the Gulf's monarchies and operates as a single open market). An international firm engaged in various areas of strategic advisory services and with which one of the authors was associated in areas of technical assistance, afforded access to other institutional partners both local and international, involved in advising that country's Government in its security preparedness imperatives. Some of these experts were involved in advising about strategic corporate governance issues (relating to financial security, due diligence and business integrity), others were there on a major assignment to design a national security institutional framework and yet others were designing an upgraded security system for the country's strategic oil, gas and petrochemicals installations in light of mounting concerns about sub-regional geo-political tensions. Other professionals were simply advising on basic security due diligence at various institutional levels of multiple Governments.

The growing amount of activity in these fields, as per our interactions with all involved, demonstrated both the pre-existing void as well as the combination of increased spending capacity and growing regional instability fed by the chaos in neighboring Iraq, the US-Iran stand-off on nuclear armament and regional influence, and the continuing tensions related to

the core Middle-East conflict between Israel and Palestine worsened by the tensions in Lebanon following the significant bombing campaign of Summer 2006.

However, it was regularly remarked that in view of the challenges and the fact that much of the pre-existing infrastructure (including the very recent one erected with proceeds of the continuing oil-boom) did not integrate any significant strategic crisis preparedness planning. It was observed, for instance that all of the country's considerable number of power generation facilities were all concentrated in one site which could be destroyed by a single missile strike.

Other important issues characterizing the region are those which we will not repeat here in any great detail, as they were highlighted in the Sources of Information section: indeed, informational access and integrity is a key challenge, and would be of the key issues to address in any future effort to enhance preparedness frameworks.

Related to this, is the very unequal state of awareness of this issue at the very highest levels of Government, with a few exceptions seeming to confirm the rule.

Also, those who are conscious of the issues seem powerless to act as decision-making is strongly concentrated. Also, institutional culture puts anything to do with security as somewhat of a taboo domain reserved to the ultimate political leadership and its armed forces and specialized security and intelligence services so there is no incentive for institutional entities to get into that area of concern, and quite to the contrary in actual fact. Inversely, the security establishment while happy to consider all security to be under its aegis, also seems to believe that as long as defense and basic governmental security are ensured, there is no particular role to be played at other levels such as economic infrastructural security.

Even high-ranking (expatriate) employees of major international franchises said that their sophisticated multinational subsidiaries tended to reflect the local environment more than their otherwise high standards of management in other mainstream areas of endeavor. One high-ranking such manager explained that the Business Continuity Plan existed because it was an administrative requirement as well as the fact that it was required by their insurer but that it was kept in a manager's drawer, was not updated and was ignored by the great majority of employees.

Another entity CEO of the host quasi-Government entity which was the most forthcoming with information, ascertained that a crisis contingency plan existed across the whole holding, but could not refer us to anything tangible even as he said that the management team was reviewing these plans. He was in fact contradicted by the CEO of another larger sister-entity who was the former Managing Director of one of the world's leading technology franchises in the country, who admitted to there not being any such plan that he knew of.

However, under advisement from one of the US-linked local contractors, he engaged in discussions with a services firm and his own management team in order to develop a framework which was shared with us verbally and which encompassed the most critical aspects of strategic crisis planning, including those found to be relevant in the US research project cited above. At time of drafting this article, a pre-proposal for an action framework was being prepared but no follow-up had yet been given to that initial effort, according to the CEO of the service provider involved.

Overall, the combination of the evident need for such strategic planning and best practices frameworks, the resources at hand and the fact that these countries are developing substantial domestic infrastructure investments, cry out for the proposed research and our preliminary investigations have thus far validated this thesis for both the local business community and the international business community operating in the Gulf and the wider MENA region as

well as other emerging markets with greater susceptibility to high risk situations developing. Even if the case of the international financial institutional franchise with a neglected BCP was extreme in view of the fact that most franchises have at least some well-prepared evacuation plans for their expatriates (and often only that), there is clearly still the perception that crisis preparedness is a cost and an imposition at a time when all are competing to reap the profits of the current boom.

While one of the authors was present during a recent field assignment, there was a major disaster leading to loss of life in one of the major office tower complexes under construction. While many such incidents had been until then only the object of private reports, this time, the mainstream national press was encouraged to expose it by the authorities in an effort to put pressure on contractors to properly fund safety preparedness imperatives. That particular incident also demonstrated stated incompetence in the emergency services and the fact that this was also reported in media associated with the authorities may pre-figure a new willingness to achieve better governance of crisis preparedness systems.

While the whole context of our investigation and the many limiting factors do impose the utmost prudence, it does seem that it would be appropriate to pursue international, local, public and private partnership opportunities towards a research program which would increase the very meager body of knowledge relative to a region such as the Middle-East as concerns the challenges and imperatives for strategic institutional and corporate contingency planning for disaster preparedness, and business continuity and recovery, in all areas of potential risks, threats and vulnerabilities whether these been human (conflict, terrorism, technology failures) induced or natural.

We have reason to believe that an appropriate research group could have significant success in partnering with regional Gulf institutions as a first step, notably in the quasi-Government sector in order to conduct an operational strategic and applied research project which would adaptively analyze comprehensively the needs of these institutions in order to develop appropriate framework of actions for future strategic corporate planning needs in key areas such as crisis preparedness and response and business continuity and recovery.

References & Bibliography

Books

Mitroff, I. I., & Pauchant, T.C. 1990. "We're So Big And Powerful Nothing Bad Can Happen To Us – An Investigation of America's Crisis Prone Corporations", 1990, Birch Lane Press Book – Carol Publishing.

Journal Articles

Harrald, J. R. March 2006. "Agility and Discipline: Critical Success Factors for Disaster Response", *Annals, AAPSS, Annals of the American Academy*, 604, March 2006, pp. 256-272

Harrald, John R., and Mazzuchi, T., 1993 "Planning for success: A scenario-based approach to contingency planning using expert judgment." *Journal of Contingencies and Crisis Management* 1 (4); pp 189-198;

Conference Papers

Coppola, D., Harrald, J. R., & Yeletaysi, S., 2003. "Assessing the Impacts of the World Trade Center Attacks on Publicly Held Corporations", 2003, The Institute for Crisis, Disaster, and

Risk Management, The George Washington University, Proceedings, 2003 TIEMS Conference.

Harrald, J. R. 1998. “A Strategic Framework for Corporate Crisis Management”, Proceedings, 1998 Conference of The International Emergency Management Society (TIEMS), pp. 389-398.

Harrald, J. R., Renda Tanali, I. R., & Coppola, D. 2002. “Observing and Documenting the Inter-organizational Response to the September 11 attack on the Pentagon”, Proceedings, the 9th Annual Conference of TIEMS, Waterloo, Canada, pp. 32-34.

Harrald, J. R., & Taha, D. M., June 2003, “Corporate Strategic Planning and the September 11, 2001, Attacks”, TIEMS / Institute for Crisis Disaster, and Risk Management, The George Washington University.

Reports

Harrald, J. R. March 2002. “Observing and Documenting the Inter-Organizational Response to the 9/11 Terror Attacks”, NSF Research Report, The George Washington University.

Harrald, J. R. et al, 2003. “Interim Report – Terrorism and Corporate Crisis Management – The Strategic Effect of the September 11 Attacks”, 2003, The George Washington University.

Other Papers and Research Documents

Harrald, J.R., July 2002. “Terrorism and Corporate Crisis Management: The Strategic Effect of the September 11 Attacks – A proposal to the National Science Foundation”, The Institute for Crisis, Disaster and Risk Management, The George Washington University.

Harrald, J. R., & Taha, D. M. June 2003. “Web Enabled Disaster and Crisis Response: What Have We Learned from the September 11th Panel contributions? – Web Technology and the Attack on the World Trade Center”, The George Washington University.

Securities Industry Association Business Continuity Planning Committee. August 5, 2002; “Best Practices Guidelines”.

Taha, Doaa, M. 2007. Corporate Strategic Planning and the September 11th, 2001 Terrorist Attacks – A case study approach integrating multi-dimensional findings and analysis for increasing the body of knowledge of corporate crisis management in case of extreme events, ICDRM, EMSE, SEAS, The George Washington University, Washington D.C. (Draft)

Media Articles

Economist, The, January 24, 2004. “Living Dangerously – A survey of risk”;The Economist.

Financial Times. Tuesday March 9, 2004. “Special Report – Business Continuity”, FT.

Websites:

ASIS International Website: <http://www.asisonline.org/about/index.xml> (2005-6-7)

Association of Contingency Planners website: www.acp-international.com (2005-2006-2007)

Continuity Central Website: <http://www.continuitycentral.com/>

Author Biographies

Doaa M. Taha is a Doctoral Researcher at the Institute for Crisis, Disaster and Risk Management of the Engineering Management and Systems Engineering Department, School of Engineering and Applied Science, The George Washington University. Taha has worked as a Senior Research Coordinator within the NSF-funded research project led by Professor John Harrald, on “The Strategic Affect of 9-11 on US Corporate Crisis, Disaster and Emergency Management.” Taha is active within a number of civil society fora, and notably the Arab Forum for Women’s Leadership in Science, Technology and Engineering. Taha also serves as the Vice President of Grey Matter International Ltd., consulting notably on issues of corporate and institutional crisis management and preparedness, after holding a number of professional positions in engineering.

John Harrald is the Director of The George Washington University Institute for Crisis, Disaster, and Risk Management, and a Professor of Engineering Management and Systems Engineering in the GWU School of Engineering and Applied Science. He is the Executive Editor of the Journal of Homeland Security and Emergency Management, and is a member of the National Academy of Sciences (NAS), National Research Council’s Disaster Roundtable Advisory Committee. Dr. Harrald has been actively engaged in the fields of emergency and crisis management and maritime safety and port security, as a researcher in his academic career, and as a practitioner during his 22 year career as a U.S. Coast Guard officer, retiring in the grade of Captain. Dr. Harrald received his B.S. in Engineering from the U.S. Coast Guard Academy, a M.S. from the Massachusetts Institute of Technology where he was an Alfred P. Sloan Fellow, and an MBA and Ph.D. from Rensselaer Polytechnic Institute.