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The Core Competencies Required of Executive Level Business Crisis and Continuity Managers – The Results

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Abstract

The 2004 article, “Identification of the Core Competencies Required of Executive Level Business Crisis and Continuity Managers,” published in the Journal of Homeland Security and Emergency Management (Volume 1 (2004), Issue 1) presented a case for an enterprise wide Business Crisis and Continuity Management (BCCM) program, proposed a functional framework and function definitions for a comprehensive program, and laid out the research methodology to validate the framework and determine the program specific competencies required of BCCM leadership to meet their responsibilities. The purpose of this current article is three fold:

1. To update the 2004 paper – specifically to update the case for an enterprise wide BCCM program which is supported by several documents and initiatives within the government and private sectors;
2. To present the research-developed BCCM functional framework;
3. To present the research-developed executive level BCCM functional area and function competencies.

KEYWORDS: crisis management, business continuity management, crisis and continuity management, executive level competency

INTRODUCTION

The 2004 article, “*Identification of the Core Competencies Required of Executive Level Business Crisis and Continuity Managers*,” published in the Journal of Homeland Security and Emergency Management (Volume 1 (2004), Issue 1) presented a case for an enterprise wide Business Crisis and Continuity Management (BCCM) program, proposed a functional framework and function definitions for a comprehensive program, and laid out the research methodology to validate the framework and determine the program specific competencies required of BCCM leadership to meet their responsibilities. The purpose of this current article is three fold:

1. To update the 2004 paper – specifically to update the case for an enterprise wide BCCM program which is supported by several documents and initiatives within the government and private sectors;
2. To present the research-developed BCCM functional framework;
3. To present the research-developed executive level BCCM functional area and function competencies.

The research, as described, focused on the definition of a real world problem that faces myriad organizations within all sectors (public, private and not-for-profit): Organizations continue to create and fill executive level and non-executive level positions to lead and manage their image of a sufficient business crisis and continuity management program. Given the lack of a widely accepted framework for an enterprise wide BCCM program with an understanding of functional relationships and an inventory of the program specific competencies necessary for effective job performance, program success can be left to chance in spite of the noblest intentions.

The research attempted to address this problem through:

1. The development of a functional BCCM framework, representing an **incremental contribution** (based upon the synthesis of existing frameworks) to the definition of the functional composition of a comprehensive BCCM program; and
2. The development of an executive level inventory of BCCM specific competencies, representing a **unique contribution** to the definition of the position specific skill, knowledge, and ability requirements.

These two research products, presented in a clear and logical manner, can assist organizations in developing and maintaining a comprehensive and integrated BCCM program supporting overall enterprise management and the selection and development of the executive level leaders and managers of these programs.

THE CASE FOR A COMPREHENSIVE BCCM PROGRAM AND EXECUTIVE LEVEL LEADERSHIP

All organizations in all sectors (public, private and not-for-profit) face the possibility of disruptive events that have impacts ranging from mere inconvenience and short-lived disruption of normal operations to the very destruction of the organization. Organizational functions supporting business¹ disruption prevention, preparedness, response and recovery -- such as risk management, contingency planning, crisis management, emergency response, and business resumption and recovery -- are established and resourced based on the organization's perception of its relevant environments and the risks within those environments. Absent top-level recognition, support, and coordination these functions may receive minimal or even no attention. Even when recognized and supported they may be implemented and managed in a non-integrated manner with dispersed authority and responsibility.

The reality of business is that increasing and dynamic threats, business complexity, government regulation, corporate governance requirements, and media and public scrutiny demand an integrated approach to BCCM and its supporting functions. The authors' previous article cites sources such as the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets (2003)*, the Business Continuity Institute's *Business Continuity Management: Good Practices Guidelines (2002)* and the Standards Australia, *Draft Business Continuity Handbook (2003)* to support the requirement for an integrated and enterprise level BCCM program. Over the past two years, additional support can be found in government directives, publications and legislation such as the National Response Plan (2004), the National Incident Management System (2004), the 9/11 Commission Report (2004), The Intelligence Reform and Terrorism Prevention Act of 2004, the Ready.gov – Ready Business Web Site (2004), the Draft National Infrastructure Protection Plan (2005), etc.

The general tone of these sources is to convince businesses to establish readiness programs and take steps to continue, resume and recover their critical business functions and processes to ensure their organizational survival. From the private sector perspective, the Business Roundtable, an association of chief executive officers of leading U.S. corporations with a combined workforce of more than 10 million employees, has recently published *Committed to Protecting America: CEO Guide to Security Challenges (February 2005)* which makes several recommendations related to

¹ For the purpose of this research study, the term business refers to any organization in any sector (public, private, or not-for-profit) that provides a product or service to its customers.

the structure and governance of business crisis and continuity management programs. Specifically, the Business Roundtable document states:

- “Evolving security threats and the potential for devastating damage following a terrorist attack require an enterprise wide governance model to develop crisis management, business continuity and disaster recovery programs (CEO Guide, page 88, 2005).”
- “Given the nature of recent threats and the consequences of an attack, CEOs realize that they must find the determination, resources and creativity to deploy real and flexible solutions. Strategic planning and prudent financial investments are essential to saving lives and supporting critical business operations in the event of another disaster. (CEO Guide, page iii, 2005).”
- “Without direct CEO involvement, crisis planning and recovery programs might not be elevated to a high enough level across the corporation (CEO Guide, page 86, 2005).”

Reflecting this growing recognition of BCCM as a strategic program requiring top level management attention and involvement, the 9/11 Commission chartered the American National Standards Institute (ANSI) to develop a consensus on a national standard for preparedness for the private sector (9/11 Commission Report, 2004). Based upon its collaboration with the National Fire Protection Association (NFPA) and the research of the 9/11 Commission, the “American National Standards Institute (ANSI) recommended to the 9-11 Commission that the National Fire Protection Association Standard, NFPA 1600 *Standard on Disaster/Emergency Management and Business Continuity Programs*, be recognized as the national preparedness standard (ISHN 2004).” The NFPA 1600 Standard includes a list of 15 Disaster/Emergency Management and Business Continuity Programs Elements (Table 1), and a relatively high level description of each of the elements (NFPA 1600, 2004).

Table 1
**NFPA 1600 2004 Edition Disaster/Emergency Management
and Business Continuity Programs Elements**

- | |
|--|
| <ol style="list-style-type: none">1. General2. Law and Authorities3. Hazard Identification, Risk Assessment and Impact Analysis4. Hazard Mitigation5. Resource Management6. Mutual Aid7. Planning8. Direction, Control and Coordination9. Communications and Warning10. Operations and Procedures11. Logistics and Facilities12. Training13. Exercises, Evaluations, and Corrective Actions14. Crisis Communication and Public Information15. Finance and Administration |
|--|

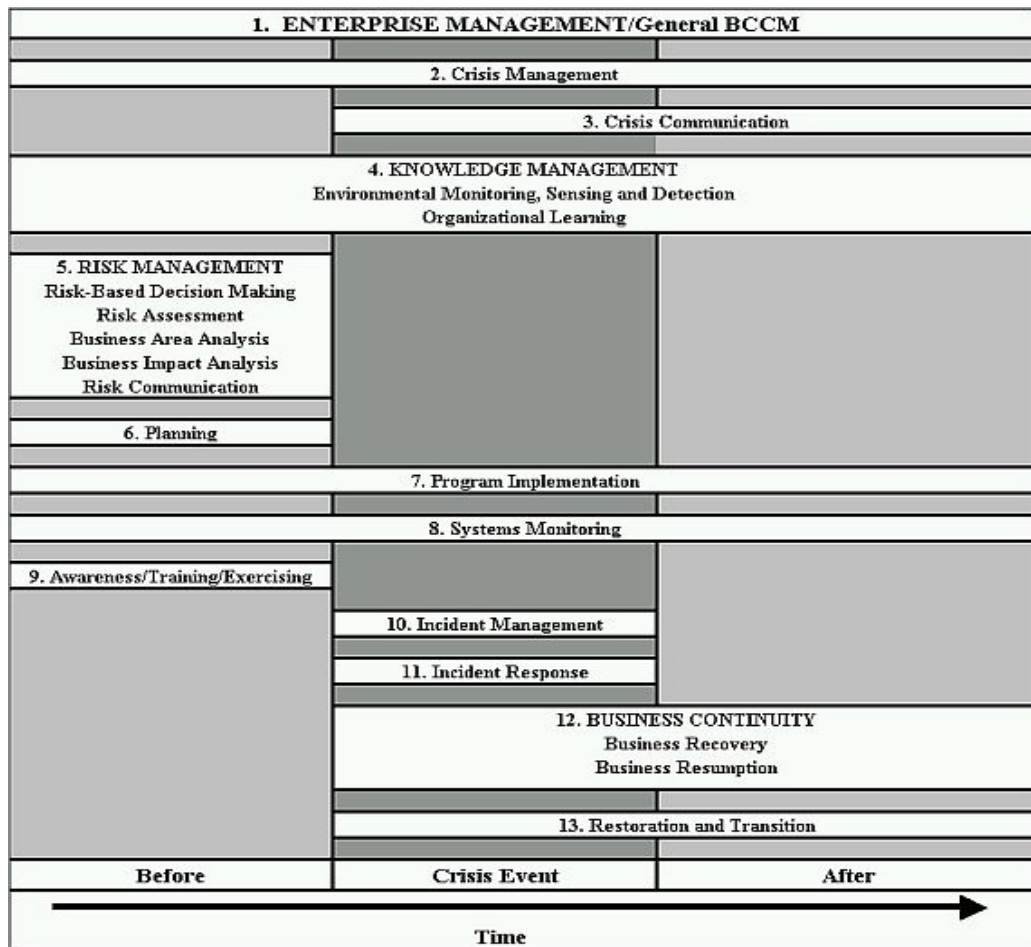
The final 9-11 Commission report contains the following recommendation: “We endorse the American National Standards Institute’s recommended standard for private preparedness (9/11 Commission Report, page 398, 2004).” Following from the 9-11 Commission Report, The Intelligence Reform and Terrorism Prevention Act of 2004 specifically addressed private sector preparedness and states that the NFPA 1600 Standard “establishes a common set of criteria and terminology,” and charges the Department of Homeland Security to “work with the private, as well government entities. (IRTPA 2004)” The Sense of Congress included in the Act falls short of mandating national standards for the private sector, but does encourage the adoption of voluntary standards such as those included in NFPA 1600.

A FUNCTIONAL FRAMEWORK FOR BCCM

The intent of this article is not to be critical of NFPA 1600, but to recommend areas of improvement. NFPA 1600, the result of a consensus process representing multiple constituencies from all sectors, is a logical and necessary first step in the development of national standards written at a level of detail that can be used to define and measure compliance. As presented, the current edition (2004) of the document provides relatively broad descriptions of the program elements with minimal detail and is open to very liberal interpretation as to what actually constitutes compliance at the program and program element level. A listing of the program elements is useful, but a **graphical presentation** of the elements, their hierarchy, temporal sequencing and interdependency could assist in the understanding and marketing of a comprehensive program that truly integrates the component parts.

The functional framework shown below in Figure 1, accompanied by functional area and function definitions (presented in Appendix A) provides such a graphical presentation. The framework attempts to display the hierarchy of functional area responsibility from top to bottom within and across the time periods of before, during and after a crisis event. In general, higher order managerial and leadership responsibilities are placed towards the top of the framework with more operationally focused responsibilities located towards the bottom.

Figure 1
Business Crisis and Continuity Management



The research developed, refined, and validated this generic functional framework through the following steps:

1. A literature search of existing frameworks. (for a description and analysis of the frameworks considered please see the dissertation *The Core Competencies Required of Executive Level Business Crisis and Continuity Managers* accessible at http://www.gwu.edu/~icdrm/publications/byname/pub_shaw.htm).
2. Synthesis of existing frameworks into a proposed framework
3. Formative Expert Review – Fourteen interviews with recognized ‘experts’ from the private, public and education sectors during and after development of the research framework (Table 2).
4. Revision of the proposed framework based upon the experts’ review/comments.
5. Final Expert Review – Six interviews with recognized ‘experts’ from the private, public and education sectors (Table 3) – one of whom participated in the initial expert review.

Table 2
Functional Framework Formative expert Reviewers

Exec. Vice President, Consulting and Crisis Management Training Company, Ed.D.	Educator, Independent BC Consultant, Ph.D.
Manager, Business Continuity, Leading National Financial Lending Company	Manager, Business Continuity, Fortune 500 Financial Services Company
Director, International Business Continuity Web Site	President, BC Consulting and Training Company, Ph.D.
Crisis Communication Author	Federal Government Department, Deputy Director, Office of Security and Emergency Planning
Senior Vice President and Vice President Crisis Consulting Company	Business Continuity Manager, Fortune 500 Pharmaceutical Company
Manager, Fortune 500 Company Crisis Response Team	Independent BC Consultant and Author, Ph.D.
Federal Government Organization, Corporate Services Security Manager	FEMA certified EM Instructor, BC Educator, BC Text Author

Table 3
Functional Framework Final expert Reviewers

Vice President Crisis Consulting Company	President, International BC and Crisis Consulting Company
Senior Vice President and Knowledge Manager, Crisis Consulting Company	Director, Business Development, Asset Protection Systems Division, Fortune 1000 Company, BC Author
Managing Director and Principal, BC Consulting Company	FEMA certified EM Instructor, BC Educator , BC Text Author

During the final review the experts were unanimous in their overall assessment on the functional framework. They found it to be complete and relatively clearly presented. Two of the experts made the suggestion that the research BCCM framework be related to the 2004 Edition of NFPA 1600 Disaster/Emergency Management and Business Continuity Programs' elements since the NFPA elements were gaining wide spread acceptance and were evolving into the de facto national standard. Table 4 displays this crosswalk between the NFPA program elements and the BCCM framework functional areas and functions.

Following publication of the BCCM framework displayed in Figure 1, and with further consideration of the cross walking of functional areas and functions to the NFPA program elements, a possible omission was noted. The titles of the BCCM functional areas and functions and their definitions do not explicitly recognize the foundational concept of mitigation which is highlighted as a specific NFPA program element. This omission is noted, and although the term mitigation is not considered to be an appropriate functional area or function title within the BCCM framework, the definitions within the risk management functional area which is inclusive of mitigation have been revised accordingly.

Table 4
NFPA 1600 and BCCM Functional Framework Crosswalk

NFPA 1600 Program Elements	BCCM Framework Functional Areas
General	General BCCM
Laws and Authorities	General BCCM
Hazard Identification, Risk Assessment and Impact Analysis	Risk Management – Risk Assessment and Business Area Analysis and Business Impact Analysis
Hazard Mitigation	Risk Management – Risk-Based Decision Making and Program Implementation
Resource Management	General BCCM and Program Implementation
Mutual Aid	Incident Management and Incident Response
Planning	Planning and Business Continuity and Restoration and Transition
Direction, Control and Coordination	Crisis Management and Incident Management
Communications and Warning	Risk Management – Risk Communication and Crisis Communication and Incident Response and Knowledge Management – Environmental, Sensing, Monitoring and Detection
Operations and Procedures	Planning and Incident Management and Incident Response and Business Continuity and Restoration and Transition
Logistics and Facilities	Program Implementation
Training	Awareness/Training/Exercising
Exercises, Evaluations and Corrective Actions	Awareness/Training/Exercising and Knowledge Management – Organizational Learning
Crisis Communications and Public Information	Crisis Management and Crisis Communication and Risk Management – Risk Communication
Finance and Administration	General BCCM and Program Implementation

The final review experts also reached general consensus that the functional framework, as a stand alone diagram, could be misinterpreted as an organizational diagram. This was not the intent of the research study and the resulting display of the framework. Additionally, there was a general consensus for the necessity to somehow communicate through the framework that BCCM is not just a one-time project, but an ongoing program where each functional area and function is an input to and output from every other function. The research study authors intentionally omitted any arrows showing links between functional areas and functions since they were too many in number and tend to confuse the presentation of the framework. The input from the experts does, however, point out the need to present the framework with some level of description to highlight the functional vice organizational content, the linkage of all functional areas and functions, and the need for a continual BCCM process and program rather than a one time BCCM project.

As stated previously, the definitions of each functional area and included functions are provided in Appendix A. Except as noted; the definitions are not attributable to any particular source and reflect the synthesis of an extensive literature search, personal experience and the expert review process. Taken together, the **BCCM framework, functional area and function definitions, and the prioritized list of supporting competencies** (described in the next section and listed in Appendix B) from the research study within each function and functional area, provide a **model for structuring and evaluating an enterprise wide business crisis and continuity management program** that is customizable to the specific requirements of an organization. Additionally, the competency inventory can serve as a **guideline for the selection and professional development of organizational leaders** with business crisis and continuity management responsibilities.

FUNCTIONAL AREA AND FUNCTION COMPETENCIES

Accompanying a position of executive level BCCM responsibility is the attainment of certain program and function specific knowledge and abilities (competencies) that complement the general management competencies expected of any executive level manager. **General management competencies** including analytic ability, strategic planning effective communication, collaboration and cooperation, leadership, political astuteness, etc. have been studied and identified in numerous research efforts writings (ASIS International 2003, Hiles 2000, Saracco 1999, Takemura 2000) and **were not the focus of this research.**

The focus in this portion of the research was the identification and analysis of the core program and supporting function competencies needed by an executive level leader to manage the BCCM program in an effective and efficient manner. As stated by Mr. Ellis M. Stanley, Director, Office of Emergency Management, City of Los Angeles, California, during the Designing Educational Opportunities for the Hazards Managers of the 21st Century Workshop, October 22 to 24, 2003, Denver, Colorado: 'I'm in charge of Emergency Management for the city of Los Angeles and I need to work with 60 different

agencies, from Aging to Zoos, to coordinate what we are going to do. I need to know something about each of them; the question is what do I need to know? (Shaw, 2003)' Complementing the what do I need to know question (what are the competencies necessary for job performance?), is the how much do I need to know question (what is the required level of mastery for each competency?).

The research study answered these questions for BCCM executives by identifying candidate competencies from multiple sources, and through a survey, asked BCCM practitioners to rate each competency according to an executive level manager's required Level of Involvement (LOI) and Level of Mastery (LOM) for each. The collected and analyzed data resulted in a prioritized inventory of what a BCCM executive needs to know and be able to do, and to what level, to manage a comprehensive and integrated BCCM program.

IDENTIFICATION OF COMPETENCIES

Before addressing the available sources of BCCM Program competencies and the process of identifying and crafting executive level competencies, the term competency needs to be defined and placed in the context of this research study.

Competency - A level of capability comprised of the knowledge, skills, abilities and/or attitudes required for effective² performance within the context of a person's job responsibilities and in relationship to the organization and its goals (adapted from Dartmouth Research 2003).

This specific definition was chosen because it focused on performance based capabilities that are demonstrable on the job and are related to the organization's strategies, goals and objectives. Accordingly, the competencies comprising the research study survey were crafted to include action verbs (e.g. develop, define, determine, etc.) and substance that are directly related to job responsibilities and are demonstrable on the job, and are supported by knowledge, skills, abilities and attitudes, but not necessarily restricted to any one of these components.

The starting point for identifying the executive level competencies to be included in this research study was to investigate current sources of business crisis and continuity management competencies. In general, existing lists of competencies were targeted at a limited number of functional areas and/or were focused at the practitioner level. Drawing from multiple sources as those listed below, and the experience of the research study authors, a list of candidate ("straw man") executive level competencies, was developed, grouped and presented by functional areas and functions.

² For the purpose of this research study, effective is defined as the ability to meet an organization's strategic and tactical objectives.

- Structured interviews with BCCM practitioners (Expert list Table 2).
- The DRII and BCI Professional Practices for Business Continuity Professionals
- Standards Australia. Draft Handbook *Business Continuity Handbook. 3.2.1 – Peer Review Draft*
- Standards Australia International Limited. *A Handbook on Business Continuity Management: Preventing Chaos in a Crisis*
- Business Continuity Institute. *Business Continuity Management: Good Practices Guidelines*
- NFPA 1600. *Standard on Disaster/Emergency Management and Business Continuity Programs*
- Securities Industry Association Business Continuity Planning Committee. *Best Practices Guidelines*. August 5, 2002
- Relevant government and not-for-profit Web Sites and publications such as OSHA, IBHS, and FEMA
- Relevant published books covering any and all functions included in the BCCM framework
- Relevant published periodical articles covering any and all functions listed in the BCCM framework
- BCCM related conferences and workshops agendas
- BCCM related training programs offered by private sector companies

The “straw man” list of competencies was revised based upon the review by BCCM experts and was further refined through a pilot of the web-based research study. The final list of competencies (sorted according to entire survey population ratings of Level of Involvement and Level of Mastery within and across functional areas and functions) can be accessed Appendix I to the dissertation, *The Core Competencies Required of Executive Level Business Crisis and Continuity Managers*. Even without the following research survey, the identification and grouping of executive level competencies provides a unique contribution to the evolution of BCCM as a recognized and defined profession. An example of the final competencies included in the research survey (before sorting) for the representative functional area Enterprise Management/General BCCM are displayed in Table 5.

Table 5
Enterprise Management/General BCCM Competencies

Enterprise Management/General BCCM
1. Establish a consultative process with BCCM stakeholders.
2. Determine local, state and federal laws and regulations with BCCM implications.
3. Determine corporate governance requirements with BCCM implications.
4. Establish and lead a multi-disciplinary BCCM Steering Committee.
5. Develop a business case for an overall BCCM program and supporting functions.
6. Communicate top level management's acceptance and support of the BCCM program throughout the organization and to external stakeholders.
7. Define a BCCM program structure that supports overall corporate, business unit, functional and program objectives.
8. Establish policies and procedures that incorporate BCCM considerations into the management of all business operations (existing and developing).
9. Define a measurement process and measures of effectiveness for the overall BCCM program and its component functional areas.
10. Define a BCCM program maintenance process.
11. Determine and specify the roles for internal and external (consultants) personnel in the BCCM program.
12. Incorporate BCCM roles, accountabilities, responsibilities and authority into job/position descriptions.
13. Incorporate BCCM responsibilities into the performance management and appraisal system.
14. Establish a BCCM audit program.

The final list of competencies, grouped by functional areas and functions, formed the basis of a Web-based survey that asked BCCM practitioners, managers and leaders to rate each competency by the required Level of Involvement and required Level of Mastery for each competency (Ordinal rating scales displayed in Table 6) and included the specific instructions:

*Please note that your rankings should reflect the levels of involvement and mastery that **should (ideally) be part of an executive level manager's job description and personal inventory of competencies** (skills, knowledge, abilities and/or attitudes) for the effective and efficient management of a comprehensive and integrated Business Crisis and Continuity Management (BCCM) program.*

Table 6
Survey Ordinal Scales Involvement and Mastery

Required Level of Involvement	Required Level of Mastery
1 = No involvement	1 = Awareness
2 = Monitor	2 = Competent
3 = Delegate and Evaluate	3 = Expert
4 = Team member	
5 = Primary participant/Leader	

Respondent demographic data was gathered in the following areas:

- The sector of their organization (private, public, not-for-profit, not applicable)
- The size of their organization (large – 500+ employees, medium – 100 to 500 employees, small – 1 to 99 employees, not applicable)
- The number of reporting levels that separate their organization's senior most Business Crisis and Continuity Manager from their organization's Chief Executive (none – senior most BCCM Executive is the Chief Executive, one, two, three, four or more, not applicable)
- The level of their position within their organization (board level director/officer, senior non-board level director/officer, senior level manager, middle level manager, junior level manager, non manager, not applicable, other – free text entry of position allowed)
- A self ranking of their level of expertise in Business Crisis and/or Business Continuity Management (expert, intermediate, novice)
- A free text entry of position title

The original intent of the research was to answer the following two research questions based upon an investigation and analysis of the dependent variables (Competency specific ratings of Level of Involvement and Level of Mastery) based upon independent variables (demographic categories) through the Web-based survey collection process:

1. What is the required executive level of involvement for each competency to manage the BCCM functions, sub-functions and processes in an integrated manner in support of an enterprise wide BCCM program?
2. What is the required executive level of mastery for each competency to manage the BCCM functions, sub-functions and processes in an integrated manner in support of an enterprise wide BCCM program?

Survey participants were solicited at two BCCM related conferences where the research purpose and method were presented by one of the research study authors and through personal contacts with individual BCCM practitioners and managers, the Association of Contingency Planners (ACP), Mid Atlantic Chapter Washington, DC and the Business Recovery Managers' Association (BRMA), San Francisco, CA, Singapore Exchange

Limited and the United Kingdom based Business Continuity Electronic Discussion Group. Overall the invitation to participate in the survey was extended to between 350 and 400 individuals with a best estimate of 375.

The methodology and analysis of the survey results is explained in detail in the dissertation *The Core Competencies Required of Executive Level Business Crisis and Continuity Managers*. In summary, the low number of responses in the self selection (volunteer) respondent method used in the research combined with the high correlation of the relative ranking by calculated means within and between demographic groups (The correlations for the calculated means of Level of Mastery and Level of Involvement between all combinations of demographic categories were greater than 0.64 and 0.74 respectively) did not result in any meaningful analysis beyond the single independent variable, Overall Survey Respondent Population. Analysis of the two dependent variables (Competency specific ratings of Level of Mastery and Level of Involvement) was thus limited to the single independent variable and the prioritization of the competencies within and across functional areas and functions by the calculated means of the Level of Mastery and Level of Involvement ratings.

For the overall respondent population, the sample size of 63 responses (63 respondents completed all or parts of the survey) represents 16.8 percent of the invited population. This provides a level of statistical significance and face validity of the survey results based purely upon sample size. For all of the other demographic categories, only large organization size (45 responses – 12.5%) approaches statistical significance and provides little substance to the analysis as a single independent variable. All of the other demographic categories represent less than 10 percent of the invited population.

In addition to face validity, the invited population and the sample population should be representative of overall population that is the universe of personnel performing or managing BCCM level activities. The invited population includes individuals interested enough in the subject to attend conference sessions on “The competencies required of executive level Business Crisis and Continuity Managers,” and members of professional societies with a BCCM focus from the Washington, DC and San Francisco Bay areas, and International business continuity groups.

The demographics of the sample population, combined with the respondents’ position titles collected through the demographic data section of the survey can be considered together to make a judgment of the content validity of the sample population. Of the reported position titles of actual respondents, only 12 (19 percent) listed the word consultant in their title and 32 (50.8 percent) included words such as Director, Vice President, President, Senior Manager, etc. in their title indicating that they are in BCCM leadership positions. Although this is a very subjective analysis, the distribution of the demographic categories and the position titles indicate a knowledgeable and representative sample of BCCM practitioners and managers within the respondent population and support the content validity of the overall respondent sample population.

Additional analysis consisted of a Chi-Square analysis of the distribution of Ordinal Scale responses and the use of scatter plots to identify the deterministic dominance of specific competencies within functional areas and functions. The Chi-Square analysis clearly indicated that the survey respondents expressed a clear preference for their Level of Involvement and Level of Mastery ratings of competencies. The scatter plot analysis of dominance of competencies within a functional area or function yielded several instances of reordering of the highest or lowest rated competencies, but the differences with the ranking by calculated means were minor and of no real importance.

As was done with the final review of the BCCM functional framework described earlier, the analysis of the survey data was presented to six BCCM experts (Table 3) for their review, comments and recommendations. Through interviews, the experts were asked to critique the results and presentation by their appropriateness, clarity and usefulness with respect to BCCM program structuring and executive level BCCM selection and professional development.

The experts unanimously agreed that it is valuable to maintain separate prioritized lists of competencies across all functional area and functions and within functional areas and functions for the Level of Involvement and the Level of Mastery. They did, however, also agree that since the correlation between the Level of Involvement and Level of Mastery ratings was so strong, that a combined (Level of Involvement and Level of Mastery) prioritized list across all functional area and functions and within functional areas would be a more concise and useful presentation of the research results.

Appendix I to the dissertation, *The Competencies Required of Executive Level Business Crisis and Continuity Managers*, available at contains two prioritized lists for the combination of Level of Involvement and Level of Mastery for all respondents for all competencies and within the functional areas and functions. Appendix B to this article provides a sample of these prioritized lists presenting the top 25 per cent (rounded up to the next highest number) of competencies within each functional area and function and the top 40 competencies across all functional areas and functions. The combination and prioritization was accomplished by adding the mean for each of the dependent variables for each competency for all respondents and then sorting the competencies by the sum of the means. (The correlation of the ranking of competencies by calculated mean of Level of Involvement and Level of Mastery for all respondents was 0.90) Demarcation points are shown for the overall mean of the sum of the calculated means for all competencies and the levels signifying one and two standard deviations above and below the mean of the sum of the calculated means.

In addition to rating survey competencies, survey respondents were provided the opportunity to input additional competencies that they felt were missing from the survey list of competencies. Overall, survey respondents identified an additional 66 competencies in twelve of the thirteen functional areas (no additional competencies were identified in the Restoration and Transition functional area). The content of 52 of the 66 added competencies could be closely matched to one or more competencies included in

the survey. Of the additional 14, 3 identified general management level competencies, 6 were stated in highly procedural terminology below an executive level, 2 stressed the role of security, and 1 stressed IT planning responsibilities. The remaining 2 additions stressed the importance of operational planning and the expanded scope of risk management in an enterprise wide approach.

This minimal duplication of added competencies beyond those included in then survey provides some level of support to the supposition that the 137 survey competencies comprise a relatively complete and comprehensive list of the competencies required of an executive level Business Crisis and Continuity Manager.

LEVEL OF RESPONSIBILITY

A third research question was included in the survey for each of the BCCM framework functional areas excluding Enterprise Management/General BCCM which was intended to transcend all of the functional areas of the framework.

3. What is the required executive level of responsibility for each functional area within the overall BCCM framework?

The analysis of this research question followed the same method as that for research questions 1 and 2. The Ordinal scale for the levels of responsibility within a functional area is presented in Table 7. Again, the Overall Population was selected as the independent variable for data analysis. Table 8 displays the ordering of calculated mean for the level of responsibility by functional area.

Table 7
Ordinal Scale Level of Responsibility

Executive Level Business Crisis and Continuity Manager's Level of Responsibility Within a Functional Area
1 = No responsibility
2 = Monitor
3 = Consult and advise other executives
4 = Shared responsibility with other executives
5 = Total responsibility

Table 8
Level of Responsibility within Functional Areas

Ranking	Functional Area	Calculated Mean
1	Crisis Management	4.1154
2	Incident Management	3.9661
3	Planning	3.8966
4	Awareness/ Training/Exercising	3.7759
5	Restoration and Transition	3.7458
6	Incident Response	3.7368
7	Business Continuity	3.7119
8	Risk Management	3.6964
9	Crisis Communication	3.6182
10	Systems Monitoring	3.5690
11	Knowledge Management	3.5172
12	Program Implementation	3.5000

The results of this ordering were somewhat inconsistent with the authors' expectations. The Crisis Communication functional area was ranked as 9th out of the 12 functional areas. Since Crisis Communication is so closely tied to Crisis Management, there was an expectation that the Crisis Communication functional area would be ranked considerably higher. A review of the rankings shows that 10 of the 12 Crisis Management functional area competencies were ranked above the overall mean ranking of all competencies while only 2 of the 7 Crisis Communication functional competencies were ranked above the overall mean ranking of all competencies. It appears that the Crisis Communication competencies were worded and structured in such a way that they were likely candidates for delegation to readily identifiable job descriptions within an organization (e.g. the Public Affairs Officer). Possibly, if the Crisis Communication functional area had been presented as a function within the Crisis Management functional area (similar to the Risk-Based Decision Making, Risk Assessment, etc, functions within the Risk Management functional area) or combined with the Crisis Management competencies, the rankings of the Crisis Communication competencies would have been higher.

A review of the ratings of the Required Level of Responsibility led to interesting discussions with the final review experts. Less than 1% of the responses indicated a preference for "No responsibility" in any of the functional areas contained in the BCCM framework which they felt could be interpreted as some level of validation of the framework as developed and presented. Also, the fact that 79% of the Level of Responsibility survey responses were: 2 = Monitor; 3 = Consult and advise other executives; 4 = Shared responsibility with other executives, could be interpreted as demonstrating a preference for leading a BCCM program through a collaborative, rather than a directive management style.

This interpretation of the Required Level of Responsibility responses is generally consistent with the rating of the competencies for Level of Involvement, Level of Mastery and Combined. For example, the following four competencies which reflect a collaborative management style are four of the five highest rated competencies across all functions and functional areas for Level of Involvement, Level of Mastery and the Combined ratings.

:

- Establish and lead a multi-disciplinary BCCM Steering Committee.
- Establish and lead a multi-disciplinary Crisis Management Steering Committee.
- Communicate top level management's acceptance and support of the BCCM program throughout the organization and to external stakeholders.
- Engage/inform the Management Steering Committee, Crisis Management Team, and other key stakeholders in all functional areas comprising the enterprise wide BCCM program.

Conversely, the following two competencies which support a more directive management style are rated as below the mean of all competency ratings across all functional areas and functions for the Level of Involvement, Level of Mastery and Combined.

:

- Incorporate BCCM responsibilities into the performance and appraisal system.
- Incorporate BCCM roles, accountabilities, responsibilities and authority into job/position descriptions.

PREFERRED SOURCE OF EXPERIENCE AND EXPERTISE

The Web-based survey concluded with one general question, not related to any specific competency, but to the range of BCCM supporting competencies in general. The survey respondents who made it to the end of the survey were asked to answer a fourth research question:

4. Based upon your professional experience and the contents of this survey, please indicate the **preferred source of experience and expertise** for an Executive Level Business Crisis and Continuity Manager.

No real analysis short of merely recording and reporting the results was accomplished. The results are displayed in Table 9.

Table 9
Preferred Source of Experience and Expertise

Response	Number	Percent
An Executive Level BCCM Manager should come from an <u>operational business background</u> and learn the additional BCCM competencies.	8	12.5%
An Executive Level BCCM Manager should come from a <u>BCCM background</u> and learn the additional operational business competencies.	19	29.7%
It <u>does not matter</u> ; an Executive Level BCCM Manager could come from either background.	37	57.8%

The distribution of the responses was somewhat surprising since the vast majority of the experts interview (Tables 2 and 3) expressed their opinion that the person primarily responsible for BCCM should have a total understanding of the business as a foundation for any and all BCCM responsibilities and authorities. The fact that 87.5% of the respondents answered that an executive's experience and expertise should come from a BCCM background or that the source of the experience and expertise does not matter is totally contrary to what was expected. A possible explanation for this result is that the wording of the question and/or its positioning at the very end of the survey influenced the responses. Additionally, the respondents were almost universally current BCCM practitioners and managers, a fact that could also influence their responses. If the question was asked to more operationally focused business executives, such as Chief Executive Officers or Chief Operating Officers, the results might well shift to a preference for an operational business background.

The consensus answer to this question is a very important point to consider since an organization's philosophy and response to this question is relevant to the positioning and the specific responsibilities and authorities of the BCCM leader in that organization and could be the basis of further research on the evolution of the BCCM profession and professional. A possible comparison with the evolution of the Chief Information Officer (CIO) and/or the Chief Knowledge Officer (CKO) could form the basis of such a research study.

CONCLUSION

The primary contributions of this research are the development and presentation of an **expert reviewed conceptual framework** inherent in an enterprise wide BCCM program and the unique identification of an **inventory of executive level focused competencies** grouped within the functional areas and functions of the BCCM framework. Inherent in the claim that these are important contributions is an acceptance of the relatively widespread position that the responsibilities and focus of Business Crisis and Continuity Manager are not the same as those of an Emergency Manager. For Emergency Management (EM) there exist widely accepted EM functional frameworks and numerous

efforts have focused on defining EM core competencies³. It is the position of this article's authors that although BCCM and Emergency Management share some level of similar competencies, the requirements and focus of each as an organizational position differ to the extent that they must be considered as different disciplines. Throughout the research, this position was also held by the expert reviewers.

At the standard-setting level, the framework and competency inventory complement the *NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs* which appears to be emerging as the de facto "national standard." As displayed in Table 4, the BCCM functional framework can be cross-walked to the NFPA 1600 program elements and provides a means of displaying, organizing, and linking the myriad functional areas and functions supporting the NFPA 1600 Standards. This visualization is essential to establishing and organizing a truly integrated BCCM program and is lacking in the NFPA 1600 Standards. The competency inventory also provides the level of detail that organizations will need to select and develop their executive level BCCM leadership.

The actual prioritization of competencies was attempted through a web-based survey. Although the development software provided for a very user friendly and attractive survey instrument, completion of the survey was a daunting task, requiring more than 30 minutes due to the large number of competencies (137) and functional areas (13). Potential survey respondents self selected based upon their interest and desire to assist in the research. Not surprisingly, the number of responses (only 63 respondents completed all or portions of the survey) was disappointing and limits the generalization of the survey results for the purpose of prioritization of the BCCM supporting competencies to any generic organization.

This said, the analysis and results of the research study were judged as logical by the experts participating in the final research review. They reviewed the functional framework and the prioritized lists of competencies and did not identify any glaring problems with the method and the research study products. To the extent that the experts are seasoned professionals who understand BCCM, their review provides a level of validation of the functional framework and the survey based prioritization of competencies.

³ FEMA Higher Education Project Competencies and Curricula.
<http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp>

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Appendix A – Definitions of BCCM Terms

GENERAL TERMS

Business Crisis and Continuity Management – The business management practices that provide the focus and guidance for the decisions and actions necessary for a business to prevent, mitigate, prepare for, respond to, resume, recover, restore and transition from a disruptive (crisis) event in a manner consistent with its strategic objectives.

Competency - A level of capability comprised of the knowledge, skills, abilities and/or attitudes required for effective performance within the context of a person's job responsibilities and in relationship to the organization and its goals (adapted from Dartmouth Research 2003). *For the purpose of this research study, effective is defined as the ability to meet an organization's strategic and tactical objectives.*

Crisis - A major event that has potentially negative results. The event and its aftermath may significantly damage a business and its employees, products, services, financial condition, and reputation. Handled properly, a crisis may provide opportunities for organizational learning, competitive advantage and strategic improvement.

Executive Level - Managerial personnel within two reporting levels of the business' Chief Executive (may involve more than two reporting levels in large organizations). Generally carry the title of Senior or Executive Vice President or higher.

FUNCTIONAL AREAS AND FUNCTIONS

Function and Functional Area - A function is a series of related activities, involving one or more entities, performed for the direct or indirect purpose of fulfilling one or more missions or objectives of the firm, generating revenue for the firm, servicing the customers of the firm, producing the products and services of the firm, or managing, administering, monitoring, recording, or reporting on the activities, states, or conditions of the entities of the firm (Modell 1996). A functional area is a larger grouping of functions. For example, Risk-Based Decision Making, Risk Assessment, Business Area Analysis, Business Impact Analysis, and Risk Communication are functions which are combined into the Risk Management functional area.

Enterprise Management – The systemic understanding and management of business operations within the context of the organization’s culture, beliefs, mission, objectives, and organizational structure. - Enterprise wide programs and structures, including Business Crisis and Continuity Management, should be aligned and integrated with overall Enterprise Management.

Crisis Management – The coordination of efforts to control a crisis event consistent with strategic goals of an organization. Although generally associated with response, recovery and resumption operations during and following a crisis event, crisis management responsibilities extend to pre-event mitigation, prevention and preparedness and post event restoration and transition.

Crisis Communication – All means of communication, both internal and external to an organization, designed and delivered to support the Crisis Management function.

Knowledge Management – The acquisition, assurance, representation, transformation, transfer and utilization of information supporting Enterprise Management. Environmental Sensing, Signal Detection and Monitoring and Organizational Learning are functions emphasized as essential components of the Knowledge Management functional area.

Environmental Sensing, Signal Detection and Monitoring – Continual monitoring of the relevant internal and external environment of the business to detect, communicate and initiate appropriate actions to prevent, prepare for, respond to, recover, resume, restore and transition from a potential or actual crisis event.

Organizational Learning – Developing a business culture and support mechanisms that allow the business and its members to gain insight and understanding (learning) from individual and shared experience with a willingness and capability to examine and analyze both successes and failures for the purpose of organizational improvement.

Risk Management – The synthesis of the risk assessment, business area analysis, business impact analysis, risk communication and risk-based decision making functions to make strategic and tactical decisions on how business risks will be treated – whether ignored, mitigated, transferred, or avoided.

Risk-Based Decision Making – Drawing upon the results of the risk assessment, business area analysis, and business impact analysis, the development of strategic and tactical risk management (risk mitigation, risk transfer, risk avoidance, and/or risk acceptance) goals and objectives and the allocation of resources to meet those objectives. Risk-based decision-making is a continual process that requires dialogue with stakeholders, monitoring and adjustment in light of economic, public relations, political and social impacts of the decisions made and implemented. Risk-based decision making requires the consideration of the following questions:

1. Can risk be mitigated?
2. What are the interventions (controls) available to mitigate risk?
3. What combination of controls make sense (economic, public relations, social and political)? (adapted from Haimes 1998)

Risk Assessment - The identification, analysis, and presentation of the potential hazards and vulnerabilities that can impact a business and the existing and potential controls that can mitigate the risk of these hazards. Risk assessment requires consideration of the following questions:

1. What can go wrong (hazards identification)
2. What is the likelihood that it would go wrong?
3. What are the consequences?
4. What controls are currently in place? (adapted from Haimes 1998)

Business Area Analysis – The examination and understanding of the business functions, sub-functions and processes and the interdependencies amongst them. Business area analysis requires consideration of the following questions:

1. What are our business functions?
2. What are our business sub-functions and processes?
3. Which are critical to the continuity of our business?

Business Impact Analysis – Applying the results of the risk assessment to the business area analysis to analyze the potential consequences/impacts of identified risks on the business and to identify preventive, mitigation, preparedness, response, recovery, continuity and restoration controls to protect the business in the event of business disruption. Business impact analysis requires consideration of the following questions:

1. How do potential hazards impact business functions, sub-functions and processes?
2. What controls are currently in place?

Risk Communication - The exchange of risk related information, concerns, perceptions, and preferences within an organization and between an organization and its external environment that ties together overall enterprise management with the risk management function. Risk communication requires consideration of the following questions:

1. To whom do we communicate about risk?
2. What do we communicate about risk?
3. How do we communicate about risk?

Planning – Based upon the results of risk management and within the overall context of enterprise management, the development of plans, policies and procedures to address the physical and/or business consequences of residual risks which are above the level of acceptance to a business, its assets and its stakeholders. Plans may be stand alone or consolidated but must be integrated. Some example plans include:

- Crisis management plan
- Incident management plan
- Communication plan
- Business continuity plan
- Business recovery plan
- Business restoration and transition plan

Program Implementation – The implementation and management of specific programs such as physical security, cyber security, environmental health, occupational health and safety, etc. that support the Business Crisis and Continuity Management (BCCM) program within the context of Enterprise Management.

Systems Monitoring – Measuring and evaluating program performance in the context of the enterprise as an overall system of interrelated parts.

Awareness/Training/Exercising – A tiered program to develop and maintain individual, team and organizational awareness and preparedness, ranging from individual and group familiarization and skill based training through full organizational exercises.

Incident Management – The management of operations, logistics, planning, finance and administration, safety and information flow associated with the operational response to the consequences/impacts (if any) of a crisis event.

Incident Response – The tactical reaction to the physical consequences/impacts (if any) of a crisis event to protect personnel and property, assess the situation, stabilize the situation and conduct response operations that support the economic viability of a business.

Business Continuity – The business specific plans and actions that enable an organization to respond to a crisis event in a manner such that business functions, sub-functions and processes are recovered and resumed according to a predetermined plan, prioritized by their criticality to the economic viability of the business. Business continuity includes the functions of business resumption and business (disaster) recovery.

Business Recovery – Plans and actions to recover essential business systems that support business resumption and eventual business restoration and transition. The alternative term of “disaster recovery” is often used interchangeably with business recovery and carries with it an information technology (IT) connotation. For the purpose of this research, business recovery applies to all business systems and not just those related to IT.

Business Resumption - Plans and actions to resume (continue) the most time sensitive (critical) business functions, sub-functions, processes and procedures essential to the economic viability of a business.

Restoration and Transition - Plans and actions to restore and transition a business to “new normal” operations following a crisis event.

Appendix B

Competencies by Functional Area and Function sorted by the Sum of the Means of Level of Involvement and Level of Mastery (top 25% rounded up within each functional area and function)

Functional Areas and Functions of BCCM			
General BCCM	LOI Mean	LOM Mean	SUM
Establish and lead a multi-disciplinary BCCM Steering Committee.	4.5968	2.5323	7.1290
Communicate top level management's acceptance and support of the BCCM program throughout the organization and to external stakeholders.	4.5323	2.5246	7.0568
Define a BCCM program structure that supports overall corporate, business unit, functional and program objectives.	4.3548	2.5161	6.8710
Develop a business case for an overall BCCM program and supporting functional areas.	4.3387	2.4839	6.8226
Crisis Management			
Establish and lead a multi-disciplinary Crisis Management Steering Committee.	4.5806	2.6129	7.1935
Engage/inform the Crisis Management Steering Committee, Crisis Management Team, and other key stakeholders in all functional areas comprising the enterprise wide BCCM program.	4.4355	2.5323	6.9677
Identify the composition of the Crisis Management Team (core members and situational members to be added according to the specific crisis) for all levels of escalation.	4.3387	2.4516	6.7903
Crisis Communication			
Designate a crisis communication team.	3.9841	2.2063	6.1905
Define the authority for releasing crisis communications to stakeholders.	3.9206	2.1905	6.1111
Knowledge Management			
General - General Knowledge Management			
General Knowledge Management			
Develop a knowledge management framework appropriate to the enterprise in support of the BCCM program.	4.0000	2.2419	6.2419

Environmental Sensing, Monitoring and Signal Detection			
Establish processes and procedures to ensure the capture of information relevant to the internal and external organizational environment.	3.6032	1.9683	5.5714
Organizational Learning			
Establish channels and processes to capture, validate, store, access and utilize individual and shared lessons learned from BCCM related experiences and exercises.	3.9683	2.2097	6.1779
Risk Management			
General - General Risk Management			
State how risk perceptions can influence the overall risk management function and its sub functions.	3.9153	2.1864	6.1017
Risk-Based Decision Making			
Establish a criteria for making risk management decisions.	3.9500	2.2667	6.2167
Establish tactical and strategic risk management goals and objectives.	3.9180	2.2459	6.1639
Risk Assessment			
Analyze the results of the risk assessment to derive enterprise wide and business unit specific objectives, conclusions and recommendations.	3.9672	2.3115	6.2787
Specify a clearly defined process and schedule for conducting risk assessments.	4.0000	2.2295	6.2295
Business Area Analysis (BAA)			
Derive enterprise wide and business unit specific objectives, conclusions and recommendations for business operations.	3.7833	2.2787	6.0620
Identify all business functions.	3.6230	2.1967	5.8197
Business Impact Analysis (BIA)			
Analyze the results of the BIA to derive enterprise wide and business unit specific objectives, conclusions and recommendations.	4.0847	2.4068	6.4915
Establish a criteria for establishing the criticality and priority of business functions, sub functions and processes and supporting records/documents.	4.0000	2.3390	6.3390
Specify a clearly defined process and schedule for conducting BIAs.	4.0164	2.3115	6.3279
Risk Communication			
Prepare and present Risk Management reports (i.e., Risk Assessment, Business Area Analysis, BIA reports).	3.8305	2.2542	6.0847

Determine the requirements (communication content and delivery method) for risk communication with all stakeholders.	3.7667	2.2203	5.9870
Develop the strategy, objectives and means for risk communication with stakeholders.	3.7333	2.1356	5.8689
Planning			
Specify the types of plans (e.g. Crisis Management, Incident Management, Business Continuity, etc.) required at the enterprise wide and business unit levels.	4.4590	2.5410	7.0000
Align and integrate enterprise wide and business unit level plans.	4.1148	2.4167	6.5314
Specify policies for determining and implementing succession plans as a component of all enterprise wide and business unit level plans.	4.1148	2.3934	6.5082
Program Implementation			
Integrate business operations management with BCCM program objectives.	3.6167	2.0833	5.7000
Integrate physical safety and security management with BCCM program objectives.	3.6333	2.0667	5.7000
System Monitoring			
Establish reporting guidelines and requirements for program specific (i.e. programs identified within program implementation functional area) operations impacting overall BCCM.	3.8475	2.1897	6.0371
Awareness/Training/Exercising			
Develop methods to take lessons learned and translate them into actionable items for correction and improvement.	3.8833	2.2667	6.1500
Develop methods to capture lessons learned from training and exercises.	3.8000	2.2833	6.0833
Develop measurable objectives for all tiers of awareness, training and exercises.	3.8000	2.1833	5.9833
Incident Management			
Define the criteria for the activation of incident response operations.	4.2623	2.4833	6.7456
Define the criteria for the cessation (stand down) of incident response operations.	4.2167	2.4167	6.6333
Establish guidelines (i.e.. Location, facility, personnel, equipment, security) for the establishment of enterprise wide and facility level Emergency Operations Centers.	4.0333	2.3898	6.4232
Establish a standardized and scalable structure (e.g., Incident Management/Command System) for enterprise wide and facility level and/or business unit level incident response.	4.0492	2.3559	6.4051

Incident Response			
Coordinate and prioritize business continuity and emergency response requirements during incident response operations.	4.1311	2.4500	6.5811
Align and integrate enterprise wide and business unit level incident response plans.	3.9836	2.3333	6.3169
Business Continuity			
General Business Continuity Management			
Specify business continuity (business recovery and resumption) objectives and assumptions as the basis of enterprise wide strategies and planning.	4.3559	2.5085	6.8644
Business (Disaster) Recovery			
and			
Business Resumption			
Approve business unit level business recovery and business resumption strategies and objectives.	4.0000	2.2787	6.2787
Incorporate business recovery and business resumption strategies and objectives into the enterprise wide and business unit level planning process.	4.0328	2.2295	6.2623
Restoration and Transition			
Develop an enterprise wide vision to guide business restoration and transition.	4.2295	2.4426	6.6721

All Competencies Sorted by the Sum of the Means of Level of Involvement and Level of Mastery (Top 40 across all functional areas and functions)

Mean of the Sum of the Means of LOM and LOI = 6.0560			
Standard Deviation = 0.4579			
Competencies	LOM	LOI	Sum
Establish and lead a multi-disciplinary Crisis Management Steering Committee.	2.6129	4.5806	7.1935
Establish and lead a multi-disciplinary BCCM Steering Committee.	2.5323	4.5968	7.1290
Communicate top level management's acceptance and support of the BCCM program throughout the organization and to external stakeholders.	2.5246	4.5323	7.0568
Specify the types of plans (e.g. Crisis Management, Incident Management, Business Continuity, etc.) required at the enterprise wide and business unit levels.	2.5410	4.4590	7.0000
Mean Plus Two Standard Deviations = 6.9718			
Engage/inform the Crisis Management Steering Committee, Crisis Management Team, and other key stakeholders in all functional areas comprising the enterprise wide BCCM program.	2.5323	4.4355	6.9677
Define a BCCM program structure that supports overall corporate, business unit, functional and program objectives.	2.5161	4.3548	6.8710
Specify business continuity (business recovery and resumption) objectives and assumptions as the basis of enterprise wide strategies and planning.	2.5085	4.3559	6.8644
Develop a business case for an overall BCCM program and supporting functional areas.	2.4839	4.3387	6.8226
Approve business continuity (business recovery and resumption) objectives and assumptions as the basis for business unit strategies and planning.	2.4655	4.3448	6.8103
Identify the composition of the Crisis Management Team (core members and situational members to be added according to the specific crisis) for all levels of escalation.	2.4516	4.3387	6.7903
Align and integrate enterprise wide and business unit level business continuity strategies and plans.	2.5000	4.2759	6.7759
Define the criteria for the activation of incident response operations.	2.4833	4.2623	6.7456

Define the criteria for the activation and escalation of crisis management operations.	2.4516	4.2258	6.6774
Develop an enterprise wide vision to guide business restoration and transition.	2.4426	4.2295	6.6721
Define the criteria for the cessation (stand down) of incident response operations.	2.4167	4.2167	6.6333
Define the criteria for the cessation of crisis management operations.	2.3387	4.2903	6.6290
Establish program policies and procedures that incorporate BCCM considerations into the management of all business operations (Existing and developing).	2.3607	4.2581	6.6187
Establish a consultative process with BCCM stakeholders.	2.2742	4.3387	6.6129
Coordinate and prioritize business continuity and emergency response requirements during incident response operations.	2.4500	4.1311	6.5811
Define a crisis management escalation structure that matches the level of the response (i.e., level of personnel and resources involved) to the nature of the crisis.	2.3710	4.1774	6.5484
Align and integrate enterprise wide and business unit level plans.	2.4167	4.1148	6.5314
Mean Plus One Standard Deviation = 6.5139			
Specify policies for determining and implementing succession plans as a component of all enterprise wide and business unit level plans.	2.3934	4.1148	6.5082
Analyze the results of the BIA to derive enterprise wide and business unit specific objectives, conclusions and recommendations.	2.4068	4.0847	6.4915
Specify policies and procedures for enterprise wide and business unit level plan distribution, security and implementation.	2.4167	4.0656	6.4822
Establish guidelines (i.e., Location, facility, personnel, equipment, security) for the establishment of enterprise wide and facility level Emergency Operations Centers.	2.3898	4.0333	6.4232
Develop an enterprise wide business restoration and transition strategy and objectives.	2.3443	4.0656	6.4098
Establish a standardized and scalable structure (e.g., Incident Management/Command System) for enterprise wide and facility level and/or business unit level incident response.	2.3559	4.0492	6.4051

Define the management and decision making protocols and procedures to be followed by the Crisis Management Team.	2.2742	4.1290	6.4032
Determine and specify the roles for internal and external (consultants) personnel in the BCCM program.	2.2742	4.1129	6.3871
Define a measurement process and measures of effectiveness for the BCCM program.	2.3065	4.0484	6.3548
Establish guidelines for coordinating and prioritizing emergency response and business continuity requirements and actions during incident response operations.	2.3559	3.9836	6.3395
Establish a criteria for establishing the criticality and priority of business functions, sub functions and processes and supporting records/documents.	2.3390	4.0000	6.3390
Define a BCCM program maintenance process.	2.2581	4.0806	6.3387
Assign responsibility for enterprise wide and business unit level plan development and maintenance.	2.2459	4.0833	6.3292
Specify a clearly defined process and schedule for conducting BIAs.	2.3115	4.0164	6.3279
Establish notification policies and procedures for organizational personnel and other stakeholders (e.g. suppliers, customers, regulators, media, etc.)	2.3220	4.0000	6.3220
Align and integrate enterprise wide and business unit level incident response plans.	2.3333	3.9836	6.3169
Establish management level relationships and agreements with community organizations to support incident response operations.	2.3559	3.9508	6.3068
Determine corporate governance requirements with BCCM implications.	2.2951	4.0000	6.2951
Analyze the results of the risk assessment to derive enterprise wide and business unit specific objectives, conclusions and recommendations.	2.3115	3.9672	6.2787

REFERENCES

ASIS Commission on Guidelines. *Chief Security Officer (CSO) Guideline*. Alexandria, Va. 2003. <http://www.asisonline.org/guidelines/guidelineschief2003.pdf>
Last accessed July 15, 2004.

ASIS Commission on Guidelines. *Business Continuity Guideline: A Practical Approach for Emergency Preparedness, Crisis Management, and Disaster Recovery. Draft Guideline*. Alexandria, VA. July 12, 2004.
<http://www.asisonline.org/guidelines/guidelinesbusinesscon.pdf>
Last accessed August 10, 2004.

The Business Round Table. *Committed to Protecting America: CEO Guide to Security Challenges*. February 2005.

The Business Round Table. *Principles of Corporate Governance*. A White Paper from the Business Roundtable. 2002.

Department of Homeland Security, *Draft National Infrastructure Protection (NIPP) Plan*. V1.0. Washington, DC. November 2, 2005.

Department of Homeland Security. *National Incident Management System (NIMS)*. Washington, DC. March 1, 2004.

Department of Homeland Security. *National Response Plan (NRP)*. Washington, DC. December 2004.

Disaster Recovery Institute International. *Introduction and Professional Practices for Business Continuity Professionals*. DRI International. Falls Church, VA. 2004. <http://www.drii.org>. Last accessed September 21, 2004.

FEMA Higher Education Project Web Site. Competencies and Curricula. <http://training.fema.gov/EMIWeb/edu/EMCompetencies.asp>
Last accessed February 28, 2006.

Haimes, Yacov Y. *Risk Modeling, Assessment, and Management*. Wiley Inter-Science. New York, NY. 1998.

Hiles, Andrew. Business Continuity: Best Practices. Rothstein Associates Inc. Brookfield, CT. 2002.

Industrial Safety and Hygiene News (ISHN) Online. *NFPA 1600 to become the national preparedness standard?* April 30, 2004.
http://www.ishn.com/CDA/ArticleInformation/news/news_item/0,2169,123889,00.html
Last accessed May 13, 2004.

9/11 Commission Report. U. S. Government Printing Office. Washington, DC. 2004.

NFPA 1600 Standard on Disaster/Emergency Management and Business Continuity Programs 2004 Edition. Quincy, MA. 2004.

Ready.gov. Ready.gov – Ready Business Web Site and Program. 2004. <http://www.ready.gov/business/index.html> Last accessed October 12, 2004.

Saraco, Don. White Paper - *BC Management: A Marriage of Craft and Technology*. MLC & Associates, Inc. Irvine, CA. Nov. 1999.

Shaw, Gregory, L. Personal conference notes from the Designing Educational Opportunities for the Hazards Managers of the 21st Century Workshop, October 22 to 24, 2003, Denver, Colorado.

Shaw, Gregory. L. and Harrald, John. R. *Identification of the Core Competencies Required of Executive Level Business Crisis and Continuity Managers*. Journal of Homeland Security and Emergency Management. Jan. 2004.

Smith, David, J. Editor. *Business Continuity Management: Good Practices Guidelines*. The Business Continuity Institute. London, England. 2002. <http://www.thebci.org> . Last accessed July 15, 2004.

Standards of Australia Ltd. *A Handbook on Business Continuity Management: Preventing Chaos in a Crisis*. Consensus Books. Sydney, Australia. 2002.

Standards of Australia Ltd. *Draft Business Continuity Handbook*. Sydney, Australia. 2003.

Takemura, Robert. White Paper – *Practical Business Continuity and Disaster Recovery Planning*. MLC & Associates, Inc. Irvine, CA. April, 2000.

United States Government. *Intelligence Reform and Terrorism Prevention Act of 2004*. Section 7305. Private Sector Preparedness. Washington, DC. 2005.