

# **Project management during national crisis: concept development**

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## **Abstract**

National crises such as wars, economic crises and natural disasters are increasing in number and frequency worldwide. The context of a national crisis is unique and contains many abnormal challenges. Despite these challenges, projects are being commenced and executed during these events. Due to the abnormality of a national crisis context, the authors will attempt, in this theoretical work, to propose the concept of project management during national crisis. Through literature synthesis and the content analysis of several data sets, the authors propose a definition of the concept of crisis project management. This includes points of differences from peacetime project management and the common characteristics of a national crisis, with impact on project management processes. The authors will discuss the results and provide some suggestions for further research.

## **Key Words**

Project management; national crisis; conceptual research; context; crisis characteristics

## **1. Introduction**

Project management is the art of applying knowledge and skills to successfully deliver the required products or services. This art is affected by many factors that impact the outcome of a project. Among these factors is the project context, defined herein as the circumstances and conditions surrounding a project. The context has an important impact upon a project (Balachandra & Friar, 1997; Engwall, 2003; and Maaninen-Olsson & Müllern, 2009).

A project context consists of many dimensions such as the geography, the industry type and the culture; each of which can be considered as a context. The impact of one context on a project may differ from the impact of another; consequently, each context may require different project management approaches to achieve success (Balachandra & Friar, 1997). For example, the recruitment processes in a defence project may differ from that in a construction project because national security is an important element in the former, but not in the latter. In another example, a construction project manager must be physically unimpaired, while a project manager with some mobility limitations can manage a software project.

Because projects are unique by definition and each context has its own set of characteristics that distinguishes it from others, studying project management in a particular context can be an important path of investigation. Selected literature in this investigation is shown in Table 1.

**Table 1: Examples of research with contextual focus**

The research topic	The context
Studying the challenges of project management in public sector (Waddell, 2010)	Ownership type: Public vs. Private
The Cultural Barriers to the use of Western Project Management in Chinese enterprises (Wang & Liu, 2007)	Cultural: Western vs. Chinese
Critical managerial factors affecting defense projects (Dvir, Ben-David, Sadeh, & Shenhar, 2006)	Industry type: Defense
Analysis of factors critical to construction project success in Malaysia (Yong & Mustafa, 2012) A study on project success factors in large construction projects in Vietnam (Nguyen, Ogunlana, & Lan, 2004)	Industry type: Construction Geographical locations: Malaysia + Vietnam

Among the wide variety of possible project contexts, the context of a national crisis is unique and has significant effect on projects, and indeed, on all aspects of a nation's socioeconomic life. During a national crisis, most segments of the nation (if not all) are subjected to difficult circumstances that bring about many forced changes. For example, fundamental regulatory and institutional changes are approved as a result of the pressure of such crises. Project management then is supposed to be different in some regards from project management in peacetime. However, there is very little of such distinction in the literature of project management. There is an evident gap in knowledge and literature available about project management during times of crises (Hrůzová & Thornton, 2011). Based on that, this study is a conceptual research aimed to build the knowledge about project management during national crisis. The authors propose that "national crisis is a unique project context with particular characteristics that need different project management approach." To evaluate this proposition, the following three research questions will be answered:

1. What is meant by national crisis and project management in such context?
2. Are there any differences between peacetime project management and project management during a national crisis?
3. What are the characteristics of a national crisis that impact project management?

The topic of this research is relevant and important because, when observing the situations worldwide, it is found that national crises are more prevalent in the 21<sup>st</sup> century than before; for example, wars between countries have been increasing since 1870

(Harrison & Wolf, 2011). The frequency of financial crises has doubled since the 1970s (Bordo, Eichengreen, Klingebiel, Martinez-Peria, & Rose, 2001), and the frequency and severity of natural disasters is also rising (Degg, 1992; Gurenko & Dumitru, 2009). There are many contemporary examples of national crises worldwide, such as the wars in Iraq and Afghanistan, the aftermath of 2011 Japan's tsunami and the aftermath of 2005 Hurricane Katrina, and the 2008 global economic crisis. Against the odds, projects during these crises did not disappear, but continued to be executed in these contexts (Hrůzová & Thornton, 2011). Projects continued to be launched whether to respond to the crisis, to sustain businesses, or to reconstruct a devastated area. Deeper understanding is needed to enhance project management then.

## **2. Research methodology**

This article is a conceptual research piece, trying to constitute the concept of project management during national crisis. The research is a qualitative multi-method research. To answer the first and second research questions, a literature synthesis approach was used; and then to tackle the third research question, the content analysis method is used.

### **2.1. The data collection**

The data of this study comes from different sources to ensure the rigor of the research through the triangulation of the data sources. Triangulation (having multiple independent sources of data) is known in the research world as one of the methods to offset biases and enhance the trustworthiness of the research (Shenton, 2004; Turner & Turner, 2009), (Jonsen & Jehn, 2009). Both primary and secondary data is used in this study. The study consists of four data groups, namely: secondary data group; archival document group; practitioner survey group 1; and practitioner survey group 2. The secondary data is primarily from the literature of project management and crisis management and other relevant literature because this topic is multi-disciplinary. The primary data is related to several national crises worldwide. Some of these national crises are historic and others are contemporary. The data was collected through the following sources:

#### **Secondary data group**

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#### **Archival document**

A sample of original documents from the World War II era was collected to investigate the project management context during this wartime period in the United Kingdom (UK). These documents were obtained from the National Archives; the UK Government's official archive, the Imperial War Museum in London and the Royal Air Force museum in London. More than 600 pages of documents were studied. These documents belong to the Ministry of Aircraft Production, Air Ministry, War Cabinet, Ministry of Supply and companies that delivered several projects during the war, such as de Havilland and Vickers. These documents are related to the industrial arrangements, product specifications, contracts, test reports, priority management, funding, staffing policies and practices during a period from 1938 to 1945.

#### **Practitioner group 1**

In 2011 a revolution took place in Egypt, and since then the country entered a state of a national crisis. The authors seized this good opportunity and visited the area in 2012 to investigate the project management context there. During that visit, 11 of contemporary project managers in Egypt were approached to discuss the research question of this study. All of those respondents managed projects before and during the period of a national

crisis following the 2011 uprising; and they are well aware of the difference between project management during peacetime and during a national crisis time.

### **Practitioner group 2**

The authors also approached a group of project practitioners worldwide with an open-ended question survey. The practitioners were asked the same research questions mentioned above. Eleven experts responded to the survey, and all of them are certified project management professionals (PMP) with experience ranging from 10 to 35 years. Those experts are from Greece, Australia, United Arab Emirates, Brazil, Poland, USA and Malaysia.

### **2.2. The data analysis**

The data of this research is mostly qualitative descriptive narratives, which contain the details woven between the lines. Two methods were used to answer the research questions, namely: literature synthesis and content analysis. Literature synthesis can be defined as combining a number of different pieces of information to build a conclusion. Content analysis is defined as “any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings” (Patton, 2002). Content analysis is a very suitable technique to be used with data described above (Elo & Kyngäs, 2008; Krippendorff, 2004).

Content analysis depends on reading through the data and finding quotes and statements of similar meanings, and then gathering them under one category called a *code* or a *theme*. Then, the relevance or the significance of these codes is described and conclusions are drawn from these codes. The validity of these conclusions is tested through several methods, such as case studies or statistical analysis.

In this study, the first and second research questions are answered through the literature synthesis. The third research question is answered using content analysis. The analysis aims to find statements and quotes that represent a feature or characteristics of the national crisis context, and place them under suitable title for that characteristic. Each group of data is analyzed separately, and then the categories that appear in all the four groups of data will constitute the results. Here are some examples from the analysis process. A respondent from practitioners group 1 said “we are facing the problems of thugs, which appeared after the revolution.” A respondent from practitioners group 2 said “during a national crisis people die.” In an archival document it stated that “factories engaged on contracts for the Ministry have suffered through enemy bombing” (The-National-Archives, 1940). In an article it is stated, “Looting might also occur after natural disasters” (Kovács & Spens, 2007). All of these statements can be placed under the code “emergent threats and opportunities.” Further discussion will be provided in the following sections.

### **2.3. The concept of national crisis**

A crisis means "a time of intense difficulty or danger," (Oxford University, 2012) or "a situation that has reached an extremely difficult or dangerous point; a time of great disagreement, uncertainty or suffering" (Cambridge University, 2011). In the relevant literature, a crisis is an out of ordinary situation which creates new situation that cannot be dealt with using the existing or old rules. It contains urgency and has the capacity to make or break organization (Kuklan, 1986). Another definition of a crisis is “an unexpected event in an organization’s life, which represents a significant threat to its

high-priority values and demands a time-pressured response” (Loosemore, 1998). Also, it is defined as a situation faced by an individual, group or organization, which they are unable to cope with by the use of normal routine and procedures, and in which stress is created by sudden change (Booth, 1993). Another author defines the crisis as an abnormal situation, which presents some extraordinary and high risks to the business (Shaluf et al., 2001). The crisis is also described as a period of sudden change during which a totally new system is formed. In fact, the meaning of a crisis includes opportunity as well as risk, uncertainty, threat, conflict, accident, and instability (Öcal et al., 2006). As can be seen, there are several attempts to define a crisis. Despite these attempts, similarities exist among all attempts such as urgency and threats. However, the generic or absolute definition needs to be customized to form a sound basis for investigation. If it is not tailored to particular context of study it will be problematic. The crisis can have specific meaning depending on the context it is associated with; for example, an economic crisis means a crisis in the economic system, an industrial crisis means a crisis in and industrial institution. This study is discussing the notion of national crisis. The word national means “relating to or characteristic of a nation; common to a whole nation” (Oxford University, 2012). Also it means “relating to or typical of a whole country and its people” (Cambridge University, 2011). Thus, the term “national crisis” can be defined as “a situation or time at which a nation faces intense difficulty, uncertainty, danger or serious threat to people and national systems and organizations and a need for non-routine rules and procedures emerge accompanied with urgency.” In Table 2 this definition is examined on several examples of national crises.

**Table 2: the definition and examples of national crises**

Aspects of the definition	National crises examples					
	WW2 in UK	9/11 USA	2004 tsunami Indonesia	2011 Japan tsunami	Iraq war 2003	Financial Crisis 2008 USA
Difficulty, uncertainty, danger or serious threat to people and national systems and organizations	Convoys of goods were being attacked throughout the war	Terrorist attack threat continued for years to come	The capital of Aceh province was totally damaged	The tsunami caused a nuclear crisis in Fukushima power plant	Deaths exceeded 150,000 in the first three years of the crisis, according to the World Health Organization	The crisis triggered prolonged unemployment
Non-routine rules and procedures emerge	Rationing was introduced	The introduction of the USA Patriot Act 2001, which gave law enforcement officials sweeping new powers to conduct searches without warrants, monitor financial transactions and eavesdrop; and to detain and deport, in secret, individuals suspected of	Most of the local government members died in the crisis, so the central government took charge	Following the crisis most of the nuclear power plants were shut down causing a national power shortage so that power rationing was introduced. The government asked companies to reduce power consumption by 15%. Some companies moved their weekends to weekdays to smooth power demand	Many military operations were executed to restore order and to suppress gang and militias	The Federal Reserve dropped the interest rate to a record low of .25 %, which was averaging 6% before the crisis

		committing terrorist acts				
Urgency	Urgent measures were needed and adopted to protect the convoys	Urgent measures were needed to counter the terrorism threat eg USA Patriot Act 2001 was prepared and voted on in one month despite being a major change to many US laws	Urgent measures were needed to avoid the spread of diseases	Urgent decommissioning of several nuclear reactors took place	Urgent evacuation was needed due to the radioactive substance contamination in the area	Urgent bailout packages were needed and offered to support the economy; otherwise, it would collapse eg USA Emergency Economic Stabilization Act of 2008

Now the definition of a national crisis is set, but one step is still needed: linking it to the discipline of project management. Project management in general is defined as “the application of knowledge, skills and techniques to execute and deliver projects effectively and efficiently” (PMI, 2008). Herein, the definition of project management during national crisis is “the application of knowledge, skills and techniques to execute and deliver projects effectively and efficiently in a situation or time at which a nation faces intense difficulty, uncertainty, danger or serious threat to people and national systems and organizations and a need for non-routine rules and procedures emerge accompanied with urgency.” This is the fundamental concept proposed by the authors. However, a legitimate question arises: Is there any difference between peacetime project management and project management during national crisis time?

#### 2.4. Is there any difference?

A basic and straightforward answer to this question is *yes*. This answer is based on the premise that there are some features and characteristics emerging during a national crisis time and they have an impact upon the processes of project management and upon the common project success factors. The literature shows many of these different features. For example, the pressure of a national crisis brings people closer to each other and increases the attitude of collaboration between them (Rodríguez et al. 2006; von Dawans et al., 2012). Increased collaboration leads to increased project team effectiveness, which, in turn, increases the likelihood of success (Gemuenden & Lechler, 1997; Hoegl & Gemuenden, 2001; and Yang, Huang, & Wu, 2011).

Also, the national crisis period is often associated with disruption of supply, either a shortage of materials required for projects or the inability to deliver them on time to the required area (Y. Chang et al. 2012). These shortages and disruptions destroy an important success factor, which is the availability of resources (Belassi & Tukel, 1996; Do Ba & Tun Lin, 2008). Consequently, these factors reduce the likelihood of success. Moreover, a need for policy changes is associated with a national crisis period. For example, the crises of World War I and World War II enabled women to undertake jobs such as aircraft manufacturing, which were not open to women prior to such crises (Bloomfield & Bloomfield, 1997; Littlea & Griecob, 2011). This has a direct relationship to the availability of human resources, which is an important project success factor (Pinto & Slevin, 1987; Jo & Barry, 2008). Another example of a national crisis time is the aftermath of a natural disaster, such as an earthquake. Le Masurier *et al* (2006) investigated the reconstruction project after a natural disaster in New Zealand, and

concluded that legislations prepared for routine peacetime projects are not effective enough for projects during a national crisis following a natural disaster. Those peacetime policies are not sufficient to cope with the urgency imposed by a national crisis situation (Le Masurier et al., 2006). The Project Management Institute (PMI) has developed a Project Management Methodology for Post Disaster Reconstruction.

The war is an example of a national crisis. During such situations, an employee's continuance commitment (willingness to stay working for the organization) is negatively affected by the event of war (Messarra & Karkoulian, 2008). It is reported that commitment to the project is an important project success factor (Chua & Kog, 1999), (Nguyen et al., 2004), and the national crisis situation affects this commitment, consequently affecting the likelihood of project success.

A national crisis (particularly war) brings about new types of risks and threats that are unlikely to exist during peacetime, such as sabotage (Öcal et al., 2006). This may bring new types of stakeholders, such as the secret police.

The literature showed that project management in peacetime context is different from project management during national crisis time. Thus, what are the characteristics of a national crisis that impact project management?

## **2.5. The characteristics of a national crisis**

This study presents five characteristics that constitute a national crisis and have an impact upon project management processes. Any single characteristic can exist in other contexts, but they collectively exist together in any national crisis. These characteristics are:

**The urgency:** time is described by many interviewees as the highest pressing factor during a national crisis. Things need to be done quickly; otherwise, the toll will be very high. An example to illustrate this can be found in WWII. During WWII in the UK, the circumstances were unforgiving and delays could cancel a project. For example, the Martin-Baker MB3 aircraft was a good aircraft during tests, but it was considered outdated because of few months of delay and late delivery. Consequently, it never progressed to mass production. The value of time during a national crisis may exceed the financial value to lives. In the aftermath of the Japan tsunami disaster in 2011, when urgent measures were issued to contain the Fukushima Daiichi nuclear disaster, as each hour of delay increased the risk of nuclear explosion which may kill thousands.

**Government intervention:** since a national crisis is a national event, the government is an influential stakeholder. Any national crisis includes government intervention, whether through legislative effort or various types of support or even direct involvement in particular projects. Rationing is a form of government intervention during a national crisis. During WWII, the British government controlled the raw material such as the aluminum. During the global financial crisis in 2008, several governments paid from taxpayer's money to private firms to prevent the economy from collapsing. For example, the US Government paid billions to auto manufacturers to avoid millions of layoffs.

**Emerging threats and opportunities:** almost all contexts have threats and opportunities, but there are particular threats and opportunities that emerge or gain high probability during a national crisis. The most serious threat that increases dramatically during a national crisis is the threat to lives. During wars or aftermath of natural disasters, people die in the hundreds or even thousands. Even during financial crises, which do not show a direct threat to lives, the reports showed dramatic increase in the suicide mortality rate

during the financial crisis in East/Southeast Asia in 1990s (S.-S. Chang et al., 2009) and in the 2008 global economic crisis (S.-S. Chang et al., 2013). On the other hand, one of the most important opportunities that increase during a national crisis is the tendency of people affected by the situation to collaborate.

**Resources and supply disturbance:** the national crisis is associated with disturbance in the supply chain or in the resource availability, either material or human resources. For example, natural disasters usually destroy the transportation and communication networks as what happened in the aftermath of the 2004 tsunami in Indonesia. Another example is in the UK during WWII. Because of the call of duty, the human resources were affected, as many experienced workers left their jobs in various industries to serve in the armed forces.

**Uncertainty:** crises are by nature uncontrollable and the series and consequences of events are least predictable; thus, a national crisis is defined by uncertainty. The requirements of certain work change rapidly and new realities can emerge suddenly. Contrast, during WWII the citizens of London were relatively certain about the timing of a bombing raid and the potential consequences.

These are the major characteristics of a national crisis that can affect the project management. In the following section, the implications of these characteristics will be discussed.

### **3. Discussion**

The first step in investigating any concept is to set the definition of a concept in such a way that it is distinguished from others. The definition of project management during a national crisis, which is proposed here, takes the popular definition of project management set by PMI and adds to it the national crisis definition compiled by the authors. By doing so, the resulting definition keeps the new concepts within the bigger umbrella of project management discipline. This leaves the door open for benefiting from the already well-established tools and techniques in the field of project management and modifying them if necessary to suit the new concept.

The concept of project management during a national crisis started to gain momentum in the literature under several titles of research, such as post-disaster project management and non-routine project management. However, a universal comprehensive definition is missing and this is the gap in which this paper contributes.

The concept is proposed for national crises in general. However, there is a need to investigate and classify the national crises further, as each type of national crises can have specific set of characteristics. A hint in this regard is that during national crises the death threat increases dramatically, however the death reason differs between different types of national crises. For example, during war people die because of bombs, while in economic crisis suicide is the main reason of increased deaths.

Presenting the concept of project management during a national crisis opens the debate if there are any differences between the new concept and the already existing concept of ordinary project management. While this paper presented these differences, the implication of such differences and the characteristics of a national crisis is that they alter the assumptions of the project management processes; for example, due to the urgency



accompanying a national crisis context, the time will almost always be the priority for project management during a national crisis. This change is significantly affecting any project feasibility study. When drafting project procurement procedures for a national crisis situation, the idea of *doing things faster* should be highly prioritized. This also changes the approach of project planning from *planning ahead* to *planning on the go*. This change in the planning approach is a result of the high uncertainty accompanying a national crisis.

The level of government intervention in a project is also an important factor that affects some aspects of the project management processes. For example, the government intervention in staffing process during peacetime is assumed to be limited to the general laws of employment in the country, while during a national crisis that level can increase to a point where the government decides who works where. This actually happened in several situations such as the aviation projects in UK during WWII when the government was attaching priority officers to projects. In addition, the British Government was appointing workers (by names) to different industries and companies. Another example is that during peacetime, raw materials are available in the market for those who can purchase them, while when rationing is introduced due to a national crisis, the quantities available for use are determined by the government not the purchasing power. This level of intervention fundamentally affects the level of control a project manager (or a project owner) has over several aspects of the project.

One of the important characteristics of a national crisis is that new types of threats and opportunities gain higher probability. This has an impact on several project management processes. For example, the risk management plan is based on the type of the risks and their probability. This determines the action needed to deal with such risks. When new types of risks (such as sabotage) gain higher probability due to war situation, for example, a higher level of coordination with security authorities might be needed. Also, there are opportunities that emerge during a national crisis and they should be exploited very well in the project management processes. Among these opportunities is that people tend to be same-minded and think about common destiny. This makes it easier to direct and motivate them.

However, these emerging threats and opportunities need to be investigated further to develop a comprehensive set of these threats and opportunities. There is a need to associate each of them with particular types of national crises, in order to suggest the best practices to deal with such a threat or an opportunity during a particular type of national crises. A question that can guide this effort is: What are the best practices a project team can apply to deal with security issues in projects during wartime? Another suggested question is: What are the best practices a project team can adopt to exploit the prosocial attitude that emerges during and after a natural disaster?

#### **4. Conclusion**

This paper contributes to the project management literature by presenting the concept of project management during national crisis. The paper presents a definition of the concept and points of differences between this concept and ordinary project management. It also seeks to define the common characteristics of a national crisis and their impact upon project management. While this research is theoretical work aimed at building the concept of project management during a national crisis, empirical work is needed to

solidify the concept and to develop operational measures, which can be used in real- life situations. This paper calls for more and deeper research into this theme because national crises are increasing. Both theorists and practitioners of project management need to develop their theories, assumptions, tools and techniques to better manage projects during a national crisis. The authors call other fellows to enhance the concept of project management during national crisis by addressing the definition proposed here, and presenting enhancements or even alternative definitions to increase the maturity of the concept.

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