The Effect of The Iraqi Invasion on Organisations in Kuwait: A study into Disaster Recovery Plans

By Fahhad Al-Harbi and B.N. Rossiter

Abstract

The number of organizations who rely on computerized systems to perform their day-to-day operations and to help them in making the decisions has grown rapidly recently and continues to grow fast. On the other hand, there are hundreds of different types and magnitudes of disasters that strike different parts of the world each year. This in turn brings into sharp focus the necessity for a carefully constructed disaster recovery plan. Therefore, focus on disaster recovery planning has dramatically increased over the last few years. Unfortunately, the significance of having a disaster recovery plan becomes clear only after a disaster strikes. Sometimes this is too late or maybe too expensive.

This report looks at the preparations for disasters of Kuwaiti organisations before and after the Iraqi invasion in August 1990. It examines the organisational effects of large-scale destruction of the information system infrastructure, the effectiveness of recovery planning when subjected to events far outreaching anticipated norms, and a check on whether organisations realise the importance of disaster recovery plans. It explores many issues such as the types of losses that organisations may face in cases of political disasters such as war, the necessity of testing strategies, the use of off-site backups for avoiding large-scale disasters, and other related factors.

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Keywords: disaster recovery, contingency planning, case study.

Introduction

Organisations in public and private sectors depend heavily, nowadays, on computer information systems to run their businesses. The number of organisations who rely on computerised systems to perform their day-to-day operations and to help them in making the decisions has grown rapidly over the last several years and continues to grow fast. Therefore the destruction or the loss of their systems can be a nightmare and in many cases, if it lasts long, is the ending of the business.

Destruction from massive floods occurs all over the world. Hurricanes and Earthquakes destroy cities and communication lines. Electricity blackouts are commonplace. The Iraqis invaded Kuwait in August 1990. Terrorists bombed the World Trade Centre in 1993. Terrorists attack a busy street holding many organisations and people at the centre of the city of Manchester (June 1996). Regardless of the cause - natural disaster, manmade disasters, attacks, or just bad luck and timing - all of these incidents, and others, have happened, and all have resulted in the loss of business function. Similar incidents might also happen in the near future.

This in turn brings into sharp focus the necessity for a careful constructed disaster-recovery contingency plan in the event of information system catastrophe. Therefore, focus on disaster recovery planning (DRP) has dramatically increased over the last few years.

The Iraqi invasion disaster

Measures to meet the threats of war attack usually transcend the areas of responsibility of computer management. Recent years have provided several examples of this type of disasters occurring to a far greater extent and on a much larger scale than is usually perceived. In such cases, damage to the information systems infrastructure occurs to a far greater degree than would normally be conceived, and often affects multiple organisations (for example, the invasion of Kuwait and the former Yugoslavia civil war).

Since wars are political disasters, consequences might be different from other types of disasters. Private organisations are usually not the target for destruction, but they might be affected. However, government organisations are usually damaged by bombing or sabotage country specially if is temporary occupied. Being in unstable areas, organisations should carefully consider the importance of a disaster recovery plan.

In the dawn of the 2nd of August, 1990 an international crisis started to happen in the middle east. More than 150,000 troops of Iraqi regime cross the boarder of the state of Kuwait toward the capital "Kuwait City". Never since the Second World War has a country invaded another independent and sovereign state, a member of the United Nations, seeking its annexation by force and trying to eliminate its name and identity.

The Iraqi occupation lasted more than seven months, with more aggression and grip on humans, properties and earth day after day. During the occupation large scale destruction of the information systems infrastructure occurred. Computer machines have been taken to Iraq. Fires were set in many computer sites.

The situation in Kuwait (pre and post invasion) provides an opportunity to carry out an analysis on the organisational effects of large scale destruction of the information system infrastructure, the effectiveness of recovery planning when subjected to events far outreaching

anticipated norms, and to check whether organisations realise the importance of disaster recovery plans.

Methodology and Content

A literature review shows that there has not been adequate research in the disaster recovery area in Kuwait after the Second Gulf War. Because the invasion disaster covered the whole country and every organisation in Kuwait experienced it in a way or another, it is a great opportunity to capture and analyse these experiences. The selection of the organisations was accomplished through different sources. One source was a list from the Ministry of Commerce and Industry in Kuwait. The Business Phone Directory and the 1996 INFO Exhibition, which was held in April 1996 in Kuwait, served as secondary sources for locating some organisations. Kuwait is a very small country and number of organisations who might have an organised computer environment is not large. However, the researcher sought a target number of respondents, one hundred, that must be reached. Therefore, 140 questionnaires were distributed to different types and sizes of organisations. Fortunately, the responses exceeded the target number by 11. The rest has no effect in the final result because most of them are considered to have low dependence on computer.

The questionnaires were distributed by hand to many organisations in Kuwait. They were passed to carefully selected respondents, either computer managers or disaster recovery coordinators - if available. Follow-up interviews were conducted with most respondents to explain the objectives and to provide further explanations if needed. Then the answered questionnaires were either handed to the researcher during the meeting or a self-addressed and postage-paid envelope was provided to the respondent to deliver the questionnaire through post. The latter method was used in case the respondent does not desire his or her organisation to be recognised by the researcher. Anonymity was guaranteed for responding organisations.

The questionnaire contains 29 questions. It was divided into three parts to determine: 1) general characteristics of the organisation, 2) recovery strategies employed, and 3) off-site storage backup strategies installed.

As stated before,140 questionnaires were distributed, in February 1996, to different types and sizes of organisations. A total of 111 usable ones were received after 12 weeks, representing a return rate of 79.3%. This good rate is due to the methodology of distributing the questionnaires and to personnel contacts. Also, most respondents were helpful because they think the subject is very important especially since they all experienced the second Gulf War disaster.

Organisational Background

The response sample size consisted of 111 organisations. They vary in the size, degree of dependency on computer, processing type they adopt, and the type of businesses they conduct. The survey sought to cover wide range and variety of organisations. Figures 1 to 4 show these variations.

Fig. 1. Proportions of business activity by organisation category

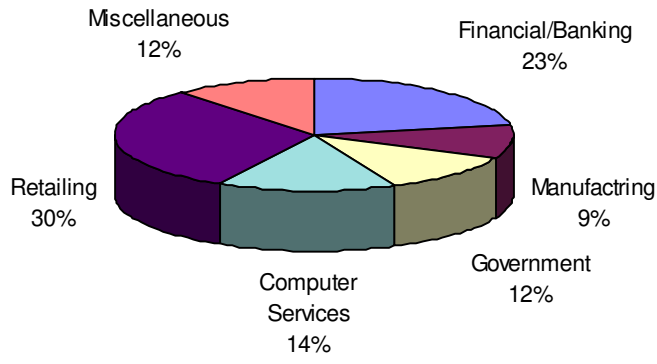


Fig. 2 Organisations by processing type

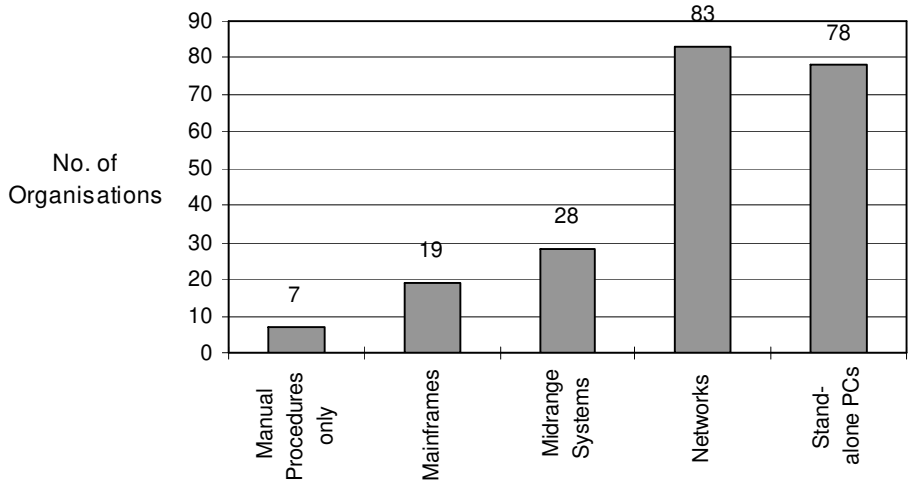
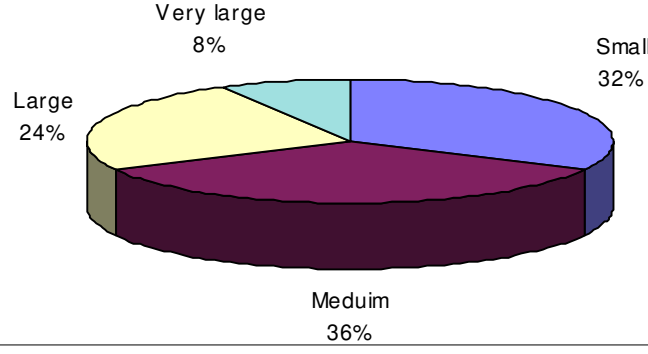
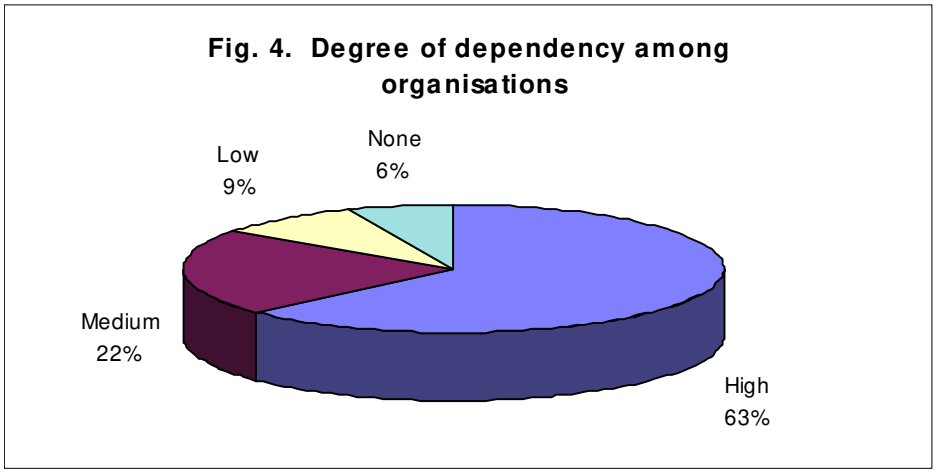


Fig. 3. Size of organisations in the survey





Disaster Recovery Plans before the Invasion

The results show that 28 (25%) of organisations had a disaster recovery plans before the invasion. However, only 19 (68%) of those who had DRPs had actually activated either partially or fully their plans. The rest did not operate their plans because roads were blocked and they could not reach their organisations due to the fast occupation of the country.

This high percentage, 75%, of organisations who did not have DRPs reflects the fact that many of them did not consider the importance of recovery plans. Most of them confessed that they lacked the knowledge of the importance of DRPs and never thought a disaster would strike them. Others understand this importance but they did not make the time and effort to establish one.

Even then, most of organisations who activated their plans had only saved some of their vital data, critical applications and documents. One of the respondent said that even though his organisation had a DRP, they had not tested it for more than one year. So by the time they perceived the situation, it was too late to enter the computer floor. However they managed to locate one of the employees who had worked there during the invasion for several days to smuggle some of the tapes under his clothes.

Another respondent said; because of the lack of testing, it took him several hours to call the right people and meet at the site to collect the backup media. Luckily, the building was not yet occupied and backups were performed just the night before the day of the invasion. *(The invasion happened on the weekend)*

are However a few organisations who saved all their data, information and documents. That was the case because their recovery plans were well tested. The testing was done often because of the nature of the data which is important to the identity of the people who live in the country. Some of them run their applications and continue part of their businesses in neighbouring countries or at the United Kingdom.

Losses due to the Invasion

According to Dr. Adel Assem, the Director General for the Public Authority for Compensations Resulting from the Iraqi Invasion, which was established by the United Nation, the total losses for private organisations in Kuwait is approximately 35.6 Billion Dollars while

the total losses for the Kuwaiti government institutions is around 69 billion Dollars. These figures do not cover personal losses for individuals such as death, injures, homes, automobiles, furniture, etc. (Al-Watan, 1996).
All these losses resulted either from stolen and damaged properties or from the discontinuation of the business. For those who lost their data, information and applications, they had to restart from scratch. Getting the hardware and software is not too much trouble, but redeveloping applications and capturing data again is an unwelcome and demanding experience. Usually employees are not motivated to do their work again.

Losses resulting from the Iraqi invasion with respect to computer centres (figure 5) vary from one sector to another. The computer centres in government organisations, for example, were completely damaged. Computers (large, mini and PCs) were disassembled under the supervision of specialists and carefully shipped to Baghdad. Connection wires, air-conditioning and communication equipment were dismantled and also transferred. The damages of the government institutions range from complete loss resulting from the transfer of the contents to the destruction of the buildings and the remaining of the contents in order to render them useless in future as happened to the Kuwait Institute for Scientific Research (Centre for Research and Studies on Kuwait, 1994).

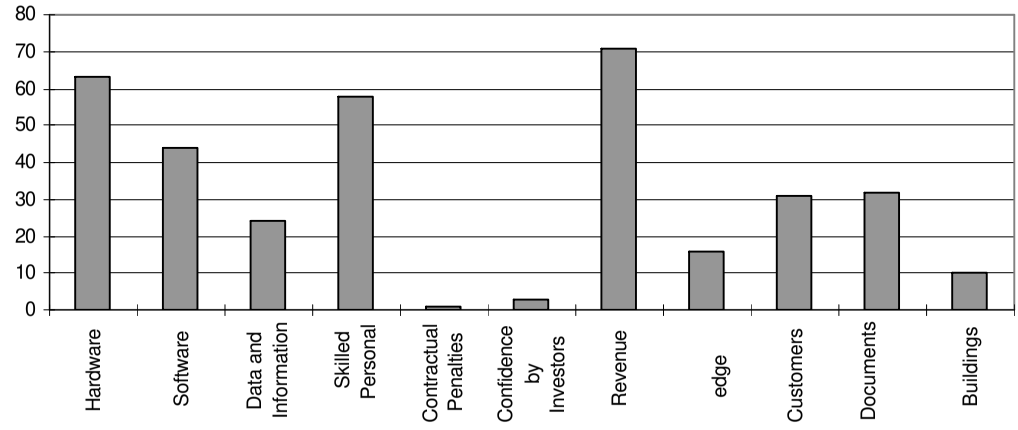
The education sector also suffered from the aggression. The schools and the educational institutions were used for accommodating the troops. Losses extended beyond the computer centres. The laboratories, research equipment and the furniture of lecture halls were also dismantled and transferred to Baghdad. UNESCO Mission Report to the UN indicated that the Kuwait University lost not less than 95% of its computer centre and database. (UNESCO, 1991; Centre for Research and Studies on Kuwait, 1994).

The private sector, specially banking organisations, however, did not suffer as badly as the government organisations regarding equipment destruction. There are some damages to the equipment and documents in some branches but most of their main computer centres were not damaged. Nevertheless, they experienced major losses such as discontinuity of revenues and the unavailability of their skilled personal.

The results show that many organisations suffered mostly form the loss of revenue, hardware, skilled personal, and software. The loss of revenue is in the top position because of the long period of not running the business. The occupation took around 7 months. However, cleaning the country from remaining troops, getting the electricity and communication lines up again and returning citizens to the country took a further three months period.

The loss of skilled personnel came third in the important losses to organisations. This is not surprising because many Palestinians, Jordanians, and some other nationalities, in addition to Iraqis, were either deported or not allowed to enter the country after the liberation because their countries supported the Iraqi aggression. In addition, there are many skilled personal from other nationalities who were employed by other organisation all over the world during the occupation. The country population in 1990, before the invasion, was a little more than two millions. In 1995 it was just over 1.5 million. A loss of approximately one quarter of the population is devastating for a country as small as Kuwait.

Fig. 5. Organisations Losses due to the Invasion



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CIAM must then provide an estimate of the maximum allowable downtime per day that would not change the customer satisfaction level. Figure 12 shows the results for the CIAM example. Customer satisfaction is measured on a scale of 0 to 5, where 5 is the highest level of satisfaction. Figure 12 indicates that CIAM can be down for 19.6 hours per day and still maintain a customer satisfaction level of 5. If CIAM is down more than 19.6 hours per day, customer satisfaction will drop below 5. For example, if CIAM is down 26.1 hours per day, customer satisfaction will drop to 4. If CIAM is down 14.1 hours per day, customer satisfaction will drop to 3. Finally, if CIAM is down 15.6 hours per day, customer satisfaction will drop to 2.

ققدحوح كمانجلا

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