Building Theory of Organizational Innovation, Change, Fitness and Survival

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Table of Contents

Figures:

Abbreviations:

PS=Private sector, NPS=Non-profit sector, PSE=Public sector, PSO=public sector organization(s), GoC=Government of Canada, Sask.=Saskatchewan, NB=New Brunswick (Canadian provinces), PCS=Potash Corporation of Saskatchewan, PHAC=Public Health Agency of Canada, fed=federal, prov=provincial, orgn=organization, prog=program, prog'g=programming, env=environment, coord'or=coordinator, sec't=secretariat, ad'g=advertising, infrastr=infrastructure, intern=international, empl'ee=employee, dept=department, govt=government, respy=responsibility, priv'd=privatized, prof=professional, para-prof= para-professional, legn=legislation, lg=large, ad=advertisement

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Preface

While the demography and control factors of organizational mortality and survival have been addressed in the private (for-profit) sector and in the US federal government, there are many areas where it has not been addressed yet. In their theoretical paper on termination of public organizations, Adam, Bauer, Knill and Studinger (2007, p. 228) identify the need for comparative case studies to test theories of organizational termination and also comparisons across countries. Some researchers do not agree. Van de Ven, for example, considers that with ‘‘N-of-1 studies . . . systematic comparative evidence can only be gained through trial-and-error experiments over time’’ (Mohrman, 2011, p. 391).This book addresses both the need for more theory and the need for more case studies. It develops grounded theory of organizational mortality and survival based on the experience of nine case studies of innovation in four Canadian governments, and it compares these results to those in the private, non-profit and public sectors.

Summarizing types of innovation research, Sandford Borins describes four themes: (1) What is happening at the leading edge of governance and public service, (2) Sustainability of innovations and the innovation life cycle, (3) Diffusion of innovations, and (4) Innovation and organizational performance. Continuous improvement is discussed under this topic (Borins, 2008, pp. 201-5). Borins does not include in his list the fate of the innovation or the impact of the innovation on the organization that innovates as areas of innovation research. While the fate of innovations could potentially be addressed under his second topic, the impact of innovation and change on the organization that innovates is not explicitly addressed.

This book considers the fate of innovations and the impact of innovations and change on their organizations, with emphasis on Canada. An innovation can be assumed to affect the choice of individual innovation, choice of kinds of innovations adopted and diffused, and even its organization.

As indicated in this book, the choice of innovations in public sector organizations (PSO) is affected by ideology and politics. Since public services are part of the executive arm of most governments, and are directed by elected governments and ministers, it makes sense that ideology and politics should have an influence on PSO. Their influence on PSO has not, however, been discussed much in the public administration literature. In the search for drivers of innovation, the fate of innovations, and the impact of innovations on their organizations, ideology and politics are found in this study to be a major driver of the types of innovations that are adopted over time, the individual innovations chosen and the innovations that survive and those that do not.

Surprisingly, the survival rate of organizations that adopt innovations and change is much lower than an adaptation and fitness perspective on innovation would predict. By implication,

this study raises the question whether isomorphism (imitation of form) in keeping with the dominant ideology and political direction might be a better survival strategy (at least while the ideology is dominant) than an innovation strategy. Singh, House and Tucker (1986b) demonstrated that isomorphism contributes to the legitimacy of non-profit organizations. Of course, isomorphism may cause problems when there is a fundamental change of government perspective and ideology.

The same strategy of mimicry can be observed in academic research. Research funding can be seen as being allocated in keeping with the current political climate, especially since the 1980s. The Ford Foundation allocated its funds to innovation awards as much to improve trust in government as to acknowledge innovation (Rizvi, 2008). The IBM Endowment for the Business of Government, which pays for its papers, has published only on innovations that involve the private sector (PS) more in delivering government functions and services. Both innovation and privatization became watchwords with the introduction of New Public Management (NPM) during the 1980s. NPM lost some of its shine as it failed to achieve its objectives of saving government money. When the dominance of neo-liberalism declined for awhile, it became evident that many innovation programs had focused on and rewarded NPM innovations, with its focus on devolution of government functions to the private sector and decentralization of services to the lowest levels of government, those least able to pay for them, and based on retrogressive property taxes.[1]

These observations beg the question, has innovation research been right wing? Has it facilitated right-wing actions by governments or has innovation research merely reflected the historical period in which it emerged? It may not be possible to answer this question fully until the next political period emerges. If innovation awards continue and recognize the new innovations of the new period, it may be possible to claim they were not tied to a specific political period. If award programs do not survive the current conservative political period, if governments lose interest in the concept of innovation, and if innovation researchers do not continue to work in the field of innovation research or new academics do not move into the field, it may be possible to claim that innovation awards were just one of the mechanisms for promoting NPM.

Quantitative research has emerged from the Canadian innovation awards (Glor, 1998a; Bernier, 2014) and from those in other countries (Borins, 1998 [USA]; Hartley, 2008 [UK]; Ferreira, Farah & Spink, 2008 [Brazil]). In a few cases, authors have identified the fate of the innovations but rarely the fate of the organizations that innovated. Identifying the fate of innovating organizations requires separate research, and this book contributes to it.

Whatever happens to innovation awards and innovation research, however, PSO will continue to innovate because politicians and public servants want to improve PSO and because change emerges in complex systems like PSO. The question "what is the impact of innovation and change on their organizations" therefore needs to be answered, whatever happens to innovation research and the NPM.

[1] Retrogressive taxes tax those least able to pay most, while progressive taxes tax those most able to pay most.

Introduction

Understanding organizations as complex systems

Scientific domains now largely recognize that natural phenomena at their extremes of smallness and largeness such as genes and galaxies cannot, finally, be reduced to basic elements. The quantum mechanics of Max Plank was a key step in this realization, leading to the development of quantum physics. Quantum physics is based on the discovery that heat and light (energy) reveal themselves in two quite different ways, as either particles or waves, but never as both at the same time. Moreover, they appear as waves if the observer is looking for waves, and as particles if the observer is looking for particles. In other words, the intent of the observer appears to be creating a relationship with the observed. Many scientists responded to this knowledge by intensifying their efforts to break particles and waves, their molecules, atoms, and their structures, into smaller and smaller components, in order to discover their basic building blocks, and a level at which they functioned individually and linearly. This led to the recognition among some scientists today that it is possible that the smallest particles cannot be understood as parts, that their key characteristics are their relationships and energy rather than their matter. Likewise, at the cosmic level, Albert Einstein's theory of special relativity and then his general theory of relativity posited that the relationships between time and space are the key cosmic dynamics, rather than the mass of bodies acting independently according to defined forces and laws. These findings and their broader implications are having a growing impact on all the sciences (Kauffman, 1995; Holland, 1995; Capra, 1996; Bar-Yam, 2004).

After World War II, a small group of scientists at the Los Alamos National Laboratory, which had played a key role in the development of the atomic bomb, began to study the phenomena of complex behaviour. As their work took on a life of its own, they created the Santa Fe Institute of advanced interdisciplinary study of complexity. Most of those associated with the Institute were part-time, working at universities most of the time throughout the USA and elsewhere. A number of renowned scientists were involved, primarily from mathematics and the natural and computer sciences; the Institute was multi-disciplinary from the beginning. Two social scientists were also associated with it, namely an economist and a cybernetics expert. The Perimeter Institute at the University of Waterloo, Canada, has set up Canada's first advanced institute for the study of complexity, headed by Thomas Homer-Dixon.

While theory about complex adaptive systems was developed largely in the domains of the hard sciences, mathematics and computers, it also incorporated the work begun during the 1940s by biologist Ludwig von Bertalanffy on general system theory (Bertalanffy, 1968), whose work had more general applicability. He identified the autopoietic (self-regulating) character of biological systems. Work on complex phenomena grew but remained relatively unknown and isolated until James Gleick's *Chaos: Making a New Science* (1987) and Mitchell Waldrop's *Complexity* (1992) popularized it. Since then, use of complex theories has disseminated quickly, and has begun to emerge as a major force in the study of both physical and social phenomena, including the fields of organizational development, administration and management (e.g. Goldstein, 1994, 2010; Aldrich & Rueff, 2006). It continues to be utilized and popularized by authors such as James Surowiecki in *The Wisdom of Crowds*.

Because complex systems cannot be reduced to basic elements that can then be recombined in lawful ways to explain the systems characteristics, complex phenomena and their behaviours are studied as whole entities, systems or patterns of behaviour. They exhibit the characteristics of a great many independent agents interacting with each other in a great many ways (Waldrop, 1992, p. 11). Such systems exhibit spontaneous self-organization (a compulsion for order or forming patterns), which can result overall in their being adaptive to their environment. While evolutionary systems are restricted to biological beings, and evolution occurs through genetic change, from one generation to another, reinforced by selection, complex systems can be considered adaptive if they can change themselves using non-evolutionary processes (Dooley, 2004, p. 357; Kauffman, 1995; Holland, 1995).

The interaction of innovations and organizations is complex (Lam, 2004, p. 31–32; Supprasert and Clausen, 2012). A number of organizational phenomena are turning out to be interactive and/or interdependent, such as product and process innovations (Damanpour, 2010) and styles of leadership (Vaccaro, Jansen, Bosch & Volberda, 2012). The impact of management innovations on organizational performance is complex and indirect as it is mediated by performance management, at least in the PSE (Walker, Damanpour & Devece, 2011). Evangelista and Vezzani (2010) found four innovation modes in terms of the ways firms combine non-technological and technological innovations, and that the modes were present and relevant in both service and manufacturing sectors. They were found to have different impacts on performance. The joint introduction of process, product and organizational innovations were found to give a competitive advantage to both types of firm in comparison to firms with a narrow approach to innovation and non-innovating firms.

Influenced by complexity theory, use of new methods and metaphors has emerged in the management and study of organizations. These include organic metaphors (Cameron & Whetton, 1983; Tushman, 1985; Baum, 2004), communication metaphors and discourse methods (Czarniawska, 1998; Abell, 1987); process metaphors and methods such as life cycle, teleology, dialectics and evolution (Poole, Van de Ven, Dooley & Holmes, 2000, p. 56); and a focus on time (Abbott, 1990). Explicit use of complexity theory emerged in the social sciences during the early 1990s, although use of systems theory began earlier. A substantial literature now asserts that change and innovation emerge in complex human society and in organizations, sometimes when they are needed (Goldstein, 1994; Dooley, 1997; Van Tonder, 2004a, b, c; Lewin, 1999)

Dooley argued that a key factor in the study of organizations is time, and also, as had Glor (2002-2005), that elements of both variance theory and process theory should be used in studying complex organizations. Systems theory has had an important influence on complexity theory, especially the notions of feedback and reinforcing loops. Complexity analyses have identified conditions under which cascading processes and exponential growth occur (Dooley, 2004, pp. 354, 356; Glor, 2007a).

According to Rogers, Medina, Rivera and Wiley (2005), in nature, cascading mutations/extinctions or changes in individual species result from variety among organisms and reactivity to change. Such changes continue in step-like punctuated equilibria that approach the critical point of self-organization. At this point a gap grows in systemic fitness. As fitness

thresholds/plateaux step higher and higher, the cascades of change, with their draw on disposable resources, become larger and larger. Only those species (population categories) with sufficient disposable resources (adaptability to change) can survive at the higher fitness thresholds that occur during cascades of change. In this view, only those capable of self-organizing emerge as "the select." The cascading continues and then it stabilizes as a complex system. In complex systems self-organized change emerges periodically and often as needed. Human systems and especially diffusion of innovation function in much the same way (Rogers et al., 2005, p. 5).

When studying diffusion of innovation or change, a critical threshold or *tipping point* (Gladwell, 2002)–a transitional inflection point associated with higher system reactivity–can be observed, where system members are sensitive to change. At this juncture the system exhibits the most change for the least increase in energy. Once the rate of adoption in a system reaches critical mass at the inflection point, it is difficult or impossible to stop further phase transition around diffusion (Rogers et al., 2005, p. 12).

Identifying such a phenomenon within an organization is difficult. Few people in an organization have an overview of what is happening, and almost none have any training that suggests they should be looking for it. The data on the Canadian federal government outlined in Table 9.3: Historical Patterns of GoC Departmental Creation and Abolition describes a system that has sometimes experienced high rates of creation and abolition of departments, and other times experienced low rates. The system may have reached an inflection point and taken on a new character, in part because of increased creation and termination activity.

The inflection point is not always welcome in organizations. Inflection points have been observed, for example, in epidemics, stock market crashes, and mobs. Many elected officials and senior executives prefer that organizational change not have a life of its own–they choose to control change. This top-down approach allows them to maintain control of the organization–often their primary consideration, and supports a linear, limited and controlled way of functioning. The management literature and management courses typically reinforce this top-down approach, teaching that there is the potential and it is the responsibility of managers and executives to initiate, introduce, implement and manage change in organizations. The preferred strategy adopted by executives for creating change is structural change through reorganizations. Reorganizations have the advantages of using tools within the scope of executives and also of destabilizing the power bases of other agents in the organization that might stand in the way of the change or act independently.

The disadvantages of reorganizations as change tools are that they absorb enormous amounts of people's energy and that they usually lead to very little functional change, despite the disruption. The newly-restructured components typically settle back into behaviour patterns that are similar to those that existed previously and that were sometimes integral to the problems the reorganization was meant to solve. As a result, most large organizational change projects fail to achieve their explicit goals (Beer & Nohria, 2000; Grint, 1998; Mourier & Smith, 2001; Applebaum & Wohl, 2000; Seijts, 2006; Van de Ven & Poole, 2005), probably because they do not reach the inflection point. W. Warner Burke (2002) agreed. Moreover, following a thorough search, Burke concluded that there is almost no theory to explain or guide organization change

(Burke, 2002, pp. 1, 121). Carroll and Hannan (2000, pp. 358-361) also commented on the lack of use of organizational theory to guide research on organizational change.

This monograph draws on complexity, evolutionary and organizational theory and research, and the concepts of organizational patterns, fitness and survival to identify (in some cases new) concepts, hypotheses, theories and explanations for the driving forces at work in Canadian PSO and more generally organizational survival or mortality when the organizations innovate and change. Tools are developed and used to assess organizations in order to identify and attempt to predict the impact of change on them. The actual survival of organizations is compared and contrasted to the predictions.

Section I: Concepts

To be able to speak about organizations precisely requires a considerable amount of specification, especially in view of the already substantial theoretical and empirical work done on American organizations by Glenn Carroll, John Freeman, Michael Hannan and others. One of the problems in comparing work in the literature is that concepts are specified differently in different studies, or not specified at all. This study specifies its definitions and theories.

Chapter 1: Concepts and Change in Organizations

ABSTRACT

In this chapter a number of basic concepts about organizations are defined, including the following: organization, PSO, organizational creation (birth) and mortality. Organizational survival and mortality are generically called "survival." The concept of an organization is discussed first, and the criteria developed by several sets of authors are examined.

Introduction

What is an Organization?

There is more than one understanding of what an organization is. Four are discussed here, those of McKelvey, Carroll and Hannan, Van de Ven and Poole, and Aldrich and Ruef. McKelvey (1975, 1982) argued that organizations exist at many levels in the structural hierarchy that is a complex organization. Sapprasert and Clausen (2012) argued that information should be collected at the level of organizational units and innovation projects. While the departmental (or ministerial) level would therefore be recognized as an organization, so also would each of the levels below. In the Government of Canada (GoC), hierarchy would consist of departments, branches, directorates, divisions, and units.

According to Carroll and Hannan (2000, p. 77), an organization has the following three properties. (1) It is a corporate actor, not just a collection of individual actors. (2) It mobilizes resources and legitimacy based on a claim to achieve specific and limited purposes and gains legitimacy by adopting the form of the organization. (3) It is intended to last beyond a single collective action. As with McKelvey, the definition is not restricted by management or organizational layer. The case studies used in this book are assessed against these criteria later in this chapter, to determine whether they are organizations.

According to Van de Ven and Poole (2005), organizations are social entities or structures that retain their identity while changing from one state to another. They are socially constructed, goal-directed and boundary maintaining systems of human activity (Aldrich & Ruef, 2006, p. 4). Again, the definition accepts that there are organizations at many levels of a department. In this

book definitions are developed for these three criteria, and the impacts of changes in these criteria are assessed.

Nine Canadian Case Studies

Throughout this book nine Canadian case studies of organizational innovation (change) at multiple scales are studied. They were chosen from four Canadian governments—a city, two provinces, and the federal government. In Canadian federal government terms, one reported directly to a minister, three were directorates, reporting to a director-general, who reported to an assistant deputy minister, who reported to a deputy minister, who reported to a minister. One was a staff Agency, reporting to an assistant deputy minister, one was a financial organization, that tend to be flat organizations, one was a project reporting to an entrepreneurial manager, and one was an interdepartmental project. They also varied from several hundred staff to no dedicated staff, from budgets of many million dollars to no budget, from permanent status to temporary status.

The case studies are innovations of the City of Mississauga, the provinces of New Brunswick (NB) and Saskatchewan (Sask.), and the national Government of Canada (GoC). Sask. and NB are small provinces of Canada, which have sometimes been known for being innovative (Glor, 1998a). Provinces are self-standing governments created independently of the GoC in the Canadian constitution, which allocates separate functions to the federal and provincial governments. Canada is one of the most decentralized countries in the world. Municipalities, including cities, are legally created by the provinces. The case studies are positioned by their level within their organizations, and compared to the federal administrative structure. Federal government departments are composed, from the bottom up, of five hierarchical organizations (levels) usually known as units, divisions, directorates, branches, and departments (ministries), headed (from bottom-up) by managers, directors, directors-general, assistant deputy ministers, and deputy ministers. The case studies are described next.

Capability Development (Excellence) Program of the City of Mississauga was a staff (vs. a line) organization reporting to the Commissioner of Human Resources (level 2), and later the city manager (level 1). It was responsible for a human development plan initiated by a capability development program. Three staff implemented a management training program and later trained a wider group of staff. It was equivalent to a division in the GoC, and had its own permanent (or "A") budget.

Literacy NB was a non-profit organization (NPO) created when the Government of NB privatized its literacy program (level 2). It provided training to those who had not completed high school. The literacy training program was decentralized to a coordinating NPO (Literacy N.B.) and numerous non-profit organizations which offered literacy training. Each had its own budget.

The *Potash Corporation of Saskatchewan* (PCS) was a new crown corporation of the government of Sask., created in 1975 and reporting directly to a minister (level 1). As a PSO, it was equivalent to a government department. The more commercial functions of Canadian governments were usually created as crown corporations. It was privatized in 1989.

Operating Budgets was the new budgeting system introduced by the GoC in the mid-1990s, as it emerged from a period of constraint into one of major budgetary cut-backs. All operating costs were grouped, and it introduced the possibility for the first time of carrying over budgetary funds from one fiscal year to the next. Departments were permitted to carry over a maximum of three per cent of the previous years' operating budget and spend it in the subsequent year. It lacks its own budget and staff and functions within a unit (level 5).

Our Missing Children is an interdepartmental project, in cooperation with a NPO, to search for missing children at borders. It involves several federal government departments—Canada Canada Border Services Agency, the Royal Canadian Mounted Police (RCMP), which are the national police in Canada, Citizenship and Immigration Canada, and the Department of Foreign Affairs and International Trade. Our Missing Children does not function (does not have all of the same processes) as a typical federal organization, because it lacks its own structure, budget and staff (no level).

Public private database (PPP) was a project headed by a director (directors head divisions but this one was on assignment) to create a database of public private partnerships (3P) in the agricultural field in Canada. While the director was a permanent employee, he had been declared redundant and had become in effect a term employee. All of the other staff was hired through fundraising and project money secured outside the department. The project had no government budget of its own, but functioned as a temporary division (level 4).

Ship Repair Atlantic was a directorate of the Department of National Defence (DND) (level 3). It has since changed its structure to become an Alternate Service Organization, responsible for raising much of its own revenue (budget).

Health Promotion was then a directorate of Health Canada (level 3) and continues with some of its responsibilities as part of the Public Health Agency of Canada. In this transition it lost most of its advertising and promotional funding, becoming more focused on prevention and less on health promotion. As of 2013 it is one level lower, a division within a directorate.

Are the Case Studies Organizations?

Because the case studies exist at many levels and sizes, an important question to answer for purposes of this monograph is whether the case studies, existing in their departments (ministries), are/were organizations. In order to determine whether the case studies were organizations, the case studies were assessed against the criteria for organizations defined by Carroll and Hannan (2000), Van de Ven and Poole (2005), and Aldrich and Ruef (2006). The properties of organizations identified by these three sets of authors lent themselves to assessment.

Whether the case studies met Carroll and Hannan's (2000, p. 77) criteria for organizations is summarized in Table 1.1. Two of the nine case studies only met three of the four criteria, while the remainder met all of the criteria. There is an argument to be made that Operating Budgets is a process and PPP was a project rather than that they were organizations and this is reflected in the scoring. Although they may be somewhat deficient, with a score of three out of four, they are organizations according to Carroll and Hannan.

Table 1.1: Are the Case Studies Organizations according to Carroll and Hannan?

Unit, Organized by Govt	Corporate Actor	Mobilizes resources	Mobilizes Legitimacy	Lasted Beyond a Single Collective Action	Cumula-tive Score	Org. Exist Today?
Mississauga Excellence	Yes	Yes	Yes	Yes	4	No
Literacy N.B.	Yes	Yes	Yes	Yes?	4	No
Potash Corporation of Sask.	Yes	Yes	Yes	Yes	4	No
Operating Budgets	No	Yes	Yes	Yes	3	Yes
Missing Children	Yes	Yes	Yes	Yes	4	Yes
PPP Database	Yes	Yes	Yes	No	3	No
Ship Repair Atlantic	Yes	Yes	Yes	Yes	4	Yes
Health Promotion	Yes	Yes	Yes	Yes	4	Yes, partially
PHAC	Yes	Yes	Yes	Yes	4	Yes

Sources: Glor, Assessing Organizational Capacity to Adapt, 2007a; PHAC documents.
Scoring: A positive assessment for a property ("yes") is allocated a score of 1. A negative assessment for a property is allocated a score of 0.
Cumulative Score = Summed capacity, with a maximum score of 4.

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Van de Ven and Poole's (2005) and Aldrich and Ruef's (2006) definitions of organizations were also used to assess whether the case studies were organizations. Their criteria acknowledge the maintenance aspect of organizations, through what they call *boundary maintenance*. The case studies are assessed against these criteria in Table 1.2.

Van de Ven and Poole's criterion of maintaining identity while changing proved more difficult to meet and to assess. Three case studies did not meet their criteria. All of the case studies met Aldrich and Ruef's criteria. One of the problems with Van de Ven and Poole's criterion was that there was only one criterion, and the question about identity had to be asked constantly, each time the organization changed. Even when an organization survived one change successfully, it could soon face another risk (for example, Mississauga Excellence, PCS, PPP). This regular identity crisis did not lend itself well to being a criterion for survival, by itself.

Interestingly, though, this scoring is close to the result of the scoring for survival done in Chapter 4. According to Van de Ven and Poole's criterion, three case studies were organizations and five were not.

When all of Carroll and Hannan, Van de Ven and Poole, and Aldrich and Ruef's criteria are considered, all of the nine case studies were organizations. These organizations are discussed throughout the book.

Table 1.2: Are the Case Studies Organizations? Van de Ven & Poole, Adrich & Ruef Definitions

	Van de Ven & Poole	**Aldrich & Ruef**				
	Retain their identity changing*	**Goal-directed ****	**Boundary-maintaining ****	**Socially constructed activity****	**Scores *****	**Exist Today?**
Mississauga Excellence	No: centralized then distributed	Yes	Yes	Yes	0. 3	No
Literacy NB	No: privatized then abolished	Yes	Yes	Yes	0. 3	No
PCS	Yes when nationalized 1975 No when privatized 1989	Yes	Yes	Yes	0. 3	No
Operating Budgets	No, not demonstrated. Effect was one-time, process remains the same.	Yes	Yes	Yes	0. 3	Yes
Missing Children	Yes, but minor change to involve more departments	Yes	Yes	Yes	0. 3	Yes
PPP	No, privatized and disappeared	Yes	Yes	Yes	0. 3	No
Ship Repair	Yes, directorate became ASD	Yes	Yes	Yes	0. 3	Yes
Health Promotion	Yes, when most staff of LeDain Commis-sion joined HP. Partially, later, when joined PHAC. Most health promotion funds lost and new prevention funds secured.	Yes	Yes	Yes	0. 3	Yes
PHAC	Yes, infectious diseases still dominant issue No, health promotion lost its media money No, emergency preparedness & response gained. 0.5	Yes but branches isolated from each other, each had own objective. 0.5	Yes, strong inter-branch rivalry	Yes	0. 2.5	Yes

*Criterion of Van de Ven and Poole (2005)

**Criterion of Aldrich and Ruef (2006)

*** Scoring: The first score is calculated from column 2, with 0 for no and 1 for yes. The second score, the Aldrich and Ruef score, is 0 for no and 1 for yes; it is summed as the second number in column 6.

What are Organizational Creation, Survival, Mortality and Liability of Change?

While those defining organizations as described above attempted to do so through the organizations' characteristics, much of the literature on organizational survival and liabilities of change does not define organization. Typically, the sources of information are government databases, and the authors treat organizations as being what the databases measure. Brüderl and Schüssler (1990), for example, include all government-registered businesses, including one-person businesses, in their database. Much of the quantitative public sector literature has been based on one data source, the *United States Government Manual* (USGM). It tracks the mortality of organizations at the agency level. Kaufman (1976), Peters and Hogwood (1988), Carpenter (2000), Lewis (2002), and Carpenter and Lewis (2004) used this database for their research on PSO survival and mortality. Corder (2004) used the Catalogue of Federal Domestic Assistance.

These authors only examined PSOs as existing at the highest level, as legislatively created, non-temporary agencies with lines in the budget (Lewis, 2002, p. 99). This leaves out all organizations created by the executive and administration, as approved by the minister or cabinet. This definition would remove all nine case studies studied in this book, and defined as organizations in the previous section, including, PCS which, as a crown corporation, would not have had a line in the budget but which was legislated. This definition would therefore remove all of the case studies and all of the learning created in this monograph. Departments tend to be functions of government and are rarely abolished. Most of the organizational mortality and survival phenomena occur at lower levels.

The PSO listed in the USGM are mostly large organizations. This macroscopic perspective of restricting PSO to activities with lines in the budget is practical, as it defines organizations according to the data available and makes it easy to find and track American PSO. Restricting PSO to line items in the budget; however, artificially eliminates organizations, as defined earlier, of a size and focus that would be accepted as organizations in the PS and non-profit sector (NPS). In doing so, it makes comparison among the sectors difficult, since the PSO database is biased toward large organizations while the business and NPS databases, by including all organizations, consist mostly of small organizations.

Definitions of organizational birth and death have been contested. Kaufman (1976, p. 26) identified the termination of a PSO as the entire sequence of transformations that led to its disappearance; consolidations and partial disappearance were not recognized as terminations. Lewis (2002, p. 104) identified new agencies as ones with different functions from those of any previously existing agencies and new names. Although not entirely clear, he seems to imply that the functions cannot have existed before.

Such definitions do not accurately reflect reality in PSO. First, very few PSO meet this definition: most new agencies absorb at least some functions from other organizations. In other words, agencies only clearly meet these criteria when first created, for the most part, when governments are new—which usually only happens once. Kaufman's and Lewis' definitions do not so much describe new agencies as new functions of government. Second, Lewis' definition is impractical as it is very difficult to identify from outside government whether a new PSO

includes functions from other organizations. Moreover, this information gets lost over time. While the Budget details, in Canada known as the Estimates, offer some help, they only do so at the level of departments (ministries). Although at one time Canada's departmental Estimates documents reported activities by directorate, for the last 10 to 15 years they have reported activities by function, not organization. Research on organizations at lower levels than agencies or departments may in some cases only be possible by compiling detailed case studies. Adam et al. (2007, p. 228) also make this point.

Brewer and deLeon define public sector termination as deliberate cessation or conclusion of specific government policies, programs, functions, or organizations (Brewer & deLeon, 1983, p. 385). Daniels adopted the same definition (1994, p. 450). This definition includes more than organizations, and does not distinguish PSO from activities. As well, it is much more limited than the definitions used in the private and NPS, as it only looks at total and complete abolition. PS data (e.g. from Germany) treats absorption of one organization by another as death and recognizes organizations as small as one person (Brüderl & Schüssler, 1990). When Kaufman compared the terminations in his study to the PS, he may therefore have been using a different definition than used in the PS studies (Kaufman does not give the definitions) and comparing organizations of different sizes (Kaufman, 1976, p. 53). Daniels defined termination in absolute terms, and asserted that termination is *not*: (1) changes in policy emphasis or scope of an organization or policy in the face of substantial budget cuts or downsizing, (2) shifts of programs and policies from one government organization to another unless actual elimination is involved, (3) adjustment to a smaller budget, or (4) shifting of a government service to a private-sector contractor (Daniels, 1997, p. 5).

An evolutionary perspective is much more accepting that death comes to organizations in a variety of ways, and recognizes the fact that some elements of an old organization are often integrated into a new one (as old genes are integrated into the genetic makeup of new emerging organisms). Both in the natural world and in organizations, change and death at the population level tends to occur through the melding or evolving of the old into the new, rather than through major and catastrophic die-offs, also known as punctuated equilibrium (Eldredge & Gould, 1972). Death occurs regularly from this evolutionary perspective in organizations in the private, non-profit and public sectors, and is a means of changing without causing major disruptions and strong resistance from stakeholders (something but not everything is lost). This frequently-adopted approach reduces the stress and impact of change in PSO. It makes the death of organizations easier, leaving remnants of old organizations in place in the new, much as genes and portions of genes from former versions of living things remain among the genes of an evolved organism.

These are not terminations as identified by Kauffman, Daniels, and Brewer and deLeon, who define organizational mortality narrowly and then suggest governments do not do enough terminations, and need more. Theirs is a restricted, even extreme, view of what terminations are. Termination as they define it would require revolutionary rather than evolutionary change in government organizations.

While regretting the lack of organizational, policy and program termination as they define

it, these authors do not examine the implications of termination. Especially among PSO, whose purposes often include the (usually implied) task of creating greater stability in society, and in democracies, where the will of the people must be considered, ruthless and absolute termination of policy, programs, organizations, staff and contracts is often not an acceptable approach, nor one favored by the vast majority of elected or appointed officials until the late 1970s.

As described by Daniels, termination is most likely in extreme circumstances involving either financial imperatives, a need for major government efficiencies (often also driven by financial imperatives) or a change in political ideology (Daniels, 1997, p. 34). The promotion of termination of government programs and organizations has emerged from the political right more than from the left, and especially since the late 1970s as right wing governments have steadily turned back the clock on progressive taxation and legislation introduced since the Great Depression of the 1930s, World War II, and post-War.

This study adopts Carroll's organizational ecology definition of organizational mortality: Mortality is either dissolution, absorption by merger, or radical transformation (Carroll, 1984; Lewin, Weigelt & Emery, 2004, p. 139).

Conclusion

For purposes of this book, the following definitions are used. For the definition of a department, Lewis' definition is adopted: a non-temporary legislatively created agency with a line in the budget (Lewis, 2002, p. 99). More generally, a PSO is any public sector unit with responsibility for achieving a public policy, program, or administrative function. While a program transferred intact to another department has not been terminated, the organization from which it was transferred has been abolished. In the short or long term, the new organization can be expected to mimic the culture into which it has been immersed, taking on different characteristics, structures and even goals. If a PSO is transferred to the PS, it is by definition no longer a PSO. The public interest can no longer be expected to be the primary concern.

While it was being argued at the time of the early above-mentioned publications that privatized public services would be the same as public sector-delivered services, we now have enough experience with privatizations to know that they are essentially different. While the PS and NPS can deliver services on behalf of government, their objectives and structure are different. In privatizations, a PSO dies and a new private or non-profit organization is born. For awhile they seem similar, but they usually become more different as time goes on and the objectives of the profit-making or charitable sector become dominant. Historically, this has become more apparent over time (e.g. privatization of PCS, government utilities and research programs, the Ontario vehicle licensing bureau).

Chapter 2: Organizations and Fitness

ABSTRACT

The evolutionary adaptation terms *fitness* and *survival* are discussed and distinctions drawn among the phenomena associated with organizational fitness. The notions of organizational adaptation and capacity for fitness are introduced in relation to fitness and survival (the term survival includes the possibility of death). Chapter 3 and Chapter 4 then outline what is known about the relationships among organizational change, organizational environments, and organizational survival.

Using a grounded theory method, this chapter outlines the process followed and progress to date in developing grounded concepts, their properties and theories of PSO innovation and change in Canada. The concepts employed or developed are PSO innovation and patterns and organizational capacity for fitness, fitness, and survival. While the use of evolutionary concepts like fitness and survival seems intuitively helpful to understanding change in PSO, the relationships being described are complex; hence, complex adaptive systems concepts like patterns are also needed. Concepts, properties and definitions are created and employed. Their current state of development is reviewed, in order to capture the insights created. The learning processes employed to arrive at the concepts are also identified. In later chapters, the concepts, properties and theories are compared to published literature on organizational change.

Introduction

In Darwin's concept of evolution, species and even higher levels of classification evolved, but not individual living organisms. Evolutionary change occurred through genetic change, not through behavioural or acquired change or learning. In Lamark's concept, living organisms can acquire changes and pass them on to future generations. Humans do this through learning and the technologies developed to retain learning (such as the printing press and Internet).

To apply the term evolution to organizations requires acceptance of the idea that organizations have the capacity to change in fundamental ways, either through a passive process from generation to generation as in Darwinian evolution or through acquired or deliberate change as in Lamarkian evolution, or both. Although organizations can acquire and retain some changes (as with animals and plants), changes are often introduced through the creation of new organizations. In other words, organizational evolutionary change occurs less through a process of cladogenesis than through anagenesis (Stinchcombe, 1965; McKelvey, 1982, p. 272). When the authors in Chapter 1 (Kaufman, etc.) called for the termination of more organizations, they were in effect calling for the creation of a cleaner organizational slate. This would make room for the emergence of more PS and NPS organizations. Both change concepts nonetheless recognize that some change does occur at the organizational level. This book explores the effect of innovation and change in organizations.

Grounded Theory Method

Grounded theory method (GTM) (Glaser & Strauss, 1967; Denzin & Lincoln, 2000; Lindlof & Taylor, 1995; Strauss & Corbin, 1998) is a method for inductively developing theory. It is based on the observation of concrete examples of the phenomena being studied, their comparison and contrast with other examples, and the creation of concepts and their properties by generalizing from the examples. Different phenomena from other environments are compared and contrasted.

One of the strengths of grounded theory derives from it being based on real phenomena. In contrast, deductive theory builds assumptions which are then tested against representative samples of real phenomena. Grounded theory produces relevant theoretical abstractions that are known to be true for the areas studied; what must be demonstrated is that these abstractions can be applied to further classes of data. The uncovered theoretical categories continue to have cogency until proven theoretically defunct for their class of data. Also, the evidence that suggested a particular category may be accurate for much shorter periods than the concepts themselves (Glaser & Strauss, 1967, pp. 23-24, 36). It is only once the theory and hypotheses have been developed that deductive methods are used to test them. As much is verified as possible, but it is not to the point where verification curbs generation of theory. By keeping theory building the priority focus, the two critiques applied to deductively derived theory, of inaccurate evidence and unverified hypotheses can be avoided (Glaser & Strauss, 1967, p. 28). Grounded theory is continually modified by further evidence and more testing. Grounded theory is used to construct both substantive and formal theory.

Substantive theory builds generalizations on observation of a substantive (or empirical) area such as patient care, race relations, professional education, research organizations, or, in this case, PSO innovation. ***Formal theory***, on the other hand, is built for a formal or conceptual area in the field (e.g. public administration) on the comparative analysis of different kinds of substantive cases and is developed for a formal or conceptual area such as the study of socialization, authority and power, reward systems or, in this case, organizational change. Substantive theory can be used to develop formal theory. The phenomenon of dying, for example, is a substantive area and a substantive theory of this phenomenon is built from analysis within or among groups within the same substantive area. For example, the study of hospital wards where patients died at different rates could reveal substantive theory about dying. Substantive theory about dying could also be generated by comparing dying as a rite of passage with other rites of passage such as becoming a student or engagement for marriage. The study of status passage in general would then produce formal theory, though, not substantive theory. The work in this book on PSO innovation will thus be used to develop substantive theory whereas the work on organizational change in general will be used to develop formal theory. Both substantive and formal theories are middle-range theories, as compared to either "minor working hypotheses" of everyday life or "all-inclusive grand theories" (Glaser & Strauss, 1967, pp. 32-33).

Developing grounded theory requires theoretical sampling, not random sampling. An adequate theoretical sample requires widely and diversely chosen groups. Theoretical sampling is based on saturation of categories, that is, seeking more examples in categories until no further data is being found whereby the properties of the category would change. Theoretical sampling requires many different vantage points or kinds of data in order to reveal the needed social-structural information (Glaser & Strauss, 1967, pp. 61-67). To develop substantive theory, a researcher can select groups as s/he finds them, such as the nine dissimilar cases studied here, while to develop formal theory requires the selection of dissimilar groups from a larger class, such as the PS and NPS research studied in this book.

A distinction is also needed between the substantive level and the conceptual level. Groups can seem dissimilar on a substantive level yet be comparable on a conceptual level, for example, fire departments and emergency services. In order to generalize a theory, the researcher chooses dissimilar substantive groups from the larger class, such as comparing PSO organizations from Canadian and American federal governments, as is done here. By producing theory based on real experiences, the grounded theory method overcomes two weaknesses of a strictly logico-deductive theory which typically attempts to apply existing theories developed from one substantive area to new areas. While the fit between assumptions or hypotheses and the reality being studied is often not perfect in logico-deductive analyses, the fit between substantive theory and reality is perfect, since the theory is built from experience in the substantive area being studied. Because of this, even if parts of a substantive theory are later disproven, the theory as a whole may not necessarily be disproven. This is not true of a logico-deductive theory where if any part of the theory is disproven, the whole theory is disproven. It is thus harder to disprove a substantive theory than a deductive theory. Others' theories and experience are of interest but should not be allowed to stifle insights generated by qualitative data. Categories can be borrowed from existing theory, so long as the data is studied to be sure the categories fit. Nonetheless, the generation of theory puts a premium on emergent conceptualizations. The major effort should not be devoted to data selection but to theory generation. A focus on the emergence of categories solves problems of fit, relevance, forcing and richness. Other theories are more useful at the formal theory level. The inverse is true as well—emergent substantive theory is not necessarily applicable to other areas (Glaser & Strauss, 1967, pp. 33, 37, 41, 253).

Substantive theories are developed first from the data, then formal theories are considered. Considering formal theory first can lead to the forcing of data and neglect of relevant concepts and hypotheses. This means the researcher cannot apply preset categories immediately, but must develop substantive theory first, then see if others' categories are linked to the emergent substantive theory.

In this book, therefore, theory is developed from nine case studies of Canadian PSO innovation, and the findings are compared to PSO and organizational survival literature from other countries. Developing substantive theory is a design for accumulating knowledge and theory. It leads to multiple theories, while logico-deductive theory can lead to premature parsimony (Glaser & Strauss, 1967, pp. 34-5).

The elements of a theory are conceptual categories, their conceptual properties, hypotheses or generalizable relations among the categories, and their properties. A property is a

conceptual element of an aspect of a category. Grounded theory is presented either as a set of propositions or as a running theoretical discussion that uses conceptual categories and their properties. The form of the theory is not what makes it theory; rather, a theory predicts something. The discussion form is in fact richer, denser, and more complex. Propositions tend to reduce these characteristics, but they are useful in directing theoretical sampling (Glaser & Strauss, 1967, pp. 31-32). In the current study, substantive theory of innovation, a set of propositions about it, as well as the beginnings of the development of a formal theory of change are identified.

Steps in Developing Substantive and Formal Theory PSO Innovation and Change

The initial steps in the development of this grounded theory of PSO innovation consisted of the development of grounded knowledge of the phenomena being studied. A PSO should be read to include crown corporations (corporations owned by governments). The following describes the author's learning experiences in order to show that it indicates sufficient knowledge and experience of innovation in Canadian PSO that she is capable of making appropriate comparisons and identifying accurately PSO innovation and change concepts, properties, theories and hypotheses. Because it describes personal experience, the first person is used.[2]

Grounded Knowledge. This knowledge base was acquired during several experiential periods of my life. First, I studied political science, European and Asian history, political theory, social and political change, and qualitative and quantitative research methods. Second, I worked in the PS as a student in two factories where the employees were not particularly intrinsically motivated but worked hard. An efficiency study was conducted while I worked there. I also worked as a consultant in the private sector. Third, I worked for the NPS for a national but internationally-oriented non-profit organization. I was also a member of numerous NPO. Fourth, I worked in PSO at the municipal level for the City of Edmonton, Alberta and the Regional Municipality of York, Ontario. A regional municipality is a government providing services to several (six or eight) municipalities or counties, which have their own governments, providing different services. At the provincial level I worked for the Ontario government for an interprovincial ministerial committee and for a provincial Royal Commission on post-secondary education planning, for the Sask. government in two central agencies and a line agency, and for seven federal government departments, including a regional office, three central agencies, and four line departments/agencies in the capital. In Canada, a highly decentralized federation, responsibility for providing most public services is lodged with the provincial, regional and municipal governments. Over time, some adjustments have been made to the constitution to allow the federal government to move beyond its initial roles (Indian affairs, natural resources, industry and commerce, customs and excise, and defence) to offer additional national services (for example, health and hospital insurance programs, student loans, poverty reduction programs, pensions, and housing loan insurance.

Regional and municipal governments are legal creations of the provincial governments and restricted in their capacity to tax. Municipal governments are therefore accountable both to a

[2] Much of this ground is covered in Glor, 2008a.

province and to the local people who elect them. The Region of York was one of only two regions in the province of Ontario that included health and social components in its provincially-required official plan, a new planning tool in the 1970s (studied in Italy by Robert Putnam and colleagues [1993]). Top officials of both the Ontario government and York Region thought these regions were innovative at that time. I also worked on two innovative Ontario government initiatives related to post-secondary education: a proposal for a major expansion of the national Canada Student Loan Program and a Commission responsible for reviewing and recommending new approaches to post-secondary education availability and programs in the province, as the Baby Boom entered post-secondary education.

Comparison Groups. These experiences allowed me to compare innovation in the PS, NPS and PSO. I also, for eight years, worked for one of the most innovative Canadian provincial governments of the 1970s and early 1980s, the Government of Sask. Because I worked for two central agencies in a small government, I had the opportunity to observe the normal functioning of both its management and the government and development of people, innovations and change across the government. Changes and new initiatives required separate policy and budgetary approval in Sask., where innovation and change were looked upon positively. My background permitted me to compare the programs, operations and changes in Sask. to those of my previous employers and later with other organizations including the federal government.

As I said to a colleague in 1980, "Someone should write a book about this government, it is so innovative!" So I did. At the same time, I was influenced by Seymour Martin Lipset's *Agrarian Socialism,* about the earlier Tommy Douglas government of Sask. Sask. had been the first jurisdiction in North America to pilot and then to introduce province-wide, publicly insured hospital care, and later, medical care insurance. These models were adopted by the federal government for the national health insurance programs. Having worked in Sask. Treasury Board (finances) and Executive Council (policy), my role in Sask. Health was to implement four innovative preventive demonstration projects that addressed the needs of four high risk groups—Aboriginal women, pregnant women at risk of having small babies, poor seniors, and children and youth at risk of accidents.

I then moved to the federal government, first in Alberta, Canada's primary oil producer, where I worked for the regional office of the innovative (and notorious) National Energy Program. It subsidized development and exploration for oil and gas by Canadian companies, with the objective of increasing the Canadian presence in the industry. In the federal government, I worked for four line agencies—the departments of Energy, Mines and Resources, Health Canada (HC), Industry Canada and the Public Health Agency of Canada (PHAC), as well as three central agencies—Treasury Board, the Public Service Commission and the Canadian Centre for Management Development. At the public servant level, the Government of Canada (GoC) approached innovation differently than the other four governments for which I had worked (in three provinces, Alberta, Ontario and Sask.), focussing at the policy level on dissemination of policy and program innovations among the provincial and territorial governments, and at the federal government level on managerial innovation. To me, the federal government felt considerably more authoritarian and rule-driven in the way it made decisions and conducted operations than the other governments for which I had worked, although there were exceptions

within some units in some departments of the federal government. Industry Canada, for example, was more relaxed and employee-friendly than HC or PHAC. The federal, Ontario and York Region governments were run more politically than the Sask. Government, which seemed more deliberately rational and evidence-based in its decision making. It was also more successful at carrying innovations through to implementation.

Despite an experienced, dominant and brilliant premier, there were ways in which Sask. was quite bottom-up in its functioning as senior politicians actively interacted with and sought public, political party member and public servant, as well as other ministerial, input to decisions. The Premier regularly sought out others' opinions including an annual provincial one-week bus tour. Towards the end of the NDP government's three terms in office, the Premier became preoccupied with constitutional negotiations, and the government lost its close connection with the population: It was accused of becoming isolated from the population, and was defeated at the next election.

I communicated these innovations in peer-reviewed fora, comparing innovations, innovation management, policies, programs and management practices across departments and the innovativeness of the governments across the five governments for which I worked, in three provinces, at three levels of government, in three economic sectors. I observed differences in governments and in the patterns of national innovation award recognition over time—that large governments were recognized more than small ones, that some governments were recognized as innovative more than others. I also noticed how ideology played an important role in choice of topics, innovations and recognition, and that the ideological shift of the 1980s was reflected in the innovations that were introduced and honoured by awards. Award programs were also subject to change and seemed to consider innovation to be a primitive concept.[3] I concluded that some governments were more innovative than others, both quantitatively and qualitatively.

Glor published on the eleven-year Blakeney Government of Sask. , finding it introduced 126 policy and program innovations (1997, pp. 10-19), and 34 operational innovations (2000, pp. 143-144). Innovation was defined for this purpose as the first, second or third time an innovation was introduced in North America. These 159 innovations were compared to the results and issues raised in the literature on innovation and in innovation awards, especially the IPAC innovation award, which covered all Canadian governments and the Ford Foundation—Harvard University Innovations in American Government Award (Glor, 1998b).

In addition to publications on innovation awards, I published on employee empowerment and top-down versus bottom-up management (2001c), PSO ethics and generations in the workplace (2001d), organizational innovation patterns (2001a, b), and analyzed the results of employee surveys in Canada and the USA (2001a). I also gave considerable consideration to continuous quality improvement programs. In 1995 I established a monthly dinner meeting, the Innovation Salon, which met in Ottawa and Edmonton, Canada and discussed PSO innovation at

[3] Bacharach and Lawler (1980, pp. 13-14) distinguished two types of concepts: primitive and derived. Primitive concepts are less specific and more abstract, while derived concepts have a lower level of abstraction. The value of primitive concepts is largely heuristic; they sensitize people to an issue (Bacharach and Lawler, 1980, pp. 12-14).

65 meetings. I also created a journal on the same topic, *The Innovation Journal: The Public Sector Innovation Journal* (www.innovation.cc),[4] which I continue to publish in its twentieth year.

Conceptual Categories and Their Properties

Drawing on my own experience, research and thinking about PSO innovation, in this section conceptual categories, their properties, theories and hypotheses discovered and processes followed are identified using a grounded theory method to develop substantive theory of Canadian PSO patterns and of organizational innovation (a type of organizational change). Later in the book, the implications for a formal theory of change are discussed. Concepts and properties for PSO innovation and innovation patterns are explored in relation to fitness—under the categories of adaptability, communications, capacity for fitness, fitness, implementation challenges, and survival. This section concludes by identifying work that remains to be done on these theories.

[4] The Innovation Salon met 65 times; The Innovation Journal: The Public Sector Innovation Journal has published 18 volumes as of 2013.

Innovation

What are organizations? As argued in Chapter 1, PSO exist at many hierarchical levels within government departments. While supporting this approach to the definition of organizations, McKelvey (1975, 1982) did not identify the levels. To reflect this definition, an amalgam of three existing definitions is used and operationalized. According to Van de Ven and Poole (2005), organizations are social entities or structures that retain their identity while changing from one state to another. Aldrich and Ruef (2006, p. 4) define organizations as socially constructed systems of human activities that are boundary-maintaining and goal-directed. The Resilience Alliance (2013) identifies retention of function, structure, and identity as key to resilience, three functions that closely parallel the criteria for organizations set out by Van de Ven and Poole and Aldrich and Ruef. Neither Van de Ven and Poole nor Aldrich and Ruef nor the Resilience Alliance identifies the meaning of their terms, however. Indicators for the concepts of PSO function, structure and identity are developed in Chapter 3. The definition of an organization was discussed in more detail in Chapter 1.

What are innovative organizations? Innovative organizations are the first, second or third organizations within a relevant comparison group to do many things in a new way. The nine case studies of innovative Canadian PSO were chosen for the following reasons: (1) They each were functioning in a different one of the nine innovation patterns discovered. (2) They included the three levels of Canadian government: municipal/regional, provincial, federal, in numbers somewhat proportional to the relative expenditures among Canadian governments. (3) They existed at many levels within government organizations. (4) The author judged them to be innovative, knew something about them and knew how to get more information about them.

What is PSO innovation? The definition of innovation in innovation award databases, including innovation award nominees, winners, and those receiving honourable mentions, was often ambiguous. It may have meant, for example, the first time something was introduced in the organization being studied (at any level). It might also have meant being in the forefront of introducing a new public administration ideology (New Public Management) in a PSO or being a promoter of innovation (there is a pro-innovation bias in innovation awards). This ambiguity led to the same/related types of innovations and processes being acknowledged repeatedly, in different departments (ministries), governments, and award programs—Canadian, American, Commonwealth [CAPPAM], UN, international Ford Foundation awards). In Glor's studies of Sask., innovation was defined as the first, second or third time a new policy, program, or process was introduced in a government in North America. The Sask. government introduced 159 innovations in eleven years (Glor, 1997; 2000). Most governments could not come near fulfilling this definition, but Glor was able to describe the innovativeness of a population.

Damanpour and Schneider (2009, p. 497) made a distinction between two kinds of innovation: innovation and adoption of innovation. They identified innovation as a process resulting in an outcome new to an organizational population. They referenced Daft (1978) and Damanpour and Wischnevsky (2006). Adoption of innovation they saw as a process resulting in assimilation of a process, product or practice new to the adopting organization. They referenced Damanpour and Wischnevsky (2006), Kimberly and Evanisko (1981) and Walker, 2008. Their definition of adoption of innovation is the one used by the Oslo Manual for PS innovation.

Nonetheless, this is a helpful distinction. Damanpour and Wischnevsky (2006) also distinguished organizations that generate and organizations that adopt innovations.

Organizational Evolution. In the Darwinian concept of evolution individual living organisms do not evolve, as evolution is structural and occurs with genetic change. Only populations (species) evolve, in structural patterns, which form the basis for the biological classification system. Living organisms are only involved at two levels of the biological classification system, the two bottom levels, that of the individual organism and that of the species. Above that level, the classification system is based on patterns and concepts only (McKelvey, 1975, 1982). The Lamarkian theory of evolution suggested that biological organisms can retain assumed changes (and presumably learning) from one generation to the next. Given these models of evolution and the relationships in the biological evolutionary classification system, can and how can the concept of evolution be applied to innovation and change in organizations?

Perhaps some concepts might be the following; perhaps these groups could form the basis of classification of organizations. In the private sector organizational populations are sometimes grouped into clusters and industries (Niosi, 2000); in the public sector this might translate into organizing departments into groupings such as social, economic and administrative departments.. NPO are sometimes grouped into charitable, industry and religious categories; these would not apply in PSO. Among PSO, although a department (ministry) could be considered the species, and federal, provincial and municipal governments the family, this institutional approach is limiting. Another different approach would be to classify PSO by government level—international, national, sub-national. Fundamental to the notion that PSO are able to change or evolve is the core concept that they may change their patterns; it might therefore also be useful to classify PSO by organizational patterns.

What are Innovation Patterns? Innovation patterns are typical ways an organization introduces innovation. Glor (2001a, b) developed a system for assessing organizational patterns, based on three primary phenomena—individuals, social dynamics and implementation. These produce three core conceptual categories (called factors) for PSO innovation—employee motivation, organizational culture and the challenge of implementing an innovation. Like organisms, individual humans do not change genetically over time, but they are capable of learning and passing it on. Within organization, (intrinsic and extrinsic) motivation, social dynamics, and implementation challenges can change and remain changed. Like values, however, an individual's motivations do not change a great deal over time, once they are socialized; management styles also tend to endure, and challenges tend to repeat themselves.

Organizational culture can change, however. It can change, for example, in relation to the internal and external organizational environment, because of changes in d style,[5] or because of

[5] Vaccaro et al (2012:26) found, for example, that both transformational and transactional leadership behaviours contributed to management innovation in their study (1000 Dutch firms with at least 25 employees). Less complex, smaller organizations benefited more from transactional leadership in order to implement management innovations while more complex, larger organizations had to draw on transformational leaders to achieve management innovations. They had a 15.1 per cent response rate, with 151 companies returning usable questionnaires.

reorganizations. These social dynamics have both unconscious and conscious (deliberate, will-based) aspects, they can be difficult to study and to change, but they do not seem to have something equivalent to genes or instincts in animals. Nonetheless, they exhibit stability at the level of patterns. Social dynamics produce either top-down or bottom-up organizational cultures. The challenges an organization faces and its willingness to risk in order to implement an innovation can change sometimes, and are affected, for example, by the benefits and disadvantages involved, political leadership and ideology.

It is possible PSO also function in an organizational pattern the rest of the time, not just when innovating or changing, but the concept of organizational pattern has not been systematically generalized from the level of innovation to the level of change. Differences can be observed, for example, in the patterns of functioning among the nine case studies: Some individuals and groups were highly motivated to introduce innovation, others were not. Some organizations were clearly top-down in their functioning, others were somewhat more bottom-up (mostly at the lowest organizational level). Some innovations were hard to implement while others were not either because of their benefits or because management, ministers or citizens eased the way. Some patterns were easy to find, others were not: It was more difficult to find PSO with bottom-up management styles than with top-down ones. Whether social relations in organizations are expressions of primitive dominance patterns (pecking orders) is unexamined.

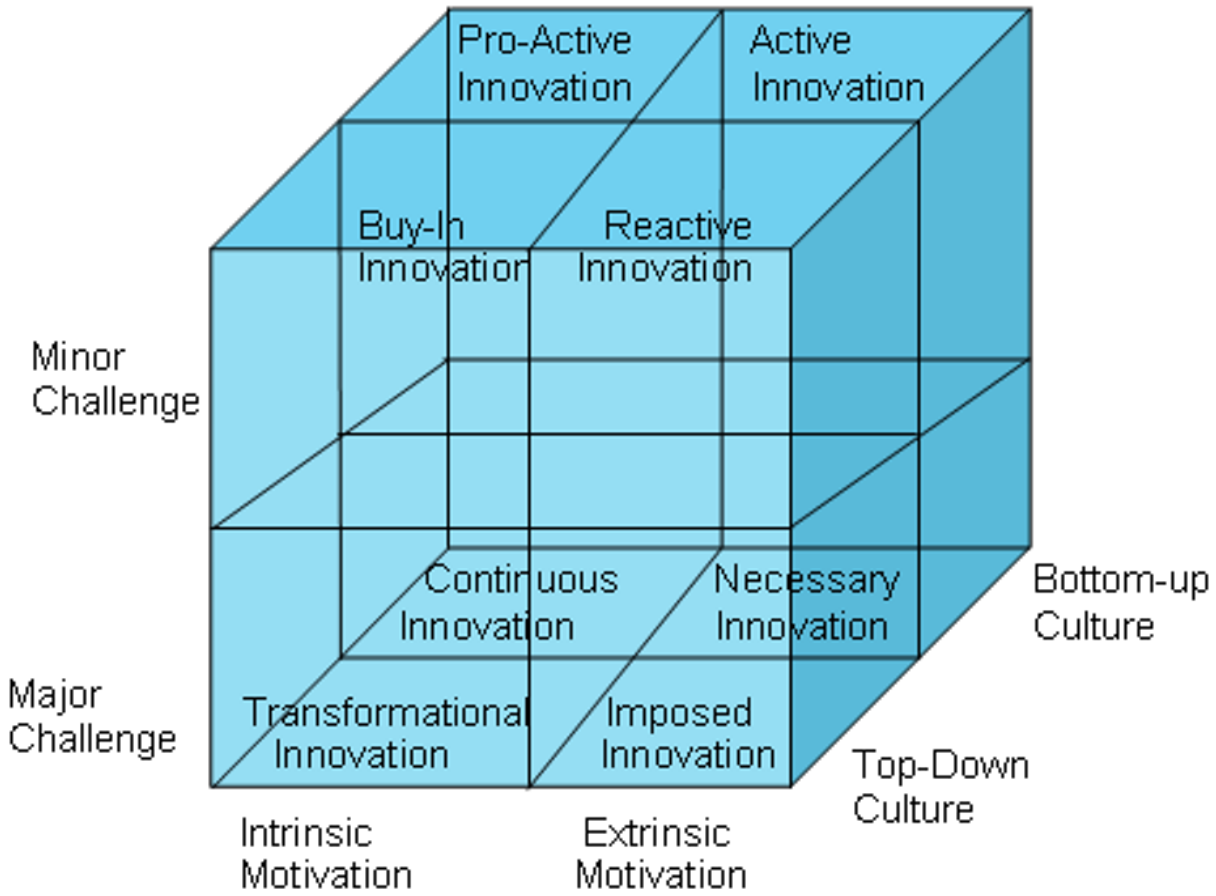
Innovation patterns are formed by these factors, portrayed as a cube in Figure 2.1. It systematically represents the possibilities identified. By visualizing the patterns as a cube, it is clear that all patterns have some commonalities/share some factors/sides of the cube with other patterns. Examples were easily found of these eight patterns, with a couple of exceptions, which were eventually found. The eight innovation patterns are named imposed, reactive, active, buy-in, pro-active, necessary, transformational and continuous innovation (Glor, 2001b). Although these patterns were discovered by studying PSO innovation, it is obvious that they can be found in organizations that are changing more generally (not just in organizations that are innovating), and probably can also be found in organizations as they perform their day-to-day functions (not just in innovation and change). Organizations have, in other words, ways or patterns of doing things.

These eight patterns may not be all the possibilities, but they highlight three core kinds of factors in organizations, involving the impact of individuals, groups and management, and challenges at work in organizations. The role of individuals is important, as is that of decision-makers. The group—or social—dynamic exists at several levels throughout the organization, and a number of groups and individuals must agree with the innovation for it to be created, implemented, and succeed. Management style is an important part of the social factor. Finally, the innovation needs to be implemented and stay implemented. Even when successfully implemented, innovations are vulnerable to abolition (Pollitt, Bouckaert & Löffler, 2006, p. 4). Some light is shone on this phenomenon when later chapters examine the patterns of organizational mortality.

From observing the interaction of these three factors in organizations, and governments functioning in patterns in relation to innovation, a theory emerged that organizational innovation

patterns are a function of the interaction of three complex factors: motivation; organizational culture; and the challenge of implementation of an innovation (Glor, 2001b, c). Properties and criteria for these factors which contributed to the innovation patterns were identified (Glor, 2001b). The individual contributes one of two possible properties, extrinsic or intrinsic motivation. The social is often an unconscious contributor within organizations, condensed into top-down and bottom-up properties. The challenge of implementation has been reduced to major and minor challenges (Glor, 2001b). Certain behaviours tend to go with these patterns.

Figure 2.1: Innovation Patterns, Based on Source of Motivation, Organizational Culture and Magnitude of Challenge



Impacts of Innovations. Innovations have impacts on their PSO and possibly on their organization's patterns. The conceptual categories of organizational innovation patterns emphasize the consistencies in the way organizations behave, and could potentially be applied to compatibilities in broader organizational behaviour. It is not a given, however, that the group innovating has the same pattern (culture) as the other organizations in its department. These consistencies and differences in patterns of behaviour at least partially determine how organizations change or evolve. That possibility is not addressed any further in this book.

While patterns have commonalities, they also have differences. Differences in innovative behaviour among governments can also be seen in part as differences in entrenched patterns. As Richardson (2008, p. 15) put it, we can regard organizations as a collection of interacting units rather than a collection of individual people. Units have patterns.

A search for examples of additional patterns and more differences in the way PSO innovated was unsuccessful. Although fleshing out the patterns with might have introduced a logico-deductive element to the study, Glaser and Strauss (1967, p. 93) confirmed that it is acceptable to do final searches for specific confirmation. The author was aware of these case studies long before developing the classification system for organizational innovation patterns. Moreover, the patterns were confirmed in use during workshops with public servants, who were excited by the patterns, and found them intuitively correct and sometimes actually useful since they could identify these patterns in their PSO and private sector organizations. Their ability to apply the patterns to private sector organizations indicated this avenue is worth pursuing as well.

This examination of public sector innovations and the development of these concepts and properties of public sector innovation patterns led to the realization that the factors that had been identified as determining PSO *innovation patterns* may not in any fundamental way differ from those determining public sector *change patterns.* Organizations could and did change in patterns. The concept of innovation patterns therefore broadened to the idea of (1) *PSO change patterns*. An open question is whether these patterns could be applied even more generally to (2) *organizational change* patterns, and perhaps even (3) *organizational functioning*. Evidence has built for the conclusion that the three core influences at work in organizations—individual motivation, organizational culture and challenges—interact and form *patterns* of functioning that endure over time (Glor, 2001b). The bottom line is the patterns affect how organizations evolve. Interestingly, these supposed abstractions are capable of interacting with the elements from which they emerged. This process is known as *downward causation* by complexity scientists (Richardson, 2008, p. 15). Organizational scientists use concepts like isomorphism that create similar results.

Why organizations innovate. Neither teenagers nor organizations change for the fun of it. They change to become more fit within their environments.

Organizational Fitness and Survival

Organizational fitness is a term introduced to organizational studies from the field of evolution. Fitness is an evolutionary term, used to predict survival within an environment. The term organizational fitness has been used rather generically and incorrectly to describe organizations that can and do change as necessary or required. Theory that focuses on fitness is known in the literature as adaptation theory (Carroll, 1984; Lewin, Weigelt & Emery, 2004). Other authors have also used the concept (e.g. Damanppour & Gopalakrishnan, 1999; Damanpour & Wischnevsky, 2006, p. 272; March, 1991; Nohria & Gulati, 1996; Lam, 2004). Adaptation is an evolutionary concept, and is treated as part of the set of concepts used here. In

evolutionary theory the terms fitness and adaptation are not used in relation to individual organisms. Rather, they is used to describe a pattern or species and its relationship with its environment. They are not used in relation to an individual organism because individual organisms always die while species can exist for very long periods of time. A surviving, evolved, fit species survives but individual organisms never survive. This chapter discusses whether and how evolutionary fitness concepts can be applied to individual organizations.

I Because organizations can survive beyond the lives of its employees, fitness can be applied to organizations. The term fitness is used incorrectly to refer to adaptability, that is, a capacity for change, and correctly to an organization's relationship to its environment, that its, its survival in an environment. Organizations cannot adapt without two-way communication. When both adaptability and communication with the environment are included, in this book, the term ***capacity for fitness*** is used.

Adaptability is a key component of fitness. Kauffman (1995) defined adaptability as emerging in nature from a high level of complexity. Three particular organizational characteristics—variety, reactivity and self-organized emergence—allow an organization to develop a complex interior environment. Complex adaptive systems (CAS) can self-organize to respond to their environment and be adaptive (Rogers, Medina, Rivera & Wiley, 2005). Organizational adaptability is thus an emergent phenomenon. Using complex adaptive systems concepts and methods developed by Stuart Kauffman (1995) and Rogers et al (2005), Glor identified criteria for variety, reactivity and self-organized emergence and ideas for measuring them and their result, adaptability (Glor, 2001b, 2007a, b). Using these criteria, the eight innovation patterns and the nine innovative organizations (Glor, 2008b) were assessed for adaptability. Some of the innovation/organizational patterns were found to be more adaptable than others (Glor, 2007a). Because they were scored they could also be ranked. Organizations have some capacity to change, and they frequently outlive their members. Because organizational evolution occurs both at the individual organizations and organizational patterns levels, the adaptability of both individual organizations and organizational patterns were assessed, to determine the levels of conceptual generality (Glaser & Strauss, 1967). To develop an understanding of evolution of organizations and organizational patterns; however, required some additional conceptual elements.

A second necessary element in organization and pattern change and fitness is the capacity to ***communicate*** or at least receive feedback from both the external and the internal environment of the organization or pattern. There are two types of feedback loops (Glor, 2007b). Self-balancing (negative) feedback communicates to the organization to remain the same and not to change what it is doing. This is a common message for an organization, given that its purpose is conservative according to Van de Ven and Poole (2005) and Aldrich and Ruef (2006, p. 4). Self-reinforcing (positive) feedback tells the organization to move in the opposite direction (Capra, 1996, p. 59). Feedback loops are widespread in processes involving living beings. Organizational communication must occur with the external environment and also internally with members of the organization (Glor, 2001b, 2007a, b). In organizations, resistance to change can develop, so the messages being received about the need for change are very important. In addition to complexity, the capacity to communicate about and with the environment—

feedback—is an important characteristic of the capacity for fitness. Positive feedback—positive messages about the need for change—helps an organization have the capacity for fitness. Negative feedback—negative messages about the need for change—helps an organization resist change.

Capacity for Fitness. A complex interior environment, combined with a feedback system, produces the capacity for fitness. Capacity for fitness is a combined organizational capacity both to adapt and to communicate internally (within the organization) and externally(with the environment).

Ability to deal with challenges. The third element necessary to fitness is the ability to deal with challenges and to implement changes. Even if an organization has a capacity for fitness, the magnitude of challenge it faces may support or undermine its fitness. The concept of *orders of change is used to* define the types of action and the difficulty of the action the organization must accomplish (Poole et al., 2000, p. 5) to deal with different types of challenge. Magnitude of challenge is identified by the magnitude of the change required of the organization, based on Aldrich and Ruef's (2006, p. 4) definition of the three fundamental aspects of organizations as maintenance of socially constructed activities, boundaries and goals. In keeping with Dooley (2004), the capacity to introduce high orders of change was considered a positive indication of fitness (Glor, 2007b). This is not a judgment that major challenge is a good thing but a recognition that an organization that meets challenges is more fit. This is only true up to a point, however, that point being when the challenges begin to affect the organization's activities, boundaries and goals.

Activities, boundaries and goals need to be maintained for the organization to survive. These three types of maintenance in organizations are not all equally challenging. The concept of orders of change as developed by Watzlawick, Weakland and Fisch (1974) and Meyer, Goes and Brooks (1993) has two levels. For them, first order change was change within a given system which itself remains unchanged, while second order change modified the system itself; second order change was thus more fundamental or strategic (Wilson, 1992) than first order change.

In this book, three orders of change are recognized and seen as a hierarchy. First order change involves changes in activities or processes (what is done and how it is done). It is the least challenging type of change. The next most challenging type of change relates to organizational infrastructure. This could be, for example, abolition of a unit or a departmental reorganization or a transfer of a function to a different department. Third order change involves changes in goals and thus possibly organizational identity, and is the most challenging type of change for a PSO. Goals are about objectives of the work, who does the work, what should be done, and what should be accomplished. Goals involve both the beliefs and the identity of the people who work in the organization and who makes decisions about it. Global governance accountabilities are important to goals. For example, a change from the public to the NGO or the private sector would be third order change, because the organizational goals would change.

Changes in the three levels of challenge can have another kind of impact on organizations: first order change, relating to activities, serves to differentiate within the organization; second order change, relating to structure and infrastructure, serves to differentiate

from other organizations; but third order change, relating to goals and identity, affect and can interfere with the integration function in the organization. While Michaels (2000) identified structure as the most important factor in the PS, the most important factor in PSO has to do with goals and identity. These three orders of change are operationalized as changing activities, changing ontogeny (structure), and changing identity (goals). As suggested above, there is a ranking among the challenge factors. Challenges may not only be additive but also be reinforcing, in that addressing challenges in two or three categories may be more difficult than addressing challenges in one category only.

Challenges should be considered in individual organizations. Challenges are assessed by exploring what must be done to bring about the change. In previous work, an organization was considered more fit if it overcame higher level difficulties (second and third order change) or all three types of change rather than overcoming only first order challenges or one challenge. This position is reconsidered here, and changed to: an organization is more fit if it has fewer and lower order challenges to address.

Fitness is typically referred to as an absolute quality of an organization. The absolute quality that is required for fitness is the capacity to change yet maintain essential functions. At the same time, an organization must be able to deal successfully with its environment. Fitness is therefore usually referred to as a quality in relation to an environment. The challenges presented by an organizational environment have a great deal to do with whether the organization will survive. The same organization may be fit, for example, when faced with minor environmental challenges, but unfit when presented with greater challenges. What must be changed is important to an organization. Capacity for fitness can thus be distinguished from fitness by the magnitude of challenge that the organization must face. An analysis of fitness needs to distinguish between minor and major challenges. Presumably, some changes are more essential to an organization's identity than others, and organizational identity is linked to the organization's activities, boundaries and especially its goals. Competition is a type of challenge, and can take the form of internal or external competition. It is thus important to distinguish change in activities or processes, change in boundaries, and change in principles (Aldrich and Ruef, 2006), as there is a hierarchy of difficulty of change among them. Some further information is provided in Table 2.1.

Table 2.1: Organizational Fitness Concepts

Organizational Perspective	**Relationship**
Capacity to Adapt	A function of complexity
Capacity for Fitness	Complexity plus feedback --Feedback is a reflection of the environment with which the capacity must contend.
Fitness	A measure that includes both the capacities of the organization and the challenges of the environment with which it must contend. -- Orders of change are a measure of challenge faced --Fitness is in relation to an environment

Survival and Death	A measure that observes an organization in relation to its capacities, challenges, and environment, and notes the outcome. --Outcome is at a point in time (length of time observed). --Outcome in relation to activities, goals and maintenance of boundaries
Resiliency	Addresses both capacity and survival

Survival. Chapter 1 contains a substantial discussion of the definition of survival and mortality of organizations. Van de Ven and Poole's (2005) definition of organizations as social entities or structures that retain their identity while changing from one state to another, and Aldrich and Ruef's (2006, p. 4) definition of an organization as socially constructed, goal-directed, and boundary maintaining systems of human activity provide criteria against which a single organization can be assessed. Carroll and Hannan's (2000, p. 77) three common properties of organizations—being a corporate actor, not just a collection of individual actors, mobilizing resources and legitimacy based on a claim to achieve specific and limited purposes, and lasting beyond a single collective action—lend themselves more to comparison.

There is a contradiction inherent to the concepts of fitness and survival. The ability to adapt is crucial to fitness, and it would seem that the larger the challenge the organization can overcome, the more fit it is. Glor, 2007b, Table 3) developed a method for assessing challenge in this way. An organization was considered more fit, the more challenges and the higher degree challenges it addressed successfully. For example, it was more fit if it changed structure or goals (e.g. privatization) than if it just changed activities. When considered from the perspective of survival, however, this becomes a less tenable position. While an organization retaining its identity as it changes can be a sign of fitness, it may cause the organization to move into a different organizational pattern. The consequences of that are unknown. Moreover, the failure to maintain core activities, boundaries and goals, which can be at risk in innovation and change, is a sign of organizational death. Innovation and change only contribute to fitness up to a point, past which they may become detrimental to the survival of the organization. Consequently, there may be a dynamic contradiction between the concepts of fitness and survival which does not always work to the advantage of the organization.

The concept of fitness thus leads naturally to consideration and assessment of the impact of change on the organization's survival. The definition of organizational survival uses Aldrich and Ruef's (2006, p. 4) basic definition of an organization, as being socially constructed systems of activity, boundary-maintenance and goal-direction. An organization that survives maintains these three properties. As defined, the concept of survival is thus primarily about relative conservation (maintenance), and the concept of fitness is primarily about change. Although fitness and survival are not identical, fitness predicts survival. An organization must be able to both change and conserve its essence if it is to survive.

Control Factors. Control factors are change-related factors that correlate with enhanced survival or risk of organizational mortality. Sometimes they are characteristics of the organization,

like its age, other times they are changes. A control factor can be a change in general or a change of a specific organizational characteristic or external environmental characteristic.

Relationships among the Concepts

Table 2-1 summarizes the concepts and relationships described above. Fitness is the capacity for fitness (adaptation and feedback) combined with the capacity to overcome challenges. In the next chapter, indicators are outlined for complexity, feedback, capacity for fitness, challenges, and fitness. In the following chapter, criteria for organizational mortality and survival are developed, and the survival of the case studies is assessed.

Using the definitions and criteria outlined above, eight core complex evolutionary concepts have been identified–PSO innovation, innovation patterns, organizational complexity, organizational feedback, capacity for fitness, organizational challenge, organizational fitness, and organizational mortality/survival. The relationships among the concepts are as follows. Measured by variety, reactivity and capacity for emergence, organizational adaptability (complexity) is diminished or enhanced by feedback, producing capacity for fitness. Up to a point, the capacity for fitness is enhanced by the challenge of implementing a change, producing organizational fitness. Fitness predicts mortality and survival. These relationships among the concepts are portrayed in Figure 2.2.

Figure 2.2: Relationships among Fitness and Survival Concepts

Complexity +/- Feedback = Capacity for Fitness

Capacity for Fitness + Challenge = Fitness

Fitness predicts Survival of Organization (activities, infrastructure, goals)

Fitness – Challenge = Survival

Later, indicators will be developed for these concepts and the complexity, communication, capacity for fitness and fitness of the nine innovating PSO case studies are assessed.

Figure 2.3: PSO and Organizational Innovation Model

Ideas	***Org. Conditions***	***Implementation Risks***	***Predicted Impact on Fitness***	***Impact on Survival***
Generation/ identification of ideas for innovations/	Adaptation: -Variety -Reactivity -Capacity for	First order change Second order change Third order change	Unfit Unclear Fit	Die Unclear Survive

emergence	***Mediated by:***
Feedback	Ideology
Capacity for	Change in org
fitness	pattern:
Challenges	-Individuals
Fitness	-Internal social environment
Internal control	-Challenges
factors	-External environment
	External control factors

These concepts and their properties make it possible to create grounded substantive and to start on a possible formal theory of PSO innovation. The elements of the theory are laid out in Figure 2.3. While developed for the public sector, the theory and methodology may be applicable to PSO change generally and to other types of organizations (for-profit and non-profit), as well, perhaps with some modifications. To determine this would require further work, but organizational change could be defined as change in one or more of the three fundamental aspects of organizational fitness and survival: complexity, feedback, and ability to deal with challenges.

Does Evolution Favour Organizations that Change or Ones that do not Change?

The concepts of innovation, change and fitness suggest that innovation, change and fitness are good for organizations, that is, that more will enhance the survival of the organization.

Carroll and Hannan (2000, pp. 364, 367, 378, 379), however, derive two theorems about organizations that suggest that organizations that do not change are more likely to survive:

> Theorem 16.2.1.c. If an organization is favoured by selection, then it is inert. The second theorem was derived according to the following logic.
>
> Assumption A16.1: The property of being reliable and accountable is favoured by selection.
>
> Assumption A16.2: Reliability and accountability require the presence of reproducibility.
>
> Assumption A16.3: Reproducibility generates inertia.
>
> Assumption A16.4: If the presence of property p1 requires the presence of another property p2 and p1 proliferates, then p2 also proliferates.
>
> Assumption A16.5: If property p1 generates the presence of property p2, then the proliferation of p1 also implies the proliferation of p2.
>
> Definition A16.1: A property is favored by selection if and only if the property proliferates.
>
> Theorem 16.1: Selection favours the property of organizational inertia.

If these theories are true, selection does not favour organizations that change, but rather favours organizations that do not change. Mortality would then be more likely in organizations that changed.

Which of these contradictory theories is true? Does change and innovation (adaptation) help organizations and populations survive or do they lead to higher mortality? This book examines nine Canadian PSO case studies, and develops theory about whether or not innovation and change helped them survive. It then considers Canadian PSO data about the federal government, several American studies on the American federal government, and international studies of survival in the PS and NPS in an attempt to answer this question: Does innovation and change help organizations survive?

Hypotheses[6]

The following substantive theory and hypotheses about PSO innovation are proposed.

Hypotheses about Innovation:

• Some PSO innovate.

• Some PSO innovate more than others.

• Some governments innovate more than others.

• The character of PSO innovations changes over time.

• PSO innovation is substantially influenced by politics and ideology.

• Individuals, social dynamics and the challenge of implementation have important effects on PSO innovation.

• PSO innovate in patterns.

Possible formal hypotheses about organizations for further investigation:

The following formal theories about organizational change have been developed, based on this work.

• Organizations evolve.

• Organizations only evolve (adapt) if they have sufficient variety, reactivity, capacity for emergence, and positive feedback.

• Organizations can be fit and unfit.

[6] Source: Eleanor Glor, "Toward Development of a Substantive Theory of Public Sector Organizational Innovation", The Innovation Journal: The Public Sector Innovation Journal, Volume 13(3), 2008, article 6.

Formal theory:

• Organizational fitness predicts survival and lack of fitness predicts organizational mortality.

Conclusion

During the last twenty years, the theory that organizations function as complex adaptive systems has emerged in the literature (e.g. Aldrich and Ruef, 2006; the journal E:CO; a special issue of *The Innovation Journal*). Complex adaptive systems concepts like emergence and patterns can be readily applied to organizations (Glor, 2001 a, b). Evolutionary concepts such as classification, fitness, competition, and survival can be applied to organizations. Although intuitively interesting and potentially useful, these concepts have not always been applied in a methodical manner. The work reported here uses a systematic approach (that can be researched further) to the application of evolutionary and complexity concepts to PSO. It uses a grounded theory methodology, building theory inductively from case studies rather than from deductive analyses (Glaser & Strauss, 1967). It is building substantive theory of Canadian PSO and is working toward a formal theory of organizational change (Glaser & Strauss, 1967, p. 34). Later, survival data for PS, NPO and PSO are compared, and American federal PSO survival data is compared to Canadian federal PSO data.

According to Glaser and Strauss, one of the advantages of inductively generated theory is that the indicators for emergent categories are rarely a problem (Glaser & Strauss, 1967, p. 37). Where does this work on organizations stand in relation to their assertion that theory should be developed from experience? Much of this work uses grounded theory method, especially the development of the categories of innovation and innovative governments, which saturated the categories well (Glor, 1997, 1998 a, b, 2000). The development of the definition of organizational patterns, the introduction of evolutionary concepts into organizations, and the identification of characteristics and indicators has been done through an elaboration analysis (Glaser and Strauss, 1967). Nonetheless, some reliance has also been placed on the concepts and theories of others, who have identified patterns in collective human behaviour, and identified the appropriateness of evolutionary concepts in changing human environments. That work was checked and seems appropriate and useful.

Development of the three grounded concepts of PSO innovation, innovative government and PSO innovation patterns was followed by exploration of the concepts of *organizational* capacity for fitness, fitness and survival or death. Definitions and criteria have been developed for them. The next two chapters identify and assess the fitness and survival or lack of fitness and death of the nine innovation case studies.

This work has opened up additional questions that will be explored in subsequent chapters: (1) PSO survival rates when changing. (2) The survival rates for fit and unfit organizations and whether fitness predicts survival. (3) The dynamic relationships between fitness and survival. New work is presented here on survival, whether fitness and lack of fitness can be distinguished, and whether fitness predicts survival.

Further research is needed to determine if concepts applied to PSO innovation can also be applied to organizational change, if the concepts of and criteria for capacity for fitness, fitness and survival/death can be applied to other types of organizations in addition to PSO. This further work would contribute to the creation of formal theory about how and what and why PSO and other types of organizations (NPOs and enterprises) innovate and change and how their innovation, change and normal operating behaviour compare. Formal theory is needed based on comparing how organizations operate and change. More work is also needed on the organizational versus pattern levels. Is it necessary (more intellectually productive) to move to the pattern level to consider evolution of organizations, as it was with animals and plants? While organizations do change with the generations of people who work in them (e.g. Glor, 2001d), do they evolve otherwise? If so, what evolves? How much evolution can/does occur this way?

What have I learned by documenting the relationship between my ideas and my experiences? I found that my concepts emerged in part from my personal experiences, that my experiences made me ready for the ideas, and that they helped me to confirm my ideas. The ideas were right for a certain time and place, and a certain perspective on them. Are the ideas generalizable? I found they were in relation to my experiences with and my learning in other governments.

Section II: Assessing Organizational Adaptation, Fitness, Survival and Mortality

In the organizational literature, adaptation and survival/mortality have been treated as different approaches to the study of organizational change (Singh & Lumsden, 1990). Here they are treated as part of the same evolutionary process. The definitions, concepts and criteria developed in Chapter 2 are now employed to develop measurements for the concepts.

Chapter 3: Identifying Organizational Fitness and Predicting Organizational Survival

ABSTRACT

Chapter 2 developed or further developed the concepts of innovation and organizational patterns, fitness, and survival, identified properties and established criteria for them. Chapter 3 drops the analysis down a conceptual level to develop a measures and a methodology for assessing *organizational* fitness (predicted organizational fate or survival). It tests the methodology by assessing the fitness of the nine changing PSO case studies functioning in different organizational patters. The fitness of the organizations is then used to predict their fate (survival). In Chapter 4 a method for identifying survival and mortality is outlined, and their survival is assessed. In Chapter 5 their fitness and predicted survival are compared to their actual survival in order to explore whether fitness successfully predicted survival: fitness and predicted survival are compared to actual survival. The current chapter demonstrates that organizational fitness can be assessed.

Introduction

The application of complex adaptive systems (CAS) concepts such as patterns and evolutionary concepts such as change and boundary-maintenance to organizations introduces the concepts of *organizational patterns, a fit organization, and organizational survival* (Glor, 2001a, b; 2007a, b; 2008a, b). While in biology organisms do not evolve (White, 1959), organizations do change, remain changed, and pass on their changes over time to new organizations. They can therefore be said to evolve. At the same time, their capacity to evolve is limited. They are run by people who are adjusted and committed to the structures and ways of doing things of the organization. They are only willing to change sometimes.

Appropriate and helpful evolutionary concepts in studying organizations include the notions of adaptability, fitness and survival (Aldrich & Ruef, 2006; Glor, 2008a). Evolutionary concepts do not emphasize will and strategy, but rather emergent phenomena, a concept used in

CAS. That is the approach developed in this book.

Firstly, consider the concept of *capacity for fitness*. It is treated here as deriving from *adaptability* combined with *feedback*. Adaptability is seen as an emergent property of complexity, Organizational adaptability is considered to be a function of organizational complexity as Kauffman (1995) showed biological adaptability originates in complexity. Complexity is a function of sufficient variety, reactivity and self-organized emergence (Rogers et. al., 2005; Glor, 2007a), which allows an organization to be adaptive. To actually be adaptive, the organization must also be able to communicate with its internal and external environment. This is feedback (Capra, 1996). Feedback is a function of the messages that key groups are giving and that the organization is receiving about the initiative (Glor, 2007b). Adaptability enhanced or reduced by feedback measures capacity for fitness.

Secondly, even if an organization has a capacity for fitness, the magnitude of the challenge faced to implement change may undermine that capacity. *Challenge* is assessed by the orders of change required of the organizations, based on Aldrich and Ruef's (2006:4) definition of the three fundamental properties of organizations as maintenance of socially constructed activities, boundaries and goals. These challenges are not, however, treated as being equally difficult. The three properties are assessed and ranked. The least challenging type of change for an organization to implement is a change in activities or processes (what is done). The next most challenging type of change relates to organizational infrastructure. This could, for example, be abolition of a unit of the organization, a departmental reorganization, or a shift from the public to the private or non-profit organization (NPO) sector, or vice versa. Changes in goals and thus identity are usually the most challenging type of change for an organization. Goals are about the objectives of the organization and what should be accomplished; goals involve the beliefs and the identity of both the people who work in the organization and the people who makes decisions about it (in the public sector these are usually elected officials or senior management). Governance accountabilities have an impact on goals. While an organization retaining its identity as it changes can be a sign of fitness (Van de Ven & Poole, 2005), the failure to maintain its core activities, boundaries and goals is a sign of organizational death. Challenge scores are therefore treated as an indicator of increasing threat, not as increasing fitness.

Thirdly, consider *fitness*. Fitness has several different possible properties, and hence organizations can be considered fit in at least three different ways: (1) as organizations with certain characteristics, that is, organizations that have the capacity for fitness; (2) as fit within a fitness landscape, that is, as being fit in comparison with challenges or in competition with other organizations; and (3) as demonstrably fit if they survive. This chapter integrates the first two approaches, capacity for fitness and successfully addressing challenges, to produce a measure of organizational fitness, and assesses the nine case studies of PSO functioning in different organizational patterns for fitness. In Chapter 4 a method for assessing survival is developed and the case studies are assessed for survival. In Chapter 5 fitness is compared to survival in order to consider whether fitness successfully predicts survival in this model of organizations.

This chapter works with and suggests criteria for three basic organizational evolution concepts–capacity for fitness, challenge (which is related to selection pressure), and fitness.

Methodology

A grounded theory methodology (Glaser & Strauss, 1967; Denzin & Lincoln, 2000; Lindlof & Taylor, 1995; Strauss & Corbin, 1998) was used in Chapter 2 to develop substantive theory and hypotheses about public service organizational innovation and organizational fitness. As discussed in Chapter 2, grounded theory is based on the observation of examples of the phenomenon or phenomena being studied and the identification of their concepts and their properties from the examples. Generalizations are built from observation and comparison with similar, related phenomena in other environments (see Chapter 7 and Chapter 8). Examples of Canadian PSO innovation and change with which I am familiar are examined here in order to develop theory and hypotheses (Chapter 2), criteria and measures for them (Chapter 3), distinguish mortality and survival (Chapter 4), test whether fitness predicted survival in them (Chapter 5) and assess what impact innovation and change had on the nine organizations (Chapter 6).

This analysis requires definitions, identification of properties, and assessment of a number of complexity and evolutionary concepts applied to organizations, namely organizational patterns, organizational capacity for fitness, challenge, fitness, and survival. Internal organizational patterns are distinguished, based on three dimensions, the individual, the social, and the challenge of implementation. Each category is been reduced to two properties: intrinsic and extrinsic motivation, top-down and bottom-up organizational culture, and major and minor implementation challenge. These three dimensions form eight organizational patterns (Glor, 2001a, b). Both internal to the organization and external to it, differences of behaviour can be expected of organizations functioning in these organizational patterns. Organizational differences, in turn, can be expected to be reflected in the organizational adaptability, communication patterns, capacity for fitness, challenges assumed, fitness and survival of PSO functioning in these patterns.

The complexity of the organizations was assessed by variety, reactivity and the capacity for emergence. Low complexity does not and high complexity does create the potential for adaptation. Feedback is assessed by the level and sector of support for the initiative, and whether it is positive (pro change) or negative (con change) feedback. Complexity is then combined with feedback to make it possible for the organization to respond, called capacity for fitness. Capacity for fitness minus challenge produced a measure of organizational *fitness.*

Organizational fitness is identified by reducing the measure of capacity for fitness by the measure of the challenges faced by the organization. T the fitness of the nine organizations is used to predict their survival. Scores of organizational fitness below zero predict organizational mortality, scores above zero predict survival.

Scoring

The concepts are scored as follows.

* Complexity consists of variety, reactivity and self-organized emergence; the measures were developed in Glor (2007a). Each individual component (e.g. variety) could have a score of up

to 1, for a maximum total complexity/capacity for adaptation score of 3.

- Four measures of variety were used: (1) the number of ideas considered in planning a change and choosing an intervention, (2) the variability of the ideas from each another, (3) the proportion of staff involved in developing the ideas, and (4) participation in heterogeneous internal and external networks, consultations, collaborations and other community activities. To benefit from a large number of ideas being available, an organization must both pay attention to the ideas and be willing to act on them.
- Five measures of reactivity were used: (1) individual motivation, (2) organizational culture, (3) group (unit) support of change agents, (4) management support of change agents, and (5) communication (imparting or exchanging of information by speaking, writing, or using some other medium).
- Self-organized emergence was assessed by capacity for implementation (ease of approval, ease of implementation) and institutionalization (ease of integration, fate of implementation, social impact).

* Feedback was scored by summing the number of internal and external groups supporting a change, and subtracting the number opposing it. It had a maximum score of 3.
* Capacity for fitness was scored by adding or subtracting feedback from complexity. If the feedback supported change, the feedback was added; if the feedback opposed change, the feedback was subtracted.
* Challenges affect the criteria for an organization: socially constructed systems of human activity, boundary maintenance, and goals (Aldrich & Ruef, 2006, p. 4). Challenges were scored by identifying the orders of change required to accomplish the change. They have a maximum total score of -6.
    - First order change, a change in activities, was assessed by identifying the activity changes and how important they were. First order change had a maximum score of 1.
    - Second order change, a change in structure, assessed two issues—implications of the structural change for the original organization's infrastructure and implications for the new/changed organization's infrastructure. The reader can see some examples of the kinds of issues that arose in Table 3.3. Structure had a maximum score of 2.
    - Third order change involved a change in goals or principles. Again, the reader can see some of the third order change that arose in Table 3.3. Because changes in goals/principles are the most important and difficult, they had a score of up to 3.
* Fitness was scored by subtracting challenge from capacity for fitness. A score of less than zero is an unfit organization and a score of more than zero is a fit organization.
* The fate or mortality of the organization was predicted (retroactively) on the basis of its fitness. An unfit organization is predicted to die, a fit one to survive. Where the cut-off point should be between predicted survival and mortality was not certain. In the end, it was placed at zero, on the simple basis of being positive for survival and negative for mortality. What to do with organizations close to zero was an issue. It would have been possible to create a category called unclear fitness for these organizations, but again it was not clear where to

draw the lines between unclear fitness and fitness/lack of fitness. In the end, only two categories, fitness and lack of fitness were chosen.

The method used consisted of three steps, (1) develop an assessment of capacity for fitness, (2) score fitness by reducing capacity of fitness by challenges, (3) identify the boundaries of fitness and lack of fitness and predict survival/mortality on the basis of fitness.

Results

Firstly, the *capacity for fitness* of the nine organizational case studies functioning within eight different organizational patterns was considered. The first eight organizations were chosen because they were different from each other–each functioned in a different pattern (Glor, 2001b). PHAC was chosen because its change and innovation was more recent. The innovations and their organizations were not chosen because of anything to do with fitness, although the patterns could potentially be expected to produce different fitness levels.

Table 3.1: Organizational System Capacity for Adaptability (Complexity)

Organization	**Pattern**	**Variety**	**Reactivity**	**Self-organized Emergence**	**Summed & Ranked Complexity/ Capacity for Adaptation Score** Col 1+2+3	**System Complexity: System Flexibility**
Literacy N.B.	Imposed	0	0.1	0.6	0.7	Fixed/ frozen
Operating Budgets	Reactive	0	0.2	0.5	0.7	Fixed/ frozen
Missing Children	Active	0.25	0.2	0.5	0.95	Fixed/ frozen
Mississauga Excellence	Buy-in	0.4	0.5	0.3	1.2	Fixed/ frozen
PPP database	Proactive	0.4	0.5	0.3	1.2	Edge of chaos at unit level
PHAC	Buy-in*	0.2 + 0.1 + 0 +) = 0.3	0.1 + 0 + 0.1+ 0.1 + 0 = 0.3	0.5 + 1.0 + 1.0 + 0.0 = 2.5/3 = 0.83	1.43	EoC briefly while changing, then fixed.
Ship Repair	Necessary	0.6	0.6	0.9	1.6	edge of chaos at unit & mgmt level
PCS	Transfor-mational	0.7	0.7	0.65	2.05	Edge of chaos at mgmt & govt level
Health Promotion	Contin-uous	0.8	0.9	0.7	2.4	Edge of chaos at dept

						& mgmt level

Source of methodology: Glor, 2007a. Assessing Organizational Capacity to Adapt
Scoring: Variety, reactivity, self-organized emergence: maximum score of 1.
Summed capacity has a maximum score of 3.
PHAC initially intrinsic motivation (believed it would achieve more independence: not achieved), top-down, minor (structural) change = Buy-in but eventually extrinsic, top-down, minor change = Reactive.

The capacity for fitness was identified through assessment of two factors–system adaptability (based on complexity) and feedback as a mechanism for identifying when change was needed (Glor, 2007a, 2007b). Complexity was assessed by considering variety, reactivity, and capacity for self-organized emergence (Glor, 2007a) involved in developing the innovation. The assessment of adaptability is shown in Table 3.1. This method was able to distinguish the adaptability of the nine PSO. A threefold difference in adaptability (complexity) was detected between the least and the most adaptable innovations.

Adaptability, feedback, and capacity for fitness are shown in Table 3.2. What was considered positive and negative feedback varied among PSO and is detailed. Feedback included the reactions of employees, management, other departments, elected officials, academics and stakeholders. All of the case studies had net positive feedback (to be expected, since the innovations were approved and implemented).

Table 3.2: System Adaptability, Assessment of Feedback and Capacity for Fitness

Organization	**Adaptability: System Complexity** Max 3	**Did Feedback Indicate Need for Change?** Max 3	**Ranked Capacity for Fitness (+)** Col. 2 + 3 Max 6
Literacy N.B.	0.7	Yes-Sr mgmt + intern. orgns No-employees 1	1.7
PPP database	1.2	Yes-Middle mgmt + team No-Sr mgmt; employees indifferent .5	1.7
Operating Budgets (Fed.)	0.7	Yes-Depts, central agencies 2	2.7
Mississauga Excellence	1.2	Yes-Sr mgmt + team Employees indifferent 1.5	2.7
PHAC	1.4	Yes—Health Protection staff, USA experience with Centres for Disease Control, problems responding to SARS indicated more need for independence, central agency desire to create agencies (NPM) (+) No—Tradition of large departments with centralized control 3-1=2	3.4
Missing Children (Fed.)	0.95	Parents' NGO, senior mgmt, employees (.5) 2.5	3.45

Organization	**Adaptability: System Complexity** Max 3	**Did Feedback Indicate Need for Change?** Max 3	**Ranked Capacity for Fitness (+)** Col. 2 + 3 Max 6
PCS	2.05	Yes-Govt, popn, employees No-Industry 2	+4.05
Health Promotion	2.4	Yes-Academics← Definitive research, political, senior mgmt No-middle mgmt, employees 2	+4.4
Ship Repair	1.6	Yes-Sr, middle mgmt + employees 3	+4.6

Capacity for Fitness was calculated by adding (or subtracting if the feedback was negative) the assessment of feedback from the system complexity. By choosing PSO functioning in the eight different organizational patterns, the chances of finding different capacities for fitness were enhanced. The organizations did indeed have different capacities for fitness. The innovations with the lowest capacity for fitness score (column 4 in Table 3.2) were Literacy NB and the Public Private Partnership (PPP) database, with capacity scores of 1.7. Two innovations, Operating Budgets and Mississauga Excellence, had middling capacity for fitness scores of 2.7. Two innovations had medium-high capacity for fitness—PHAC and Missing Children. Three innovations—Ship Repair, Potash Corporation of Sask. (PCS) and Health Promotion—had the highest scores, ranging from 4.05 to 4.6.

Secondly, *innovation fitness* was calculated. Because challenges reduce fitness, the challenges the organization faced to make the changes was measured through an orders of change (challenge) analysis in Table 3.3. The organizations with the highest challenges were Literacy NB (-5.75) and PCS (-5.5). They both therefore had fairly low fitness scores–Literacy had the lowest at -4.05, and PCS's was -1.45. Mississauga Excellence also had quite a high challenge (-4), and so its fitness was only -1.3. PPP database likewise had a substantial challenge (-3.25) and a fairly low fitness (-1.55). The remaining five organizations–Operating Budgets, Missing Children, Ship Repair, Health Promotion and PHAC–had relatively low challenges, and were assessed the most fit organizations.

Table 3.3: Analysis of Challenge as Orders of Change

Organiza-tion	**First Order Change Max 1**	**Second Order Change Maximum Score 2**		**Third Order Change Max 3**	**Difficulty Score Max -6**
	Change of Program/ Activity x1	**Implics for Govt Infra-structure**	**Implics for Infrastructure**	**Principles/Goals Change x 3**	
Literacy NB	Training continues, teachers laid off/ some transfer to NGOs, which hire lay teachers -1	Disappear -1	Program delivered by NGOs, who find infrastruc for classrooms in communities 0.5 New coord'or NGO (vul.) 0.25 T=-0.75	Literacy training continue Lay off employees Lose public delivery Improve effectiveness of training T= -3	-5.75
Operating Budgets (fed.)	New financial process -0.25	None to be funded 0	No infrastruc. created. 0	Flexibility (effectiveness) lost after 1st year -2	-2.25
Missing Children (fed.)	New process, more work -0.5	Unionized workers -0.5	No infrastruc. created. 0	Add commitment to children -1 new process +1	-1.0
Mississaug a Excellence	New bottom-up top-down process -1	New unit -0.5	Staff unit-0 .5	Involve employees in improving efficiency & effectiveness at time of downsizing -2	-4
PPP database (fed.)	Create database of PPPs. Keep it up to date. Staff it. -0.75	Temp unit -1	Will disappear -0.5	Leader saw self as team player Short term -1	-3.25
Ship Repair (fed.)	Change processes to reduce costs substantially +1	None	Reduce to save costs -0.5	Try not to lay off employees Become more efficient in unionized environment -3.0	-2.5
Creation of Potash Corp of Sask. (PCS)	Mine potash Create gov't secretariat to manage file. Negotiate sale of mines. Recruit and manage head office. Develop new mines. Influence	Govt sec't Create policies & capacities to do. Recruit staff for policy secretariat. -1	Recruit and manage new head office. Manage operations for new large amalgamation of 3 mines. Find required expertise Plan to develop new mines -1	Achieve some control over boom bust economy Gain control over own resources Secure more taxes on resource -2.5	-5.5

Organiza-tion	**First Order Change Max 1**	**Second Order Change Maximum Score 2**		**Third Order Change Max 3**	**Difficulty Score Max -6**
	Change of Program/ Activity x1	**Implics for Govt Infra-structure**	**Implics for Infrastructure**	**Principles/Goals Change x 3**	
	market to keep prices steady. Find/develop required expertise -1.0				
Health Promo (fed.)	Transfer out & then reduce media program. Add big prevention program for children late 1980s -0.25	Split directorate, add new program- 0.25	Add new infrastructure for large prevention programs -0.5	-1	-2.0
PHAC	Not initially 0	Consolidated all GoC public health functions in one branch of HC, then became an agency -0.25	Became an agency, new top-level infrastructure -0.25	No change 0	-0.50

Notes: Orders of change: Change in activities=1, Change in infrastructure=2, Change in principles=3 (minor changes receive reduced scores).
Orders of change methodology developed in Glor, 2007a, Identifying Fitness, Table 3, but scoring was simplified here.

Fitness is calculated in Table 3.4 by reducing capacity for fitness by challenges. The result is a measure of the case studies' differences in level of fitness. Four had negative fitness scores (column 6 in Table 3.4): Literacy NB, Mississauga Excellence, PPP and PCS. Five had positive fitness scores: Operating Budgets, Missing Children, Ship Repair, Health Promotion and PHAC. Table 3.4 is ranked by fitness.

Based on the fitness scores, fitness and lack of fitness were identified. Organizations with scores above zero were assigned to the fit category and ones with scores below zero were said to be unfit. The fitness scores provided more information than just a fit/unfit categorization, as it became clear during the analysis that the organizations with fitness scores close to zero were the hardest to assess. The fate (survival) of the organizations was then predicted, based on fitness (Table 3.4).

In summary, capacity for fitness was determined by two factors–the adaptability (complexity) of the organizational environment, which, combined with feedback on whether the change was wanted or necessary, determined whether the organization had the capacity for fitness. The capacity for fitness was then reduced by the internal and external challenges involved in implementing the change, to create a measure of fitness. The fitness (predicted fate/survival) of the organizations is compared to their actual survival in Chapter 5.

Table 3.4: Capacity for Fitness, Orders of Change Required, Assessment of Fitness, and Predicted Fate of Nine Organizations

Organization	**System Com-plexity** Max 3	**Feedback Indicate Need for Change?** Max 3	**Capacity for Fitness** Col 2 + Col. 3 Max 6	**Challenge: Orders of Change Predicted (-)** Max 6*****	**Fitness** Col 4 – Col 5 **Ranked**	**Predicted Fate**
Literacy N.B.	0.7	1.0	1.7	5.75	-4.05 Unfit	Will disappear
PPP database	1.2	0.5	1.7	3.25	-1.55 Unfit	Will disappear
PCS	2.05	2.0	+4.05	5.5	-1.45 Unfit	Will disappear
Mississauga Excellence	1.2	1.5	2.7	4	-1.3 Unfit	Will disappear
Operating Budgets (Federal)	0.7	2.0	2.7	2.25	+0.45 Fit	Will survive
Ship Repair	1.6	3.0	+4.6	2.5	+2.1 Fit	Will survive
Health Promotion	2.4	2.0	+4.4	2.0	+2.4 Fit	Will survive
Missing Children (Federal)	0.95	2.5	3.45	1.0	+2.45 Fit	Will survive
PHAC	1.4	2.0	3.4	0.5	2.9	Will survive

Source of methodology: Glor, 2007a. Assessing Organizational Capacity to Adapt. The analysis was done on patterns. Here the analysis is done on actual organizations.
Feedback: each "yes" = 1, each "no"= -1.
Capacity for Fitness: System complexity +/-
Orders of change: Change in activities=1, Change in infrastructure=2, Change in principles=3 (minor changes receive reduced scores). See Table 3 for details.
Orders of change methodology developed in Glor, 2007a, Identifying Fitness, Table 3, but scoring simplified here.
Scoring of fitness (predicted fate) : <0 = will disappear, >0= will survive

Discussion

The work done in Chapter 1, Chapter 2 and Chapter 3 has contributed to resolving some issues related to organizational fitness. First, the work addresses whether it possible to assess organizational fitness. Using the substantive theoretical constructs developed, then developing definitions, criteria and measures, a methodology was developed for assessing organizational fitness. The process distinguished the fitness of the nine case studies.

Second, can capacity for fitness, challenges and fitness be measured in the way proposed? Consider two issues. First, capacity for fitness, challenges and fitness *were* measured. Second,

there was some consistency across the assessments. To get a sense of the consistency of the measurements, the results for each of the nine organizations were ranked from lowest score to highest score for each measure. The results are summarized and compared in Table 3.5. The nine PSO tended to score in the same areas of the table; in other words, many had similar ranking compared to the other innovations. Literacy NB was at the bottom for all scores. Mississauga Excellence was consistently lower than half way, but not at the bottom. PPP had some variation in its scores, but they were all in the bottom half of the table. HP and Ship Repair were consistently high. PHAC was consistently in the mid-range; Operating Budgets was too, except for one outlying score. Two of the organizations were not consistent in their results: PSC and Missing Children scored both high and low. PCS had high adaptability, but the act of the government purchasing private sector potash mines was highly contested. Both feedback and challenge were therefore high for PCS. Missing Children was an initiative proposed to her staff by an Assistant Deputy Minister that was accepted by them. It implied additional, uncompensated work: Missing Children demonstrated flexibility but not self-organized emergence. In summary, six of nine innovations ranked consistently for the measures, while three did not. At the same time, the assessments seemed to accurately reflect the innovations' situations. The assessment process seemed accurate and reasonable.

Third, what can be said about the proposed formal hypothesis that organizations can be fit and unfit? The hypothesis was developed based on my own research, working experience and knowledge, developed in those environments. Some confirmation has been offered by determining that the case studies had different fitness scores and that fitness and lack of fitness could be distinguished.

Table 3.5: PSO Case Studies Ranked by Scores on Five Factors

Adaptability	**Feedback**	**Capacity for Fitness**	**Challenge (-)**	**Fitness**
1&2. Literacy NB 0.7	1. PPP 0.5	1&2. Literacy NB 1.7	1. Literacy NB -5.75	1. Literacy NB -4.05
1&2. Operating Budgets 0.7	2. Literacy NB 1.0	1&2. PPP 1.7	2. PCS -5.5	2. PPP -1.55
3. Missing Children 0.95	3. Mississauga Excellence 1.5	3&4. Mississauga Excellence 2.7	3. Mississauga Excellence -4.0	3. PCS -1.45
4&5. Mississauga Excellence 1.2	4,5,6. PCS 2.0	3&4. Operating Budgets 2.7	4. PPP -3.25	4. Mississauga Excellence -1.3
4&5. PPP 1.2	4,5,6. Operating Budgets 2.0	5. PHAC 3.4	5. Ship Repair 2.5	5. Operating Budgets 0.45
6. PHAC 1.4	4, 5, 6. PHAC 2.0	6. Missing Children 3.45	6. PHAC -2.0	6. PHAC 1.4
7. Ship Repair	4,5,6. Health	7. PCS	7. Operating	6. Ship Repair

Adaptability	**Feedback**	**Capacity for Fitness**	**Challenge (-)**	**Fitness**
1.6	Promotion 2.0	4.05	Budgets -2.25	2.1
8. PCS 2.05	8. Missing Children 2.5	8. HP 4.4	8. HP -2.0	7. HP 2.4
9. HP 2.4	9. Ship Repair 3.0	9. Ship Repair 4.6	9. Missing Children -1.0	8. Missing Children 2.45

Fourth, is the methodology developed for assessing fitness a good one? The scoring system is constructed so that capacity for fitness can be completely cancelled out by challenges, that is, both capacity for fitness and challenges have a total maximum score of +/- 6. This made it easy to predict fitness above and below zero. It also implied that external factors like negative feedback and many challenges can cancel out positive internal organizational factors like adaptability and positive internal feedback. This seems to be a reasonable position, but it should be investigated further. While the factors seem reasonable, and seem to be distinguishing organizations, the scores allocated to them could need fine tuning.

Fifth, is it possible to predict organizational fate on the basis of its fitness? At this point this is a purely methodological question. Using the theoretical constructs developed, it was possible to assess organizational fitness as a reflection of internal organizational adaptability, responsiveness to feedback, and capacity to overcome challenges. External (environmental) factors were assessed through feedback and challenges. It was possible to predict the fate of the organizations (survival or abolition) on the basis of the assessments done. Whether the predictions are accurate is addressed in Chapter 5, where the fitness scores are compared to the survival scores as another way of confirming that organizations can be fit and unfit.

Conclusion

Based on formal organizational theory of organizational change, criteria and measures of organizational capacity for fitness, challenge and fitness were developed and applied to nine PSO that innovated. This produced an organizational fitness score. The results of the scoring of five factors were quite consistent, and when they were not, they were accurate. This made it possible to distinguish organizational lack of fitness and fitness, and thus to predict organizational fate based on fitness. The next chapter considers the issues of survival and mortality and their measurement.

Chapter 4: Distinguishing Organizational Survival and Mortality

ABSTRACT

Having already defined terms and developed criteria and measurements for organizational fitness, this chapter identifies criteria and proposes measurements to distinguish organizational survival from mortality in the case studies. It then addresses whether they can be distinguished empirically, using the measures. The approach uses internal criteria to assess the survival of the nine quite different PSO (functioning in different patterns) case studies. They could be expected to have different survival results because their fitness was different. Chapter 5 then uses the case studies to test the null hypothesis that a fit organization is not more likely to survive than an unfit organization.

Introduction

Organizational mortality and survival are examined in this chapter. The best and easiest place to seek information about the survival or mortality of organizations is in government databases and government documents, as most studies of organizational demography have done (e.g. Brüderl & Schüssler, 1990; Singh, House & Tucker, 1986b; Peters & Hogwood, 1988). In most countries, PS and NPS organizations end up registered in a database, either because they are legally required to do so or because it aids their tax status. In Canada, PS organizations are registered if they incorporate, if they seek a business number, and if they must pay sales tax. NPS organizations seek a charitable number in order to give donors tax deductible receipts. Organizations are eventually removed from these databases if they go out of business. In some cases they are required by law to inform government if they are terminated. Identifiers removed, researchers are sometimes given access to the databases. The USGM provides a history of the creation and disappearance of federal organizations. Norwegian and Irish researchers have created databases. In the federal Canadian PSE, the Library of Parliament has published short data histories for each federal department (ministry) and its predecessor(s).

Indirect measures of organizational survival such as registrations are not, however, available forthe study of most PSO below the departmental/ministry level. Direct assessment of them may be necessary to ascertain their death/survival. Accessing information about large organizations may be easier than about medium and small government organizations, which may require research and even the development of numerous case studies. PS and NPS organizations would also need to be studied this way, if the data was to be comparable. This is a much more labour intensive approach and requires a case study method (Schlesselman, 1982).

The organizations in the PS and NPS databases do not, however, have similar demographic profiles to those of departments. At least some PS and NPO databases will include very small organizations (e.g. individuals), and almost always will include many medium-size organizations. Most federal departments in the Parliamentary database are large organizations. Very few are small and few are medium-size organizations. Organizations at the smaller level tend to be sub-organizations of departments, and there are many of them indeed, but they are not

registered in databases. In Chapter 1, the five typical levels of organizations within a federal government department were described.

Of the nine case studies in this book, none appear in the Parliamentary Library database or a provincial equivalent. Five could have been found in a thorough search of the Estimates (Budget) or annual reports in their respective jurisdictions (Literacy NB, PCS, Ship Repair and Health Promotion) at the time but not necessarily since program-based budgeting was introduced. PCS produced its own annual report, which could have been found. Appearing in the Parliamentary Library database and the Estimates provides assurance that a department exists; if a researcher is interested in more than the highest level organizations among PSO, however, research and case studies are necessary.

To define mortality and survival for research and case studies requires reasonable and measurable definitions of terms, criteria and assessment tools. Defining key elements in organizational death and survival that lends itself to measurement is not necessarily easy, for two reasons. First, in many studies, death and survival of organizations has not been the focus and the definitions of mortality used have not been published. Second, the largest and best empirical studies have used indirect convenience measures of organizational death and survival, namely registration and deregistration in databases. While legal registration is an adequate measure for PS and NPS organizations, it does not exist for PSOs below the level of departments. Direct assessment of the organization is necessary in the PSE.

In this chapter, a means to detect survival and mortality is developed for the nine case studies. They are assessed for survival using Aldrich and Ruef's (2006, p. 4) definition of organizations as socially constructed systems of activity that are boundary- and goal-maintaining. These factors in survival of organizations address two different aspects of it, which may survive independently or not. Some change is necessary, in order to adapt, but too much change in the factors can cause the organization to die—to modify too much its activities, boundaries, goals and identity. The factors that must be conserved in organizations were identified in Chapter 3, and were assessed through orders of change analysis. Conservation of these elements works against change and for survival.

The definition of organizational death and survival is developed from Van de Ven and Poole (2005) (see below), is given more precision and is tested empirically through the direct study of the mortality of PSO that innovated. A grounded theory approach is used because the nature and characteristics of innovative PSO death and survival have not previously been established at this level. This chapter takes a more careful look at organizational death and survival with a view to being able to identify and assess it.

Criteria for Organizational Survival and Mortality

As discussed in Chapter 2, Van de Ven and Poole (2005) define organizations as social entities or structures that retain their identity while changing from one state to another. Aldrich and Ruef (2006, p. 4) consider the three fundamental aspects of organizations as socially constructed activities, maintenance of boundaries and maintenance of goals. These characteristics are much like the Resilience Alliance's definition of resilience: Resilience is the

capacity of a system to absorb disturbance and reorganize while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks. Its definition adds feedback. For an organization to survive, adaptability must thus serve preservation of activities, boundaries, goals and positive feedback. Neither Van de Ven and Poole nor Aldrich and Ruef nor the Resilience Alliance defines specific empirical meanings for these terms.

Organizations both survive and die. Whether an organization has survived a change is not always as readily apparent as it is with living organisms. The Northern Pipeline Agency, for example, retained its legal and organizational structure but was reduced at one point to one employee and it had no functions or activities, merely preparedness for action. It was easily revived, however, when the oil companies began to discuss again building an Alaska Highway Gas Pipeline. By identifying empirical meanings for structural and identity-based concepts of survival in organizations, it is possible to set parameters for and identify means to test whether or not an organization exists.

The criteria identified by the Resilience Alliance are used to define organizational survival—maintenance of activities, boundaries, goals and feedback. Organizations that survive a change or innovation maintain these criteria; organizations that die fail to maintain them. If organizations need to be able to adapt to their environment (i.e. change, innovate), yet at the same time also need to preserve their activities, boundaries, goals and feedback, where do the boundaries lie between survival and death? Since every single activity (program and process) conducted by an organization is presumably not equally essential to its survival, and therefore does not need to continue for the organization to survive, what does need to be preserved in order for organizations to survive?

Given that activities, boundaries, goals and feedback are basic to an organization's identity, can organizations survive major changes in them or can they survive only limited changes? Which ones are they more and less likely to survive? We know that changes increase organizational mortality (e.g. Singh, House & Tucker, 1986a). Do some types of changes increase mortality more than other? Can these risk factors predict organizational mortality?

Organizations and Change

Singh, House and Tucker (1986a) looked at six internal changes in their population of voluntary social service organizations (VSSOs) in Toronto—changes of chief executive officer, service area, goals, sponsorship, location, and structure. They also considered legitimacy, which they treated as an external factor (Singh, House & Tucker, 1986b).

Amburgey, Kelly and Barnett (1993) examined two internal changes in Finnish newspapers, frequency of publication (e.g. weekly, daily publication) and change in content focus (e.g. politics, economics). They suggested it is important to distinguish different types of changes, speculating that the impact of a change on an organization depends on the position of the change in Hannan and Freeman's (1984) hierarchy of organizational attributes. Newspaper content was about organizational goals and goals are close to the core of an organization, while frequency of publication was further from the core. Hannan and Freeman distinguished core and non-core aspects of organizational structure, distributed in hierarchical layers, varying systematically in

flexibility and responsiveness. The four core aspects include: an organization's stated *goals*, which are the bases upon which legitimacy and other resources are mobilized; *forms of authority* within the organization and the basis of exchange between members and the organization; *core technology*, as encoded in capital investment, *infrastructure* and the skills of members; and *marketing strategy* in a broad sense (kinds of clients or customers). These four properties stand in a rough hierarchy, proceeding up from marketing strategy and they have resource implications. The authors suggest this could be a basis for organizational classification. Changes in these characteristics are rare, costly, and risky, as they greatly increase risk of death (Hannan & Freeman,1984, p. 156). Non-core structure includes numbers and sizes of subunits, number of levels in authority structures, span of control, patterns of communication, and detailed arrangements by which an organization makes links with its environment and tries to buffer its technical core (e.g. through joint ventures) (Hannan & Freeman,1984, p. 157). The tighter the coupling between the core and peripheral structures, the more their theory applies. Hannan and Freeman agree with Scott (1981) that evolutionary-ecological theories apply best to core rather than non-core properties, not because selection pressures are different on core and peripheral structures, but because the strength of inertial pressures differ. Burke (2002) likewise distinguished the importance of transformational and transactional changes in organizations.

Distinctions among goals, forms of authority, core technology (including infrastructure), and marketing strategy (including activities related to target groups) could then potentially play a role in identifying the criteria for life and death. These criteria bear a noticeable resemblance to the Resilience Alliance's activities, boundaries, goals and feedback.

Another important aspect of activities, boundaries and goals for government organizations is that they are carried out in the PSE, not the PS or NPS. When government organizations have been privatized (including transferred to non-profit organizations), these organizations have often not changed their activities but have changed their structures, goals and possibly their feedback. Is it possible to survive such changes? Is there a hierarchy in the survival of activities, structures, goals and feedback?

Among the four aspects of organizations—activities, boundaries, goals, feedback—a distinction should be made in terms of the importance of the change to the organization, between what Hannan and Freeman (1984) called core and non-core (or peripheral) functions. Changes in core characteristics are rare, costly, and risky (Hannan and Freeman, 1984, p. 156). The Resilience Alliance used two of the aspects (goals and boundaries [infrastructure]) that fit Hannan and Freeman's definition of core functions (goals and core technology—infrastructure). The Resilience Alliance's properties of activities (usually) and feedback are non-core, in Hannan and Freeman's terms. The tighter the coupling between the core and peripheral structures, the more their theory applies. Because of the differing significance of core and non-core functions to an organization, core functions are given higher scores than non-core functions in the system of distinctions between organizational survival and mortality discussed in this book.

Another way to think about the difference between core and non-core functions is according to the distinction between first and second order change made by Watzlawick, Weakland and Fisch (1974) and Meyer, Goes and Brooks (1993): *First order change* occurred within a given system which itself remained unchanged, while *second order change* modified the

system itself. Second order change was thus more fundamental or strategic (Wilson, 1992) than first order change. Understanding challenges to case studies in the public sector required three orders of change in Chapter 3 (Table 3.3). A change in program target group or mode of delivery was found to be first order change (although Hannan and Freeman identified a change in target group as core), but a change in boundary (structure/infrastructure/department) was found to be second order change. A change in target group can be core but will usually also involve a change in goals (although possibly informal i.e. not announced). A change in sector (public, private, third) from which an organization functioned involved a change in goals and identity, and was therefore identified as a third order change (Glor, 2007b, Table 3). Because a change in feedback is about a change in the perception of others, and what they communicate, it does not lend itself as easily to the idea of a hierarchy of criteria for survival. It was therefore assessed in terms of whether the feedback indicated the original organization still existed or not The fate of organizations is assessed in the terms laid out by the Resilience Alliance: function, structure, identity, and feedbacks.

Methodology

Two kinds of survival are involved in organizational innovation and organizational survival. The first is the survival of the innovation itself, the second is the survival or mortality of the organization that innovated or changed. This assessment is concerned with the second, the fate of the organization that innovated or changed.

Measures and Scoring Method. Survival of *activities* was measured by comparing the fate of organizational programming and processes, before and after the change or innovation had been introduced. The fate of the key programs and processes involved in each change in each organization were examined and assessed. Take the example of Literacy NB, the province of NB's literacy training program that was privatized to the non-profit sector. Classroom teaching (an activity) changed little, but the certified, qualified teachers were laid off and new lay teachers were hired by the non-profit organizations (NPO). In many cases these were the same people, working for less money and benefits. The organization and delivery of services were transferred from a PSO to an NPO. The services became more effective in the first year after the change (Morris, 1996), but no longer term information was gathered, so it was impossible to determine whether the improvement was merely a Hawthorne effect (a short-lived increase in productivity). *Boundaries* were measured by the fate of structures (infrastructures) in two ways: the fate of the organization's infrastructure and whether the infrastructure remained in the public sector. These two criteria address whether the infrastructure remains intact and which sector it is in (public, private, non-profit). All case studies started in the public sector. In Literacy NB, the provincial government infrastructure that had supported literacy training disappeared, and a new infrastructure emerged, funded by the provincial government but located in the non-profit sector. It was a new coordinating NPO with a mandate to coordinate non-profit literacy programs and to raise funds for local delivery of programs. Interestingly, in the medium-term the new model isomorphistically created or expanded and reproduced the federal model for funding programs (it funded NGOs). The provincial literacy program and Literacy NB disappeared while the NPOs secured funding from the federal government. The program was coordinated by a new GoC National Literacy Secretariat (NLS). *Goals* are measured by the fate of the organization's basic

principles. In Literacy NB the principle of provincial and public delivery of literacy programming was lost. The PSO died, the delivery of services continued.

Public information about the survival of the PSO and reactions from outside the organization were measured by positive or negative messages about the success of the organization delivering the new program. Within two years of Literacy NB being funded by the province, the funding and coordinating NPO and its staff disappeared, its website became dormant, and literacy organizations began to relate individually to the new NLS. Within a few years the NLS also died. It became easy to abolish literacy coordinating agencies. While "fate as a government program" was initially considered as a possible fifth criterion, in empirical terms it was found to be closely coupled to the infrastructure's fate as a government infrastructure. If the program died, so did the infrastructure, and vice versa; consequently, only government infrastructure was retained as a criterion.

Scoring the Organizational Challenges. The challenges of the three orders or degrees of change are not just summative as different types of change: They relate to each other in a hierarchy of importance. The types of change were therefore ranked as having a ratio of 1-2-3 (activities [non-core] = 1, structure (core) = 2, goals (identity) (core) = 3). This relationship may still require further investigation, although Wischnevsky and Damanpour's (2008) work has helped. They did not find that radical strategic or structural change affected organizational survival (2008, p. 53).

Relationships Among the Criteria and Within the Criteria. A weighting was assigned to the four criteria (five measures) on the basis of their significance to the organization (whether they were core or non-core). Each of the five measures of survival was assigned a maximum potential score of 0 or +/-1. Activities, the non-core function, had a potential maximum score of 1. Boundary maintenance, with two measures, had a maximum score of 2. Goals had a maximum potential score of 3. Goals were assigned a higher potential score because they were considered more important for organizational identity and survival than the other core criterion (infrastructure). To reflect this importance, the score for goals/principles was multiplied by 3. — Feedback had a maximum score of 1. Three potential points were thus given to goals, two points to infrastructure, and 1 point to feedback. Hence, the ratio of importance assigned the four factors was 3-2-1-1 (goals, infrastructure, activities, feedback). The resulting range of scores (from -7 to +7) was then allocated to one of two possible categories: death or survival. Negative scores were death, positive scores were survival.

Results

The survival of the nine organizations functioning in eight different organizational patterns was assessed by this scoring method for their survival (Glor, 2008c). The organizations assessed were at a range of levels in the organizational hierarchy ranging from that of an initiative reporting to a manager to that of a self-standing Crown corporation and an agency reporting to a Minister.

They case studies are assessed in Table 4.1. According to this assessment, four of the nine organizations died (disappeared)—Literacy NB, Mississauga Excellence, the Agriculture Canada

Public Private Partnership (PPP) Database and the Potash Corporation of Sask. (PCS). Five organizations survived— Operating Budgets, Our Missing Children, Ship Repair Atlantic, Health Promotion (HP) and PHAC. The assessment was successful in distinguishing the survival or mortality of nine PSO that changed and innovated. Three examples of organizational death and survival among the nine are discussed next in more detail.

Literacy NB, the privatized literacy coordinating agency did not survive. [7] Although the activity of literacy training continued, in terms of structure the literacy infrastructure in the Province of NB went from being a funded activity with its own directorate of the provincial government to being an NPO dependent on fundraising. This turned out to be a transitional state, however. Within a few years of the provincial government infrastructure having disappeared and the coordinating NPO (Literacy N.B.) having taken over, the federal government started funding NPO to deliver literacy training. Literacy NB then quickly disappeared as well, as a new coordinating structure emerged within the federal government—the National Literacy Secretariat, which in turn was cut back during the early 2000s, and then was abolished.[8] In terms of goal survival, the province initially extricated itself only from delivering literacy training but soon stopped funding all literacy activities, as the federal government stepped in. The federal government emerged as a new funder of NPO-based programs, much like the N.B. literacy program, but without an NPO coordinating agency. NB had been promoting creation of such a federal funding program. This is probably an example of isomorphism, because literacy programs ended up being funded the same way as most other community-based health and social programs funded by the federal government. One advantage of this model is that it maintained federal flexibility to reduce or increase funding easily and quickly, which it did. Because the focus of the analysis is the provincial transfer of literacy programming to the NPO sector, and because the coordinating agency died, the a program called Literacy NB, with a score of -4.5, is assessed as having died.

PCS did not survive either. Its mining activities were privatized and continued and most of its industrial infrastructure continued, but its public policy development and monitoring infrastructure and goals did not. Its public policy goals (provincial economic development) disappeared completely but its head office function remains in Sask.. The privatized marketing organization, Canpotex, maintains a headquarters in Sask., but moved most of its business outside the province. With a score of -1.5 PCS did not survive.

Ship Repair Atlantic survived. It was one of two DND dry docks responsible for repairing DND ships. Originally created in the early 1940s by a government at war and in substantial deficit, during the early 1990s it was under intense annual budget restraint amid active talk of privatizing it. Management and unionized employees worked cooperatively at formal and informal levels to find ways to reduce operating costs without layoffs (the government was looking for lay-offs as well as opportunities for privatization). Although Ship Repair experienced

[7] Thank-you for additional information on literacy training in Canada to Susan Sussman. She is the author of S. B. Sussman. 2003. Moving the markers: New perspectives on adult literacy rates in Canada. Ottawa, ON: Movement for Canadian Literacy.

[8] The federal government had earlier been in the business of funding provinces to do literacy training, through the Adult Basic Education (ABE) program, but withdrew funding during the 1970s.

a shift in its infrastructure status from budgetary allocation of resources to Alternate Service Delivery (ASD) (some budget allocation, some cost recovery), it was not privatized. With a score of +4.5, it survived.

Four criteria of survival were assessed for each case study—activities, boundaries (infrastructure), goals and feedback. Among the nine organizations studied, many activities survived, especially initially, whether the organization survived or not. This raises the question of whether activities are a valid measure of survival. Although governments tend to highlight this measure when privatizing government services, they are not be the most important markers of organizational survival. Organizations that lost infrastructure died (Literacy NB, Mississauga Excellence, PCS), organizations that never had an infrastructure or had a temporary infrastructure died—Operating Budgets, Missing Children, and PPP Database.[9] Organizations that changed goals only survived if the activities and structure remained the same and the change in goal was not fundamental (Ship Repair, Health Promotion)—perhaps the changes were evolutionary not revolutionary (Ship Repair, Health Promotion).

Discussion

To identify the life and death of organizations is complex, like predicting the weather, and presented some fundamental challenges. Five patterns emerged. First, like organisms, some organizations could be easily recognized as alive or dead, while other organizations exhibited some of the characteristics of organizational life at the same time as not exhibiting others. Several of the initiatives, for example, had activities and goals but not separate boundaries (defined here as infrastructure). Consider three changes, Operating Budgets, Missing Children (a program to search for missing children), and the Public Private Partnership Database. The first two had no separate infrastructure, while PPP had a temporary one. Nonetheless, these social entities can be seen to qualify as organizations according to the definitions used (Chapter 1). Perhaps these initiatives were qualitatively different in another way from organizations such as Ship Repair, PCS and Health Promotion. They gave the appearance of initiatives more than organizations, partly because they had no separate infrastructure. Certainly Ship Repair, PCS and Health Promotion were much bigger, had their own infrastructures, and were organizationally two or three levels higher in the organizational hierarchy–at the level of genus or higher in the biological system, rather than that of a unit or group. While the initiatives could be said to have sought to maintain boundaries, Operating Budgets were very similar to other financial processes managed by the Treasury Board Secretariat in determining departmental budgets, and Missing Children's activities were similar to the normal activities customs officers conducted with persons crossing borders. Missing Children and PPP, however, had less infrastructure to support them than the other organizations. It would be helpful to further refine the definition of organization in infrastructure terms.

[9] While Operating Budgets as a way of accounting continued, the financial benefit to departments was one-time.

Table 4.1: Assessment and Scoring of Survival of Nine Public Sector Organizations Following an Innovation/Change

Orgn Elements	**Issues in Survival**	**Activities After Change**	**Boundary Maintenance After Change**		**Goals After Change x 3**	**Feedback**	**Survival**		
Measure-ment		***Fate Prog/ Process***	***Fate of Structure***	***Fate of Gov't Infrastructure***	***Fate of Principles***	***Say Orgn Exists?***	***Score (Sum)***	***Survive?***	***Yrs***
Literacy NB --A,G,F, S	Gov't program Gov't funding Level of gov't & NPO funding Qualifications & type of teacher Sector of coordination Funding of infrastructure Permanent vs. project funding	Training by professsionals eliminated, literacy training continued by paraprofessionals Total = +0.5	Prov. govt infrastructure gone early 1990s -1 NPO coordinator funded +0.5 By 2006 NPO coordinator gone. -1 T = -1.5	Funding for physical infrastr. disappeared then NPO must fund from existing infrastruc -1 National Literacy Secretariat +0.5 Prov then federal funding. +0.5 Funding of program then temp project funding -0.5 Total = -0.5	Step 1. Public delivery of literacy program became training by NPO (privatized) -1 Teachers became para-professionals -.5 Step 2. Lost prov. funding of infrastructure, kept funding of program -1 Step 3. Federal funding of literacy NPO emerged. +1.0 Step 4: Federal funding cut back -0.5 Total = -2.0	No. No staff to receive feedback T= -1.0	-4.5	No	35

Orgn Elements	**Issues in Survival**	**Activities After Change**	**Boundary Maintenance After Change**		**Goals After Change x 3**	**Feedback**	**Survival**		
Measure-ment		***Fate Prog/ Process***	***Fate of Structure***	***Fate of Gov't Infrastructure***	***Fate of Principles***	***Say Orgn Exists?***	***Score (Sum)***	***Survive?***	***Yrs***
Operating Budgets (new orgn)	Level & temporality of benefit & effort required will enhance survival?	Continued process of allowing small carryover of budget surplus T=+1.0	Used existing infrastructure T=0	None created T=0	Increase flexy +1 Impact essentially one- time benefit -1 Paperwork req'd each year or lost -2 Prevent spending binge year end +1 T= -1.0	TBS said yes; Dpt. staff said was one-time benefit +1+-1=0 Depts cont'd to apply yearly +0.5 T=+0.5	+0.5	Yes	10
Missing Children (new orgn)	Became part of a network of effort & recognition	New activity T=+1	Used existing infrastructure T=0	None created T=0	Created reactive concern for children & opportunity for employees to show concern T=+0.5	Intern. NPOs, police, external affairs related to it. T=+0.5	+2.0	Yes	27
Mississauga Excellence --A,S,G,F	Can a change management initiative survive without a program to support it?	Program disap'd -1 City manager said would continue. +0.5 T=-0.5	Unit created, then unit abolished T=-0.5	Unit disappeared T=-1	Focus on quality & excellence mostly lost T=-1	No staff to receive feedback. T=-1.0	-4.0	No	10

Orgn Elements	**Issues in Survival**	**Activities After Change**	**Boundary Maintenance After Change**		**Goals After Change x 3**	**Feedback**	**Survival**		
Measure-ment		***Fate Prog/ Process***	***Fate of Structure***	***Fate of Gov't Infrastructure***	***Fate of Principles***	***Say Orgn Exists?***	***Score (Sum)***	***Survive?***	***Yrs***
PPP Database (new orgn)	Can an initiative survive without an infrastructure to support it?	Partially contin'd for a time No updating of database T=+0.25	None created by NPO T=-1	Temp govt unit abolished T=-1	Lost commitment to maintain database T=-0.5	No staff to receive feedback. T= -1.0	-3.25	No	3
Ship Repair Atlantic --A,S,G,F,	Active empl'ee participation in a shift in goals can assure survival	Continued T=+1	Continued. T=+0.75	Continued Became ASD T=+0.75	Empl'ees more work but kept jobs. +1 Shipyard retained +1 Changed focus from production & quality to efficiency -1 T=+1	Empl'ees, mgrs, politicians said yes. T= +1.0	+4.5	Yes	10
PCS --A,S,G,F	Commercial & employment activities & objectives cont'd. Public policy objectives did not survive	Mining continued +1 Potash policy and potash economic development ended –0.5 T=+0.5	Mines cont'd to produce, head office to function, Canpotex to mkt +.75 No prov infrastruc & policy dvmt -1 T= -0.25	Govt Crown corporation abolished T= -1	Empl'ees kept jobs, local head office, joint marketing +2 Lost public ownership, public policy objectives incl. attempt to dampen boom-bust cyle, govt revenues -3.5 T= -1.5	Remaining empl'ees said yes. Politicians, managers, public said no. T= +0.75	-1.5	No	35

Orgn Elements	**Issues in Survival**	**Activities After Change**	**Boundary Maintenance After Change**		**Goals After Change x 3**	**Feedback**	**Survival**		
Measure-ment		***Fate Prog/ Process***	***Fate of Structure***	***Fate of Gov't Infrastructure***	***Fate of Principles***	***Say Orgn Exists?***	***Score (Sum)***	***Survive?***	***Yrs***
Health Promotion --A,S,G,F		HP prog'g cont'd 0 Lost media ad'g -1 Enhanced prevention prog'g +1 T=0	Continued T=+1	Most continued Media unit lost, prevention unit added T=+1	Lost some focus on HP -1 Added focus on prevention +2 Kept as public program +1 T=+2	Mgrs said yes, empl'ees said uncertain. T= +0.75	+4.75	Yes	45
PHAC	More independence of action needed but in the end little achieved.	Programs continued , soon new $ for emergency response & preparedness allocated and accessed, new money for infectious diseases mad available. T=1	Converted from Branch of Health Canada to agency of Health Portfolio. T=1	Costs of expanded administration absorbed. T=1	No change T=2	Yes T=1	+6	Yes	9 in 2013

Abbreviations: T = Total, A = Activities, S = Structure, G = Goal, F = Feedback, cont'd = continued; etc.
Weighted scoring: Activities: maximum = +/-1, Boundary Maintenance: max +/-1 x 2, Goals: +/-1 x 3 , Feedback max +/-1.
Organizational survival requires survival of activities, infrastructure, goals, feedback.
Survival Scoring: Maximum = 7 (activities + boundary maintenance + goals); Range: mortality <0, survived >0

Second, the issue of boundaries may be confounded by the nature of problem-solving by governments during part or all of the period under review. The GoC focused on budget-cutting during the late 1980s and the 1990s, and there was a concomitant lack of institution-building during that period (Glor, 2008b), while during the early 2000s the GoC ran a surplus budget. While it funded PHAC's new programming, it was reluctant to provide new infrastructure funds for it, despite new accounting and accountability requirements. Table 2 analyzes the nine organizations by decades, and shows that, of the nine organizations examined, those created during the 1940s and 1970s were supported by infrastructure, and therefore had boundaries to maintain, but none of the ones created during the 1990s had funded infrastructure. As a result, none of them had firm boundaries to defend. As well, only one of the organizations created during the 1990s survived. This is perhaps in part because they had no infrastructure. Major budget cuts almost always transgress organizational boundaries. But perhaps these organizations also did not meet some as yet undefined criterion for organizations having boundaries, or maybe they met a more complex definition than focusing solely on infrastructure allows. What it means to have organizational boundaries needs further work. The historical change in funding for infrastructure will be discussed further later. Table 4.2 analyzes a number of possible time-related factors in PSO survival, including whether an infrastructure was funded.

Third, the survival rate was low. Of the nine organizations assessed, four did not survive and five survived. Most of the survivors (3 of 5) were created before 1990 with infrastructures. Only one of four organizations created during the 1990s survived, and they were all small. Even large organizations created prior to 1990 that changed during the 1980s and 1990s had a 50 per cent death rate. While organizational change has been thought to be and has been portrayed as adaptive, during the 1990s it was risky.

Fourth, it is a challenge to define when one program ends and another begins. Literacy training is a tricky example, in that it was a program that had existed, in one form or another, for a long time. The provincial government devolved it to an NPO and the non-profit sector, without funding for infrastructure. While the non-profits did what they could with their funding, and succeeded in engaging a number of local organizations to provide classrooms, it soon became apparent that this was not a long-term solution, and the federal government stepped in. While literacy programming was vulnerable because of its lack of infrastructure, it had at least two additional vulnerabilities. First, it had been cut and moved around before, and this seems to have given the impression it could be changed in this way again. Amburgey, Kelly, and Arnett (1993) have observed this phenomenon as well. This may have related to the vulnerability of its poorly-educated clients, who had not been good at organizing themselves to demand services. A second source of vulnerability for literacy programming in Canada is its suspension between two jurisdictions—federal and provincial—neither of which has been willing to take on permanent responsibility for funding literacy programming for adults. A complex mixture of changing actors, organizations and funding mechanisms did not make the detection of organizational survival easy. Take another example: PHAC. It was created in 2004 but its legislation was not passed until 27 months later.

Table 4.2: Analysis of Case Studies by Period Created

Ini-tiated	Case Study	Survive as Govt Program ?	Characteristics of Period when Created	Crucial Factor in Fate	Yrs as Govt Func-tion	Infra-struc-ture	Sur-vive as Orgn?
1940s-changed 1990s	Ship Repair (Function)	Yes	Gov't assumes industrial functions. War.	Workers voluntarily assumed more respy	65+	yes	Yes
Late 1960s-early 1970s	HP (Function)	Yes Change of mandate	Gov't assumes social prog'g functions	Flexy: willingness to change focus	35+	yes	Yes
1975-1988	PCS (Function)	No Priv'd	Gov't assumes some ownership	Change govt & ideology	5-10	yes	No
Late 1980s	Missing Children (Initiative)	Yes No cost to depts	Some initiatives.	Workers voluntarily assumed more respy	27	no Used existing	Yes
Early 1990s	Literacy training (Function)	No Priv'd to NPO	Gov't divests programs.	Change ideology	10	no	No
Early 1990s	Operating budgets (Initiative)	Yes Cost in staff time	Small increase in flexy Government resources cut back severely	Created during period of downsizing	10+	no Used existing	Yes
Early 1990s	Mississau-ga Excel-lence (Initiative)	No Abolished	Some small initiatives.	Workers encouraged to assume more respy. Change in leadership.	5	no-temporary	No
Early 1990s	PPP (Initiative)	No Priv'd No cost to dept.	Some small initiatives.	Created during period of downsizing	1	no-temporary	No
Mid-2000s	PHAC (agency)	Yes	GoC Budget in surplus	SARS Funding available	9	Yes, eventually (self-funded)	Yes

Abbreviations: += continuing Gov't = Government; Priv'd= Privatized; respy= responsibility

Fifth, the results in this study held some surprises. Firstly, only one of the four organizations created after 1990 survived. If this was a general phenomenon during this period, the lack of survival of newly constructed organizations in the public sector to address then-current problems could potentially create long-term problems and an action lag or action-deficit for Canadian government and society. Secondly, survival may have been related to the types of change required of the organizations: activities, infrastructure, and goals.

Table 4.3: Type of Change in Case Studies

Case Study	Goal Change?	Yrs as Govt Function	Survive as Govt Program = Activities?	Infrastructure Change?	Survive as Orgn?
Ship Repair (Function)	Some	65+	Yes	yes	Yes
HP (Function)	Yes-primary focus changed from promotion to prevention	35+	Yes-part	yes	Yes
Missing Children (Initiative)	Some	27	Yes No new cost to depts	no Used existing	Yes
Operating budgets (Initiative)	No	10+	Yes Cost in staff time	no Used existing	Yes
PHAC (Agency)	No	9	Yes	yes, eventually (self-funded)	Yes
LiteracyN.B. (Function)	No	10 (function of a govt since 1960s)	No Privatized to NPO	no	No
PCS (Function)	Yes- from develop economy to make revenues	1975-88 13 yrs	No Privatized	yes	No
Mississauga Excellence (Initiative)	No	5	No Abolished	yes-from staff group to its own unit	No
PPP Agriculture database (Initiative)	No- serve clients	1	No Privatized with commitment to maintain No cost to dept.	no-temporary	No

Table 4.3 outlines the type of change that occurred. Third, among the nine organizations studied, organizations were able to survive better before the 1980s than after. Three of five case studies that changed during the 1990s (Table 4.2) died. Was this as a result of their being young and small or lack of infrastructure or lack of government support for institution-building? This question requires further study. Did the longer-period cases have different dynamics or control factors or environments than the short term cases? This is addressed again in Chapter 7 and Chapter 8.

Conclusion

The concepts of organizational capacity for fitness, fitness and survival were used to address two key questions: Do innovation and change help PSO be more fit? Do innovation and change help them survive? Having identified criteria for the concepts of organizational survival and mortality, and tested the approach by scoring the survival of

nine organizational case studies which could be expected to have different survival outcomes, this chapter has demonstrated that the methodology was able to distinguish organizational death and survival in the cases studied. The approach used internal criteria plus external feedback to assess the survival of nine quite different PSO case studies that could be expected to have different survival rates, because they functioned in different organizational patterns.

Four criteria for PSO survival were defined (goals, boundaries, activities and positive feedback), and measures for them were developed. Research by Van de Ven and Poole (2005) and Aldrich and Rueff (2006) were used to develop the criteria. Using the four criteria, nine PSO functioning in eight organizational patterns were assessed for survival or death. The assessments found that: (1) In nine individual PSOs survival and death could be defined, distinguished, and ranked; (2) These nine PSO survived changes in activities and limited changes in structure and goals, but not major changes in structure and goals; (3) Ranking the results made clear that most of the organizations had consistent results on most of the measures.

Organizational death was common in the 1990s in this study: three of four organizations created during the 1990s died. There may be something about the period after 1990 that increased risks to organizational survival: In addition to the GoC being in deep deficit and debt, mostly created by Conservative governments, it saw the creation of small organizations, often lacking infrastructure. The 1990s also saw the creation of organizations whose purpose was the deconstruction of government. All five long-surviving organizations were large. This finding is consistent with Hannan and Freeman's (1977) theory. The five organizations were created to perform then-legitimate, *constructive* public functions—ship repair, literacy training, potash policy development and use of the potash industry to develop and gain some control over the Sask. economy, and promotion of health. The four organizations created during the 1990s can be seen as having a *destructive* objective—their purposes were to facilitate downsizing of government services. Moreover, Literacy NB, Missing Children, PPP and Operating Budgets were established without infrastructure—they had supports more typically provided to initiatives than to organizations. None of these federal innovations created during the 1990s had a budget. Among the PSO studied, organizational survival was the lowest during the 1990s, as only one of the organizations that changed survived. While these were all innovations that were featured by the federal government's management training centre as exciting, replicable innovations, they may have been overtaken by the major downsizing effort of the federal government in the early and mid-1990s (the federal government had been downsizing since the mid-eighties, especially after the tax cuts of the late 1980s).

In keeping with Glaser and Strauss' (1967) methodology, the concepts developed in this study can now be converted into substantive formal hypotheses and theory about the impact of innovation and change on organizational survival and mortality:

Hypotheses (relate to GoC):

(1) The organizational death rate increased in the GoC (and organizations) during the 1990s.[10]

(2) Canadian organizations that change their core functions (infrastructure, goals) are less likely to survive than ones that change non-core activities.

(3) Innovations created without infrastructure are less likely to survive.

Theories:

(1) PSO (and organizations) undergoing third order (goal) change are less likely to survive than ones undergoing structural change, which are less likely to survive than ones undergoing activity change.

(2) PSO (and organizations) undergoing second and third order change are less likely to survive than ones undergoing first order (activity) change.

(3) Survival is less likely if governments (and organizations) do not create infrastructures to support organizations.

This chapter has developed theory of PSO change, using a grounded theory method. It has hypothesized that systemic (core) change in the last 50 years has been risky for PSO, suggesting they should be wary of it. This conclusion may not be generalizable to all eras, but may have been specific to the 1980s and 1990s, during which time governments sought to reduce the role, size and functions of government in Canada (Glor, 2001c). A government focus on privatization of Crown corporations and corporate services during the 1980s expanded to abolition, reduction and privatization of programs and key services during the 1990s. Some core government programs that survived the downsizing of the 1990s were reconsidered for privatization during the 2000s. In this environment, governments considered the disappearance of PSO acceptable, and the laying off of public servants desirable. The employees and clients of the PSOs did not necessarily agree. Based on the experiences of the cases examined, organizations needed to be wary about their survival when changing. Change initiatives could and did become levers for organizational death.

This chapter defined and developed measures for PSO death and survival in Canada. This requires more research but the examples contributed to the building of grounded theory of PSO innovation and understanding of its impact on survival. Further study is required to confirm the findings in additional Canadian organizations and other types of organizations.

Organizational survival is a complex issue, with many factors at work. The factors receive further attention in Chapter 5 and Chapter 6. The next two chapters address how the mortality and survival rates among these nine PSO cases compare to those in other studies. The chapters compare the factors found at work in Canadian PSO to the results of published studies of PS, NPS and PSO and reflect upon the differences and similarities. The methodology developed in this chapter potentially permits comparison of case studies of the survival and mortality of organizations across sectors. The hope is to be able eventually to compare normal and innovative organizational (especially PSO) survival and mortality rates.

[10] Table 6.3 provides some confirmation of this hypothesis, and suggests this increase may have started in the 1980s.

Chapter 5: Does Organizational Fitness Predict Survival?

ABSTRACT

Like the last chapter, this chapter employs grounded theory methodology to create substantive theory about the relationship between public service organization (PSO) fitness and survival. Chapter 3 developed a methodology for identifying organizational fitness and assessed the fitness of nine PSO. Chapter 4 identified two methodologies for identifying and distinguishing organizational survival and death—creating or using existing organizational population (especially government) databases and analyzing the change and feedback about it. Chapter 5 compares organizational fitness (predicted organizational fate or survival) results from Chapter 3 to the survival assessments done in Chapter 4. It also compares and contrasts the fitness and survival of the same nine innovating PSO, to determine whether fitness predicted survival in them. This chapter summarizes all of the work done so far, adds a comparison of fitness and survival, and finds that fitness predicts survival quite well among the nine organizations tested. It also compares the methodologies employed to determine fitness and survival.

Introduction

The application of complex adaptive systems concepts such as patterns and evolutionary concepts such as change and boundary-maintenance to organizations introduces such concepts as a fit organization, and organizational survival (Glor, 2001a, b; 2007a, b; 2008a, b). In previous chapters fitness was treated as consisting of capacity for fitness plus overcoming challenges. Survival was the successful maintenance of core activities, structure and goals, combined with positive communication about the survival of the organization. The key elements in the analysis are summarized below.

Firstly, consider capacity for fitness, deriving from adaptability and positive feedback. Organizational adaptability is a function of organizational complexity as Kauffman (1995) showed biological adaptability originates in complexity. Complexity is a function of sufficient variety, reactivity and self-organized emergence (Rogers et al, 2005; Glor, 2007a), which together allow an organization to be adaptive. To adapt, the organization must also be able to communicate with its internal and external environment. This is feedback (Capra, 1996). Feedback is treated here as a function of the messages key groups are giving about the change and the messages the organization is actually receiving (Glor, 2007b). Positive third party messages (perceptions) about the survival of the organization create legitimacy. Without sufficient variety, organizations can lack the receptors to receive certain kinds of feedback. Adaptability enhanced or reduced by feedback measures capacity for fitness.

Secondly, an organization may have a capacity for fitness, but the magnitude of the challenge faced to implement an innovation or change may undermine that capacity. Challenge is considered in terms of the orders of change required of the organization, based on Aldrich and Ruef's (2006, p. 4) definition of the three fundamental properties of

organizations as maintenance of socially constructed activities, boundaries and goals. These types of challenges are not equally difficult. The least challenging type of change for an organization to implement is a change in activities or processes (what is done). The next most challenging type of change relates to organizational infrastructure. This could be, for example, abolition of a unit of the organization, a departmental reorganization, or a shift from the PS or NPS, or vice versa. Changes in goals and thus identity are usually the most challenging type of change for a PSO. Goals are about the objectives of the organization and what should be accomplished; goals involve the beliefs and the identity of the people who work in the organization, the people who make decisions about it (often elected officials), and the public. Governance accountabilities have an impact on goals.

Thirdly, a measure of organizational fitness is produced by reducing the measure of capacity for fitness by a measure of the challenges faced by the organization (Chapter 3). Fourthly, the actual (as opposed to predicted) survival of the organizations was assessed in Chapter 4. This does not turn out to be a simple matter either, as there are several features of the organization to consider, which can survive independently or not. Survival was assessed as the maintenance of activities, boundaries and goals (Glor, 2008b).

In this chapter, the organizations' predicted survival (fitness) is compared to their assessed survival, and to the author's judgment of their survival, to see whether fitness successfully predicts survival. Four things are thus done by the end of this chapter. First, four basic organizational evolutionary concepts–capacity for fitness, challenge, fitness, and survival—are defined and measured. Second, the capacity for fitness is reduced by the challenge, to produce a measure of organizational fitness. Third, the assessed fitness of the nine organizations functioning in eight organizational patterns is then compared to their actual survival. Finally, the relationships among three key concepts–assessed capacity for fitness, fitness and survival–are discussed. In subsequent chapters, possible control factors for the results are discussed.

Methodology

Using a grounded theory method, the fitness measures (predictions of survival) are compared to the survival assessment measures and to the actual survival of the nine organizations as judged by the author. The comparison of fitness to survival facilitates thinking about and making initial judgements about the value of the concepts and properties developed, criteria for valid comparisons, validity of the assessment tools, accuracy of the fitness and survival assessments for the nine case studies. It also permits the making of an initial judgment about whether assessments of fitness predict survival. Some conclusions are offered about what supported organizational survival in the public sector cases considered.

The capacity for fitness of nine PSO functioning in eight different organizational patterns was identified through assessment of two factors–system complexity as a measure for organizational adaptability and feedback as a mechanism for identifying when change is needed in Chapter 3 (Glor, 2007a, b). The measure of capacity for fitness was then reduced by the challenges faced by the organizations to implement the changes, as identified by an orders of change analysis. Capacity for fitness reduced by challenge created a measure of fitness in relation to each organization's environment. The three-fold

measure of the properties of fitness (system complexity, feedback and orders of change) was then used to identify the fitness of the organizations and to predict their fate (survival).

The survival of organizations was defined in Chapter 2. The survival of the organizations was assessed by considering the quality of the changes required of the organizations in Chapter 4. Four markers of survival (core activities, infrastructure, goals, communication) were measured by five indicators of survival that assessed core activities (fate of the program/activities), boundary maintenance (fate of the organization's infrastructure and fate of its infrastructure as a government program), goals (fate of the organization's principles) and communication (what was said about whether the organization still existed). Activities were assigned a score of up to 1, infrastructure up to 2, goals up to 3, and communication up to 1. The assessments were done post-hoc and the scores were summed.

Table 5.1: Comparison of Predicted to Actual Survival of Case Studies

Example	**Fitness Score Ranked**	**Predicted Survival (Based on Fitness)**	**Survival Score**	**Assessed Survival**	**As Predicted?**	**Appear in a GoC document**
Literacy N.B.	-4.05	Die	-4.5	Died Privatized	Yes	No-Died
Mississauga Excellence	-1.3	Die	-4.0	Died Abolished	Yes	No-Died
PPP database	-1.55	Die	-3.25	Died Privatized	Yes	No-Died
PCS	-1.45	Die***	-1.5	Died Privatized	Yes	No-Died
Operating Budgets (Fed.)	+0.45	Survive	+0.5	Survived	Yes	Uncertain
Missing Children (Fed.)	+2.45	Survive	+2.0	Survived	Yes	Yes-Survived
Ship Repair	+2.1	Survive	+4.5	Survived Became ASD	Yes	Yes-Survived
Health Promotion	+2.4	Survive	+4.75	Survived	Yes	Yes-Survived
PHAC	+1.4	Survive	+6.0	Survived ^	Yes	Yes-Survived

Fitness & Survival Scoring: Disappeared/Died <0, Survived >0
*Source: Table 2, Chapter 3.
** Source: Table 1, Chapter 4.
***The valuable mining component of PCS survived and flourished.
^Became a (dependent) agency.

Fitness predicted organizations would either die/disappear or survive. The organizations with positive scores were identified as most fit and were predicted to survive and the organizations with negative scores were identified as the least fit and predicted to die. Likewise, organizations with survival scores below zero were said to have died and organizations with survival scores above zero were said to have survived. In this chapter the fitness measures (predictions of survival) are compared to the survival

measures for the nine case studies.

Results

The analyses confirmed the organizations, functioning in different organizational patterns, had different fitness and that fitness mattered to their survival. The organization receiving the lowest fitness assessment was Literacy NB. The next level of fitness included PPP, PCS, and Mississauga Excellence. Although it had a positive score, Operating Budgets did not have a high fitness score. The most fit organizations were Ship Repair, Health Promotion and Missing Children.

Survival scores can be grouped into four categories. Three organizations had the lowest survival scores, Literacy NB, Mississauga Excellence, and PPP database (-3.5 to -4.0). PCS had a low survival score. A third group had low positive scores, including Operating Budgets and Missing Children. Three organizations had high positive survival scores, Ship Repair, Health Promotion and PHAC. The fitness results are ranked in Table 5.1 and compared to the survival results.

Fitness predicted survival of the nine organizations—nine of nine survival predictions, based on fitness scores, accurately predicted survival. The fitness and survival scores did not rank identically, but were similar. This provides a check of the methodology. At the same time, the results seem too good to be true. Further work is needed to confirm them.

The search for the organizations in an official document confirmed the fitness assessment (prediction of survival). In the case of carryover of a paercentage of Operating Budgets, while the calculation continues to be made each year, and departments are allowed to spend the funds, the impact of the increase on departmental budgets was one-time only. Operating budgets were frozen as of 2010-11 and severely cut shortly thereafter.

Discussion

Predicting and identifying the life and death of organizations had its difficulties. A number of potential and real methodological problems are considered in this chapter.

First, the analyses of fitness and survival were not entirely independent because the assessments were partially based on similar measures—survival of activities, boundaries and goals. On the other hand, these are the measures of organizational survival. A comparison of the measures of fitness and survival is made in Table 5.2. Fitness was assessed using three measures, complexity (adaptability), feedback and challenge (orders of change). Survival was assessed only by an analysis of orders of change and communication. The fitness and survival challenge measures were the same, although the former were done with a prospective frame of mind and the latter with a retrospective frame of mind. In the fitness assessment challenge represented half of the points. In the survival assessment it also represented 50 per cent while appearing in a government document represented the other 50 per cent. In the fitness scoring feedback referred to feedback about the possibility of change, in the survival analysis, communication referred to communication about whether the organization had survived. As a result, even if the

assessments of challenge and survival had been completely biased (which is not likely), the maximum potential for affecting the results is only 50 per cent. As explained in the next point, the overlap is not likely a full 50 per cent. At the same time, overlapping measures allow a comparison. There were also differences.

Table 5.2: Comparison of Methodologies for Assessing Fitness and Survival

Measures Used to Assess Fitness	**Measures Used to Assess Survival**
Complexity (Adaptability):	
• Variety	
• Reactivity	
• Self-organized emergence	
Feedback about need for change	Communication about survival
Orders of Change:	
• Predicted first order (activities) change	Actual activities
• Predicted second order (boundaries) change	Actual boundary maintenance (2 measures)
• Predicted third order (goals) change	Actual goals
	Organization recorded in/disappeared from an official database/document(s)

Second, the author, who did the assessments, did the survival assessment after having done the fitness assessment about eight months earlier, and approached the survival assessment in a frame of mind that was curious but uncertain about how the assessments would turn out. Both the similarities and differences in the results came as surprises. There remains some potential, however, that the results of the fitness assessments influenced the results of the survival assessments. To eliminate the possibility of one influencing the other would have required using third party assessors but this was difficult in an unfunded study that required in-depth knowledge of the case studies. No one else had the author's knowledge of this set of case studies.

Third, the question remains to be answered as to whether third part assessors could have done the assessments. For this system of assessment to work with other case studies, this must be possible. Fourth, the confirmation of survival/death of PSO through by searching documents, the methodology used in most demographic studies, helped to lend legitimacy to the methodology. The assessment methodology made it possible to include PSO that do not appear in official documents.

Conclusion

The relationship between organizational fitness and organizational survival is a complex issue that deserves further study. The comparison of fitness to survival allowed

consideration of and initial judgements about the value of the concepts and properties developed, the criteria for valid comparisons, the validity of the assessment tools, and the accuracy of the fitness and survival assessments for the nine examples. It also permitted initial judgments about and creation of theory about whether assessments of fitness predict survival.

This research suggests a substantive theory that PSO fitness and lack of fitness predict PSO mortality and survival. The analysis conducted here also suggested a formal theory that organizational fitness and lack of fitness predict organizational mortality and survival. It was possible to assess PSO capacity for fitness, fitness, and survival but the results are at best conclusive for the nine PSO assessed. Although grounded analyses are always post-hoc, there are potential biases inherent in post-hoc predictions. There were strengths in the variety of organizations assessed—they were not all at the same typological level, in the same governments, or created at the same time. There were weaknesses for universal validity in the fact of a pattern during the 1980s and 1990s of Canadian governments creating initiatives without permanent infrastructures, which relied on existing, often overworked and underfunded infrastructures and the difficulty finding enough information to determine whether organizations had died or survived. Case studies which the author knew helped with the latter problem.

Nonetheless, the study also suggested substantive theory that organizations' capacities to defend their boundaries were more robust for large organizations with infrastructures and less robust for organizations with no infrastructure. Only one of the five organizations created either without an infrastructure or with a temporary infrastructure survived. Although the one that survived (Operating Budgets) did not have its own infrastructure, it is integrated into an organization with an elaborate infrastructure that provides it with infrastructure support. At this point, it is only a budgetary calculation for Treasury Board and departments.

A worrisome trend was observed among the case studies. Long-existing organizations that changed died (Literacy NB and PCS—both were privatizations). Research on the European Quality Award (Pollitt, Bouckaert & Löffler, 2006) also found a high death rate among quality change initiatives in European public sectors (discussed in Chapter 8), and private sector commentators likewise suggest low survival rates among private sector innovations (Michaels, 2000). Change in this period may have been dangerous to public service institutions in developed countries. If this were true, it could be quite a serious assault on the infrastructure of western society. Further research is needed on this issue.

While there were challenges identifying and comparing organizational fitness and survival, this work represents a start. The results suggest that PSOs that innovated died at a high rate. Forty-four per cent of the nine organizations assessed died, despite (or because?) of functioning in different patterns. Section III expands to consider change, not just innovation. It explores the relationship in the literature between organizational change and mortality and identifies possible control factors for high mortality among the innovation case studies.

Section III: The Relationship between Organizational Change and Mortality

The argument presented so far has focused on developing substantive theory about the impact of innovation on nine case studies in the Canadian public sector. It examines innovation. Section III takes a broader focus on change and the potential for building formal theory of change. It examines what we know about organizational mortality, what it is associated with, and what causes it. Chapter 6 examines the demography of PSO in the PS, NPS and PSE. It considers possible control factors for organizational mortality and survival in the Canadian PSE, based on analysis of the nine case studies. Chapter 7 outlines and considers the (mostly) quantitative mortality research in the PS, NPS and PSO sectors in several countries. Chapter 8 considers the control factors found in those sectors and countries, and compares them to Canadian findings. Chapter 9 compares the control factors found in the case studies to those found in the literature. This facilitates the creation of formal theory and hypotheses concerned with organizational change in the Conclusion.

Chapter 6: The Impact of Innovation and Change on Public Sector Case Study Mortality

ABSTRACT

Chapter 6 explores the factors at work in the case studies that might have affected their survival. From the case studies, it identifies four types of internal and external control factors that could be contributing to mortality and survival in the case studies. It considers the possibility of the following internal control factors being at work: (a) Time in the form of the period the case was created and/or when it changed, (b) Financial security, (c) Orders of change that the organization experienced in changing, (d) Policy environment. It considers the following possible external control factors: (a) Legitimacy (b) The economy, and (c) Politics and ideology. The Conclusion completes the project by: (1) identifying possible control factors for organizational death and survival in the public sector, and (2) developing hypotheses for control factors for PSO death and survival.

Introduction

Chapter 6 focuses on the Canadian public sector, and seeks to clarify factors that might be at work in the case studies. It introduces such questions as the following: (1) Does it matter when an organization was created or changed matter? Have PSO survival rates changed over time? (2) Does the magnitude of (orders of change) affect PSO survival? (3) Are economic and/or political factors at work in PSO?

This chapter examines the nine case studies of innovative Canadian PSO, following them from birth to the present (2013), in order to identify possible control factors at work and hence develop hypotheses about survival and death of Canadian PSO that can in turn be examined in other PSO and in other organizations.

Methodology

Using a grounded theory method, the impact of change on nine Canadian public

sector innovative organizations is studied in order to develop hypotheses for possible ***internal control factors*** and ***external (environmental) control factors*** for PSO mortality. As described in more detail in Chapter 2, grounded theory method develops theory based on the observation of concrete examples of the phenomena being studied, their comparison and contrasting with other examples, and the identification of concepts and their properties from the examples. Generalizations are built from observation and comparison with similar or contrasted with different phenomena in other environments. A grounded theory approach is useful in studying new phenomena, in this case the nature and characteristics of PSO innovation and its effect on the death and survival of innovating Canadian PSO, most of which are not currently in accessible organizational demography databases.

Control factors are factors that correlate with enhanced survival or enhanced risk of organizational mortality. Those that correlate consistently with mortality are called liabilities. A liability of change means that PSO that have changed would be more vulnerable to disappearance. A change is a change, for example, in employee motivation, organizational culture, activity, infrastructure or goal. In Chapter 7 and Chapter 8, the control factors discovered in the case studies are compared to those discovered in the literature.

The level in the organizational hierarchy at which these case studies existed ranged from the level of an initiative reporting to a manager of a unit to that of a self-standing Crown corporation and an agency reporting directly to a Minister and many levels in between. Whether the case studies were organizations was assessed in Chapter 1, with some difference of assessment, depending on the approach. The survival of the nine PSO case studies and their organizations was assessed in Chapter 4. Some factors studied to see whether they correlate with mortality in the case studies include: (1) Internal control factors such as time (age and newness), magnitude of change, infrastructure, and demographic characteristics. (2) External control factors such as legitimacy, the economy, politics and ideology.

Results

Internal control factors relate specifically to the innovations and their PSO. External control factors are outside the control of the innovating organization.

Internal Control Factors

The internal control factors examined included time period created or changed, magnitude of change, infrastructure, financial security, internal policy environment, and demographic characteristics (age, size). The first issue examined was whether the survival rate of PSOs in Canada might have changed over time.

Have PSO Survival Rates Changed Over Time? Among the nine organizations, four did not survive and five survived. The impact of time on organizational survival was reviewed. The survival of the nine cases varied substantially, ranging from a survival of 45 years to survival of two years. Table 6.1 is ranked by the decades when the PSO were created. The nine PSO did not all begin at the same time, survive to the same age, nor exist for the same length of time, which would be expected. Moreover, some survived and some did not. All of the organizations existed during the 1990s, however, and therefore

shared a common period of existence.

Table 6.1 describes the characteristics of the period of creation of the case studies and whether the organizations received funded infrastructure when they were created. Three distinctions can be seen: Organizations created between the 1940s and about 1970 and still surviving were medium-sized or large and had funded infrastructures. The organizations created during the 1980s and 1990s were small and had no funded infrastructure. The former period was one of government expansion, the latter of government retrenchment.

Table 6.1: Analysis of Case Studies by Age

Case Study	Period Created	Characteristics of Period when Created	Infra-structure	Period of Change	Age at Change in yrs	Age yrs now/ at death	Yrs as Govt Function	Survive?
Ship Repair	1940s	Gov't assumes industrial functions during wartime	Yes	1990s	50	65+	65+	yes
Health Promotion	Late 1960s, early 1970s	Gov't assumes social programming functions	Yes	1980s	30	35+	5-10	yes
PCS	1975	Gov't assumes some ownership	Yes	1980s	14	14	35+	no
Missing Children	1980s	Some no net cost initiatives.	No Used existing	1990s	N/C*	20+	20+	yes
Operating budgets	1990s	Greater flexibility Fewer resources	No Used existing	1990s	N/C	10+	2	yes
Literacy NB	1990s	Gov't divests programs.	No	1990s	2	New orgn 2 yrs	Gov't orgn 25 yrs	no
Mississauga	1990s	Some no net cost initiatives.	No temporary	1960s 1990s	5	5	5	no
PPP	1990s	Some no net cost initiatives.	No temporary	1990s	2	2	no	no
PHAC	Early 2000s	Economic expansion SARS outbreak GoC creating agencies	Yes	2000s	146	9 yrs	1867-2013**	yes

+ = continuing. Abbreviations: N/C = no change; PHAC=Public Health Agency of Canada; GoC=Government of Canada

*Missing Children added more departments.

** Marine hospitals and a quarantine service existed prior to Confedeation in 1867. A food and drug lab was created in 1884. These functions and others were assembled under a new Department of Health in 1919.

Magnitude of change. The magnitude of the challenge (orders of change: 1st, 2nd, 3rd) faced by PSO is summarized in Table 6.2. First order change was defined as a change in activities, second order change as a change in boundaries, and third order change as a change in goals. Comparison of the survival outcomes for organizations that engaged in first order versus second and third order change are striking–none experiencing second or third degree change survived. While first order changes in activities (and minor goal changes) were adaptive for PSO in this study, second (structural) and third (goal) order changes were very risky.

Table 6.2: Analysis of Orders of Change in Nine Case Studies as Measure of Magnitude of Change

Organization	Period of Creation & Change	Type of Change and Magnitude (Order*) of Change	Difficulty Score (Challenge) Ranked**	Survive?
Literacy NB	1960s 1990s	Boundaries (2nd order), goals (3rd order)	5.75	No
PCS	1970s Announced early 1980s; done 1988.	Activities (1st), boundaries (2nd), goals (3rd order)	5.5	No
Mississauga Excellence	Early 1990s Late 1990s	Goals (3rd)	4.0	No
PPP	1992-3 1994	Activities (1st), boundaries (2nd), goals (3rd)	3.25	No
Ship Repair	WWII 1990-97	Activities (1st), goals (1st)	2.5	Yes
Operating Budgets	1995-6	Activities (1st), goals (1st)	2.25	Yes
Health Promotion	Early 1970s Late 1980s	Activities (1st), goals (1st)	2.0	Yes
Missing Children	1986	Activities (1st), goals (1st)	1.0	Yes
PHAC	Created Sept. 2004; Act Dec. 2006.	Minor boundaries (1st)	2.0	Yes

Source: Glor, 2007b, Table 3.

* Activity changes are first order change, boundary changes are second order, and goal/principle changes are third order; however, minor boundary and goal changes are first order changes

**Difficulty score = challenge from Table 3.3 and Table 3.5.

Policy environment. Table 6.3 examines the internal policy environment for the organizations studied. There was a clear difference in the policy environments of the 1940s through the 1970s, compared to the 1980s through the 2000s.

Financial Security. During the 1990s, the only financially secure PSO among the nine was PHAC's predecessors in Health Canada. PHAC is a GoC agency. Mississauga Excellence thought it was, because it was made a unit and given a budget, but soon afterwards, with a new Chief Administrative Officer, it was abolished. Financial security

was also determined by the government's fiscal situation (see Table 6.3).

Table 6.3: Analysis of Organizational Survival by Period Created and Policy Environment

Case	Initia-ted	Policy Environment of Change	Finan-cially Secure?	Fate as Govt Program	Crucial Factor in Fate	Sur-vive?
Ship Repair	1940s	Govt purchases ships for WWII	No	Continued	Workers semi-voluntarily assumed more respy 1990s	yes
Potash companies existed since 1950s, PCS since 1975, priv'd 1989.	1970s	Govt assumes partial owner-ship of potash beginning about 1977	Yes	Privatized beginning 1989	Change govt & ideology 1982	no
Health Promo	1960s and early 1970s	Govt assumes social programming functions	No	Continued. Change of mandate	Flexibility: willingness to change focus slightly	yes
Missing Children	1986	Cuts to universal and community programs, privatization. Some new, temporary programs, one targeted population- based initiative.	No funding	Continued	Workers semi-voluntarily assumed more respy	yes
PPP	1990s	Some small, temporary initiatives.	No permanent funding	Privatized	Created during period of downsizing	no
Mississauga continuous quality improve-ment	1990s	Some (temp) initiatives.	Yes: funded, then abolished	Disappeared	Workers encouraged to assume more respy. Change in leadership.	no
Literacy New NB	1990s	Govt divests programs.	No	Privatized	Change ideology	no
Op'g budgets carry-over	1990s	Greater flexibility to deal with budget cuts	No funding	Unclear	Created during period of downsizing	yes
PHAC	2004	Conservative (Liberal Party govt) NPM	Yes, funding but infra-structure funds not provided	Continuing	SARS epidemic. Need to consolidate public health function in GoC	

+= continuing

Demographic Control Factors. The nine organizations were assessed for other demographic factors; namely, age and size in Table 6.4. Among the four long-term and

medium-term organizations (created before the 1990s), the literacy program and PCS died, while Ship Repair, HP and Missing Children survived. The long-term and medium-term organizations had a 75 per cent survival rate and infrastructures, while the small PSO started during the 1990s had no infrastructures and a 75 per cent short-term mortality rate. PHAC (2000s) survived but it was a successor organization, not an entirely new one. The longer living cases may have had different dynamics or control factors than the short term cases but they also had more resources.

While Stinchcombe (1965) suggested there was a liability of newness for organizations, he did not demonstrate there was one. Subsequent authors showed there is one: Carroll (1983) for 63 samples of organizations, Freeman et al (1983) for American labor unions, American semiconductor firms, and San Francisco newspaper publishers. Other researchers have demonstrated there is not one (Brüderl & Schüssler, 1990; Carroll & Huo, 1988; Fichman & Levinthal, 1991) in their databases, and have suggested that there are instead liabilities of organizational childhood or adolescence or both and of small size. The age at which adolescence occurred varied among organizations. The high survival rates before 1990 (75%) and the low survival rates (40%) after 1990 among the nine case studies suggest an age-related factor; however, there may be some additional dynamics at work among PSOs, such as infrastructure or political or economic period factors. Understanding the period phenomenon requires examination of the external environment (see below) of the organizations as well as the internal environment.

Table 6.4 Analysis of Case Studies by Age and Size

Case Study	**Initiated**	**Age at Change (years)**	**Age Now* or at death**	**Size**	**Survive?**
Ship Repair	Early 1940s	50	70+	Large	yes
Health Promotion	Late 1960s and early 1970s	20	43+	Medium	yes
Potash companies existed since 1950s, early 1960s, PCS since 1975, priv'd 1989.	1975	14	14	Large	no
Missing Children	1986**	N/C	27	Small	yes
Literacy New NB	1990s	2	2	Medium replaced by Small	no
Op'g budgets carry-over	Mid-1990s	N/C	19	Small	yes
Mississauga continuous quality improvement	1990s	5	5	Small	no
PPP	1990s	2	2	Small	no
PHAC	2004	2	7	Large	yes

N/C = no change
*Age calculated as of 2013.
**Our Missing Children, Canada Border Services Agency website: http://www.cbsa.gc.ca/security-securite/omc-ned-eng.html, collected October 30, 2013.

Size was also a factor in the case studies: Organizations created before 1980 were large or medium-sized. Organizations created after 1980 were small, with the exception of PHAC, which was a consolidation of existing units into an agency. Of the demographic factors considered—age and size—both of them seemed to be working against at least some of the case studies.

External Control Factors

Three possible external control factors were explored in the case studies: credibility/legitimacy, economics and politics.

Credibility and Legitimacy. As discussed in Chapter 1, Carroll and Hannan (2000, p. 77) asserted that organizations have three common properties of being a corporate actor, not just a collection of individual actors, mobilizing resources and legitimacy based on a claim to achieve specific and limited purposes, and lasting beyond a single collective action. They suggest that a sub-organization gains legitimacy by adopting the form of the organization.

Credibility and legitimacy have a number of aspects in government. The concept of credibility focuses more on the credit or value given to what the members of the organization say and what they represent. The concept of legitimacy is similar, but focuses more on the organization itself, whether it has come to be accepted, whether what it does is considered worthwhile, whether the way things are done is appropriate, and whether the way things are done is similar to the way other, large, legitimate organizations are doing them. Carroll and Hannan (2000, p. 223) use the concept of legitimation, and identify two aspects of it. One form concerns the extent to which the form conforms to a set of rules, called *coercive isomorphism*. A second form refers to something that is socially taken-for-granted, indicating it has been accepted as the natural way to do collective things, called *constitutive legitimation*. Carroll and Hannan consider constitutive legitimation more productive for developing theory and research.

The people of organizations need to have credibility with each other and with people outside the organization. The organization needs to have legitimacy with other organizations, with the government of the day, with their internal-to-government competition, with management, and with the stakeholders they serve. In government, the most important factors are credibility with the government of the day and credibility with management, as they are most likely to have the power to abolish the organization or the incumbent's position. The change in ideology beginning in 1982 in Canada put the credibility of many programs and organizations on the line, especially social programs. This was a factor in the survival of many of the nine PSO.

The case studies succeeded in mobilizing sufficient resources and legitimacy to be created (Table 1.1) but some later had challenges with legitimacy (Table 6.5).

Table 6.5: Were Resources and Credibility/Legitimacy Issues for the Case Studies?

	Survived					**Died**			
	Ship Repair	**HP**	**Missing Children**	**Opg Budgets**	**PHAC**	**Literacy NB**	**PCS**	**Mississauga**	**PPP**
Lack of resources	Yes -directorate	Yes - govt	No –no budget	Yes -govt	Later	Yes -Prov (N.B. is a poor prov)	No - made $ for province	No -principle of decentralization adopted	Yes -dept cutting resources
Lack of Legitimacy/ Credibility	Yes -Legitimacy P.C. govt did not support govt performing industrial functions	Some -credibility -last media ad. program did not go well	Some -Legitimacy -Union agreement ltd tasks -Some cultures did not agree with policy	Yes -Credible 1st year, not since	No -established govt function	Yes - Legitimacy -No govt wanted to fund -Replacing qualified teachers	Yes -Not legitimate with new PC neoliberal govt	Some – Credibility -Permanent unit led to some resistance from staff	Yes - Credibility During downsizing unlikely it would be made permanent

Economic Control Factor. If economics was a major factor in organizational survival over time, a relationship would be expected between the economy and organizational survival. An analysis of this issue in the case studies (Table 6.6) found that all the organizations were created under poor economic conditions with the exception of Ship Repair and PHAC. During WWII the economy was initially in depression, then boomed, as the government ran a large deficit due to the war effort. A general link could not be drawn between organizational survival and the economy among the nine cases assessed.

Table 6.6: Role of Economics and Fiscal Situation in Nine Cases

Initia-ted	Programming/ Policy Environment	Case	Economic/ Economic & Fiscal Environment When Created	Economic/ Economic and Fiscal Environment When Died
1940s	Gov't purchases ships for WWII	Ship Repair (Function)	Boom economy, large budget deficit	N/A
1970s	Gov't assumes partial ownership of potash beginning about 1977	PCS created in 1975 (Function)	Good economy, budget surplus, NDP active government	Poor economy 1989, large budget deficit
	Gov't assumes social programming functions	Health Promotion created 1972-4 (Function)	Good economy late 80s, budget deficit	N/A
1980s	Govt privatizing Crown corporations Govt abolishes some universal social programs (e.g. unemployment insurance, Family Allowance) Federal govt severely reduces funding to provinces for social programs A few, targeted population-based initiatives.	Missing Children (Initiative)	Good economy mid-80s, budget deficit, stock market crash 1987 did not translate into recession.	N/A
Early to mid 1990s	Govt abolishes some universal social programs & reduces funding to provinces for social programs (cuts in welfare) Some (temporary) new efficiency-oriented initiatives.	PPP (One-time Initiative)	Poor economy early 90s, large budget deficit	Slowly improving economy, mid-90s
	Some (temporary) initiatives.	Mississauga Excellence	Poor economy early 90s, large budget deficit	Improved economy, late 90s
	Government divests programs.	Literacy training (originally created during 1960s) (Function)	Poor economy early 90s, budget deficit	Improving economy, mid-90s
	Greater flexibility	Operating budgets Greater use of consultants & temporary employees (One-time Initiative)	Slowly improving economy mid-90s, budget deficit	N/A
2000s		PHAC		

N/A = Not applicable, did not die.

Political Control Factor. The role of politics in the nine studies is reviewed in Table 6.7. In all cases, politics was a factor in the survival of these PSOs. A shift in the dominant ideology beginning in 1982 could be detected in the long-term cases. The long-existing NB provincial literacy program was privatized to the NPO sector during the privatization and downsizing waves of the late 1980s and early 1990s. The new NPO, Literacy NB, disappeared within two years, but the activities were preserved. Having privatized the literacy program made it eligible for federal funding.

Table 6.7: Role of Politics/Ideology in Survival of Nine Cases

Case Study	Political Env Original Change to:		Politics Impt?	Change Save $?	Did Change Fit Env?	Orgn Survive?	Yrs
Literacy NB	LW	RW	Yes	Yes	Yes	No	35
Operating Bud.	RW	N/A	Yes	Yes	Yes	Yes	10
Missing Children	RW	N/A	Yes	Yes	Yes	Yes	10
Mississauga	RW	RW	Yes	Yes	Yes	No	10
PPP	RW	RW	Yes	No	Yes	No	3
Ship Repair	RW	RW	Yes	Yes	Yes	Yes	10
PCS	LW	RW	Yes	No	Yes	No	35
HP	RW	RW	Yes	Yes long- term	Yes	Yes	45
PHAC	RW	RW					

RW = Right Wing, LW = Left Wing, N/A = not applicable

During the same period, the notion of health promotion gave way in part to a preventive approach in the GoC. Health promotion and prevention are dividing lines within public health, concerned with power and with what was acted upon and what was not chosen for action and how. When the universal Family Allowance was abolished during the late 1980s, educational and enrichment programs for at-risk children and families were introduced, at lower cost. At the same time, large tax cuts, especially for business, and a three-category flat personal tax rate were implemented and then expanded during the 1990s, the federal government was cutting back its universal welfare program funding and programs for families with children and it almost completely eliminated the health promotion media advertising program. Like other New Public Management governments, the GoC created selected high profile "deserving" priorities, in this case children, propelled by research and the political need to develop a plan of action for children going into the 1990 UN World Summit for Children. Enriched early childhood programs had been demonstrated through evaluation of the American Head Start Program to have long term effectiveness in improving health, educational achievement and reducing the number of children born to young, unwed mothers.

Although education is a provincial mandate in Canada, the federal government has played a key role in funding education and in literacy and manpower training since the 1960s, but usually under Liberal governments, and then only sometimes. Conservative governments have been more likely to cut literacy programming. While these actions were not publicly portrayed in political terms, they were consistent with the Progressive Conservative's decentralizing and downsizing ethic, although both Liberal and Conservative governments have cut back programs and transfer payments to provinces since the late 1980s. The cuts to literacy infrastructure made by the government of NB during the early 1990s, and the emergence of federal funding within a few years occurred in this political context.

These health and educational dividing lines did not have strong representation in political platforms, though, except as reflected in decisions to balance budgets quickly by cutting back social programs and not increasing taxes in order to do so. Political platforms did not usually identify that programs would need to be cut or where the cuts would be made, except for general campaigns to "eliminate fat" in the public service.

PCS was also affected by the political sea change of the 1980s. Three potash mines representing forty per cent of the industry in Sask. were purchased at market price under threat of forced sale by the provincial government in 1975, at the end of the liberal post-World War II era, when Keynesian economics was dominant, and government ownership was acceptable within bounds in the West (except in the USA). PCS was privatized again within ten years as Canada's first neo-liberal government was elected in Sask. Governments made private programs public under left-wing governments, then privatized functions and organizations, and cut taxes and programs under right-wing governments. Importantly, the focus of PSE organizational fitness shifted over time with different governments from (1) effectiveness (activities) and first order change to (2) efficiency (downsizing) and second order change to (3) a reduced role for government (privatization), elimination of programs (including their infrastructure and their public policy goals) and third order change. Third order change was particularly clear when the two political periods were compared. The political objectives in privatization can be structural (second order change) or it can be a public policy goal (third order change).

Ship Repair Atlantic was likewise influenced by politics. Federally, a Conservative government was in power from 1984 to 1993. During this period major privatizations occurred (Canadian National Railways, Air Canada, Petro Canada) or were planned. Privatization of services was also considered, including Ship Repair. At the same time, major budget cuts occurred each year during the late 1980s and early 1990s as, during a recession, the government tried unsuccessfully to bring down its deficit. As with other neo-liberal governments, large tax cuts, especially to corporations, contributed to large deficits, and were followed by program cuts. When a right of centre Liberal government was elected in 1993, it retained the focus on budget and tax reductions, but less on privatization (the easy privatizations, the profitable corporations, had already been privatized.). Ship Repair became an ASD, reduced its costs and introduced private sector tools such as cost recovery, but was not privatized. The period of cut-backs during the 1990s was followed by a period in which the government yearly underestimated economic growth and revenues, and substantial budget surpluses. These were used to pay down the debt and create some new endowed initiatives such as the Innovation Fund for science

research in universities and hospitals and the Federation of Canadian Municipalities Green Municipal Fund. PHAC was hived off of Health Canada to become an agency under a right-wing Liberal government as part of the GoC's implementation of NPM and retained under a more right-wing Conservative government.

Political changes may have influenced the survival of both the long and short-term cases. Of the three long-term cases, Literacy NB did not survive its transfer to the non-profit sector, the cut-backs and the abolition of infrastructure. It was profoundly affected by provincial downsizing and its funding and infrastructure remained unstable in 2009. Although literacy programming continued, neither the NB ministry nor the NPO Literacy NB did, and now the federal government has reduced its funding somewhat. PCS did not survive in the privatized organization. Even its name changed, to PotashCorp. Like many privatized Crown corporations, PotashCorp makes no reference on its website to its PSE history. Part of Heath Promotion survived in the PHAC, remaining within the public sector, despite the shift of priorities from health promotion to disease prevention. Ship Repair also survived, adjusting to reduced resources by increasing workload, reducing inefficiencies, and adopting PS approaches. While the federal public health function survived, it was transferred from a core department (Health) to an agency, but with little more power or independence.

The organizations created in the first period, prior to 1980, may have reflected liberal and social democratic political concepts of the need to expand government interventions, of a federal role in expanding provincial social programming (through coordination, dissemination and funding), and of the need for government intervention in the economy. Program cuts and new programs created after 1980 may have reflected conservative notions of preparation for and of creating incentives to work through cuts in social programs (as opposed to a focus on capacity-building through training). The federal government partially withdrew from funding health and education, and completely withdrew from funding social housing. Efforts were made to enhance competition and competitiveness by privatizing government functions where possible, by introducing competition and budget cuts within government at many levels and by adopting the New Public Management role for government of "steering not rowing". Later, some renewed funding was provided by the federal government for third-party health services, research and social housing.

Discussion

Edgar Schein positioned organizational change as being driven from within, by both developmental processes and by interventions by organizational leaders. According to Schein, the function of culture is to solve the group's problems of survival and adaptation to an external environment, and of integration of internal processes to ensure capacity to continue to survive and adapt (Schein, 1985, p. 50). Schein perceived organizations as going through three developmental phases, during which the function of culture and the change mechanisms vary. During birth and early growth, culture is the glue that holds the organization together and socialization is a sign of commitment. Change occurs through natural evolution and managed revolution by outsiders. During organizational midlife, new subcultures are spawned, key goals and values are lost, and an

opportunity to manage the direction of change is presented. Change mechanisms include planning change, organization development, technical seduction, scandal and explosion of myths, and incrementalism. During organizational maturity, markets mature or decline, the organization becomes internally stable or even stagnant, and there is a lack of motivation to change. At this third stage, the culture becomes a constraint on innovation, by preserving the glories of the past as a source of self-esteem and defence. Change occurs through transformation, where some points of the culture change, or even through destruction. The change mechanisms are coercive persuasion, turnaround, reorganization, destruction and rebirth (Schein, 1985, pp. 271-2), the overt use of power. Schein argued that power is overtly used in changing organizations in the third phase. Much business management and public management literature treats organizational change this way, as emerging from managerial will. In the case studies, the internal factors of age, size, period of creation, period of change, magnitude of change, policy environment, and creation of infrastructure were investigated.

The internal factors can be grouped into two kinds of factors, the demographic factors of age, and size, and the politically-related factors of period of creation, period of change, magnitude of change, policy environment, and, it turns out, creation of infrastructure. All were important factors in the nine Canadian case studies.

There were demographic differences of size and age among the case studies. Three of the case studies died while young (less than 11 years), one of two died as adolescents (11-19 years old), and one of the old (more than 20 years) died. The small PSO had a 50 per cent mortality rate and the medium and large PSO each had a 33 per cent mortality rate (two large PSO were privatized).

A number of issues seemed linked to the political and ideological sea-change that began in Canada in the 1980s, with the election of neo-liberal governments. Neo-liberal governments have promoted and implemented reduction in the role and size of government. They cut taxes for corporations and high income earners substantially and flattened tax rates. This drove governments into severe deficit, which was then used as the rationale for cutting programs and transfers substantially, especially universal transfer programs. Among the case studies this showed up after 1990, but it started earlier. The first Canadian neo-liberal government was elected in Sask. in 1982 and the second was elected federally in 1984. Federal governments have followed neo-liberal policies since then. Liberal and NDP as well as Progressive Conservative and Conservative governments have followed neo-liberal policies since then, to greater or smaller degrees. This is why the change is referred to as ideological.

Period differences can be seen among the case studies created before and after the 1990s. The high PSO mortality rate during the 1990s is also indicative of another change. The internal factors of period of creation and period of change were probably confounded with ideological change starting in Canada in the early 1980s. This can be seen as organizational adaptation.

The finding that large organizations survived more frequently (but still only at a 66 per cent rate) may also be confounded with the ideological changes. Except PCS, Health Promotion, and PHAC, which were largely successor organizations, no new large organizations were created among the case studies after 1970. Some large (but smaller

than their predecessors) new programs were created during this period; for example, the Child Tax Benefit (administered simply, through the tax system), an income-tested replacement for the universal Family Allowance, and three new child development programs (administered through grant and contribution programs) in the late 1980s. A net cost saving was realized.

The case studies were better able to tolerate some magnitudes of change than others (Table 6.2). They survived first order change, change within the system better than second and third order change, change of the system. For example, organizations survived the first order change of a new role for customs officers in Missing Children, increased efficiency and some private sector methodologies in Ship Repair, and a shift from health promotion to disease prevention (i.e. a shift in professional ideology and activities) in HP. Literacy NB and PCS, on the other hand, experienced second and third order change in their shift of sector and did not survive. No organization that experienced second order structural or 3rd order goal change survived as an organization.

The internal policy environment was probably also related to this change. The urgent promotion of fundamental change during the 1990s may not have turned out to be adaptive for the nine organizations that changed in response.

None of the organizations created during the 1990s was given a permanent infrastructure: The models used for creating PSO during the 1990s, based on "empowerment," and "doing more for less" may have placed the organizations at increased risk for death as compared to organizations created earlier. Even worse, the organizations created may not have been viable, and hence the efforts may have been wasted at. They may have had a positive effect on morale, however, in suggesting that positive things could be done in the midst of major downsizing. At the same time, all staff from four of the nine case studies lost their positions.

Among the privatized organizations, more was lost than was suggested or readily apparent; for example, in the potash and literacy training privatizations. While the activity of potash mining continued and a head office remained in Sask., the public policy goals and infrastructure died. While literacy training (an activity) continued, the NB government infrastructure, the NB government's goal of providing literacy services, and then very quickly the privatized Literacy NB coordinating agency were lost. While training activities continued, infrastructure and goals were lost. Potash mining continued much the same way, although the union position on the board was immediately abolished. A new model of literacy training was adopted, that theoretically used more poorly qualified teachers, but largely used the same teachers, who were now paid as paraprofessionals. Unlike with living organisms, it was harder to recognize that an organization had disappeared than an organism, especially since the fact may sometimes have been camouflaged by continuing the activities in much the same way, typically only for awhile. Eventually the activities changed too, as the profit motive took over in potash mining and less qualified teachers eventually took over literacy training.

The four organizations created prior to 1980 were created in substantially different political environments than those after 1980. The ideological shift that began in the late 1970s–the election of Margaret Thatcher in the UK, Ronald Reagan in the USA, and similarly oriented governments in New Zealand, Australia and Canada led to

important changes in activities, boundaries and principles for governments and government programs. These ideologically-based changes in direction represented a possible control factor for organizational survival that produced more second and third order change. This political shift was critical background (Poole, Van de Ven, Dooley & Holmes, 2000) for the case studies analyzed in this book.

Two external control factors were explored in the case studies—economics and politics, including a shift in ideology. As in other studies, economics, defined as the state of the economy, did not turn out to be important in the case studies. Politics and ideology did: there was a clear political dividing line among the case studies that *changed* before and after 1990. Although the political change started earlier, during the early 1980s it was not reflected in the case studies. Time, ideology/politics, and type of change were all important political factors in the survival of the PSO studied.

Although eight of the nine case studies existed in some form during the mid-1990s, when the priority of Canadian governments was reducing the cost of government, two of six organizations died that had been created during the earlier period, and therefore straddled the two political periods–the post-World War II liberal era and the post-1980 conservative era. Four of five case studies created after 1990 died. Hence, they facilitate a comparison of the two periods.

None of the organizations that underwent second and third degree (systemic) change as defined by Burke (2002) survived. This may suggest that first order change is sometimes healthy for organizations, but second and third order change is much more risky. Systemic change resets the clock of the liability of change and puts organizations at risk. Should second and third order change be necessary in organizations, it needs to be handled very carefully. The organizations did not survive systemic change, either because they were privatized without sufficient resources (PPP), or a competitor took over (Literacy NB), or the organization was abolished (Mississauga Excellence) or because the next government did not tolerate the change (PCS). This does not speak well to the health of public institutions, or to institution-building capacity, or to the capacity to make systemic changes when they are needed, or to the ability to create continuity among governments. Moreover, the decline of government institutions suggests a reduced capacity on the part of PSO to perform their functions of getting things done, creating focus and maintaining stability. Increased societal turbulence might be expected as a result unless social control functions (police, military, prisons) are/were expanded, which they were.

Conclusion

This analysis of the fate of PSO that innovated in eight different patterns can now be converted into conclusions about the PSO studied: (1) The rate of survival of organizations changed from the period prior to the NPM and neo-conservative government and the period after (times varied depending on location). Among the case studies, it showed up as before and after 1990. (2) Internal control factors among the case studies included age, size, finances and orders of change. These PSO survived changes in activities and limited changes in structure and goals, but not major changes in structure or goals. They survived first but not second or third order change. (3) External control

factors for the fate of these nine organizations included politics/ideology and type of change (first, second, third order), but not economics. (4) Which type of change occurred seemed to be influenced by the shift in ideology starting during the late 1970s that led to government withdrawal from existing functions, a generally negative attitude toward government intervention, and (probably) more second and third order changes. (5) After 1990, organizations in the nine case studies were often created without infrastructure, which also challenged their survival. The findings for this formative study can now also be converted into hypotheses and theories for further study.

Hypotheses:

(1) The mortality rates of Canadian innovations and PSO have been higher since 1990, compared to the prior period.

(2) PSO had a higher mortality rate since 1990, compared to the prior period.

(3) The rate of survival of PSO declined with the introduction of New Public Management.

Theories:

1) PSO undergoing goal change are less likely to survive than ones undergoing structural change, which are less likely to survive than ones undergoing activity change.

2) PSO undergoing second and/or third order change are less likely to survive than ones undergoing first order change.

(3) PSO survival is less likely if governments do not create infrastructures to support the organizations.

The author was surprised by the lack of survival of PSO that were created during the 1990s (Table 1) in the patterns. If this finding was upheld in other studies, perhaps the earlier period could be considered a public institution-building period, while post-1990 was not. Why this occurred is a social question and the explanation suggested here is ideology and politics. At the same time, the organizational patterns in which innovation occurred may have had an effect on survival. If the organizational pattern that generated the innovation was not acceptable (isomorphic to) the decision-making parts of the organization, survival might have been more difficult. This leads to a final theory:

(4) If the organizational pattern of an innovating organization is similar to that of the decision-making part of the organization, the innovation and the organization are more likely to survive than if they are not.

By studying a longer time frame, the social dimensions of organizational survival became more apparent.

Chapter 7: Mortality in the Private, Non-Profit and Public Sectors—the Literature

ABSTRACT

Once a grounded theory has been developed, Strauss and Corbin (1998) recommended it be compared to other available work in the field. This chapter does that. There is quantitative literature on the relationship between organizational change and mortality in the PS, NPS and PSO sectors in several countries. While the databases used for the PS and NPO sectors include a wide range of organizations, PSE research has typically addressed national departments, and nothing below that level. Chapter 7 reviews the organizational mortality literature for the three sectors, and Chapter 8 examines the control factors for mortality found in the literature. This allows a comparison in Chapter 9 of the results in the case studies to those in the literature, to see whether the Canadian case studies have suggested any additional control factors.

Different value has been attached to organizational mortality in the PS, NPS and NPO sectors: In the PS and NPS it has been considered a bad thing, in the PSE sector a good thing (Glor, 2011). The ideological sea-change remarked in Chapter 6 has been a part of this negative value being attached to the PSE and has colored discussion of organizational survival and mortality in the PSE.

As demonstrated in Chapter 4, organizational mortality and survival was not consistent across the case studies. Chapter 7 demonstrates mortality is not reported as consistent across studies or organizational sectors in the literature either but it is once studies using the same methodologies are compared.

Introduction

In contrasted with studies of the PS and NPS, PSO mortality have been treated and studied differently, especially at first. In the PS and NPS, organizational survival has been considered a good thing, and organizational death a loss to be understood so as to avoid it in future. Efforts have been made to understand it at the population level, and to understand the factors influencing it. In the public sector, the discourse about organizational survival and death has taken on a much different character. PSO death has been studied primarily in the USA, using one federal PSO database, the USGM, as "terminations". From the mid-1970s onward, as right wing politics and its attack on government became ever more dominant, PSO death was promoted politically and in the academic literature as infrequent and a good and necessary thing.

Researchers (e.g. Kauffman, 1976; Daniels, 1997) asserted that much more PSO termination was needed, or there would be a crisis of PSE size in the future. The definitions and research on which these conclusions were based are, however, of questionable quality (Glor, 2011; Peters & Hogwood, 1988, etc.). More neutral subsequent researchers demonstrated that not only does PSO mortality occur, it occurs at the same rate as in the PS, the sector in which organizational mortality had been presumed the most common. While the United States is fortunate in having a database of high-level federal

departmental organizations (USGM), it has not been demonstrated that this is the only level at which PSOs should be studied. Smaller American federal PSO also need to be studied, as do state and local PSOs, and PSOs in other countries. As well, more than associations between organizations and mortality need to be discovered. PSO birth and mortality need to be studied in detail, at the organization level, through case studies and more databases of more governments need to be discovered or created.

The PS and NPS literature has examined the patterns and rates of organizational death, and the control factors (or liabilities) that are associated with higher rates of organizational death. It has demonstrated that organizational liabilities that correlate with organizational death include adolescent age, small size, lack of resources, and change. Change reset the organizational survival clock of these organizations—from the lower death rates of older organizations, back to the higher death rates of young organizations. Organizations that have changed then follow the mortality patterns of equivalent younger organizations.

In this chapter, first, the literature on organizational survival in the private and then in the NPS is reviewed, and factors correlated with organizational survival and mortality identified. Next, the findings in the early public sector literature are reviewed, and biases are identified in it. Then the correlates of PSO mortality identified in subsequent quantitative literature are identified, including political factors such as politics, majorities, and ideology. Most of the quantitative research has been done on the US federal government, on executive departments, those which have been under the control of the president since the early 1950s, but which were not before that (Peri, 1998).

Change is typically portrayed in the business, non-profit, public administration and public management literature as adaptive for organizations. Presumably, adaptation also implies enhancing their survival. Yet change in itself has been shown to increase the mortality rate of organizations. Because organizations play a very important role in western society, including the PSO role in stabilizing society, their mortality is important.

The Private Sector

A considerable amount of research has been done on organizational survival and mortality in the PS. All sizes of businesses are typically included, including single-person businesses. Table 7.1 summarizes ten PS organizational mortality studies. Some studies did not report on control factors but did report sufficient information to calculate a mortality rate. Since it was obvious that business organizations died in large numbers, this literature moved quickly to consider the correlates and risks to organizational survival. Initially researchers thought that differences in organizational survival rates were related to a ***liability of newness*** (Stinchcombe, 1965) or increased likelihood of organizational death associated with being a new organization. Aldrich and Marsden (1988), Singh and Lumsden (1990) and Hannan et al. (1988) found this liability as well. Freeman, Carroll and Hannan (1983) reported on three groups of organizations: semiconductor companies, newspaper publishing organizations, and national labour unions (labour unions were probably in the NPS). Although the death rates of young organizations and overall

Table 7.1: Mortality rates of private (for-profit) sector organizations

Population Studied	Mortality Rate	Source	Study Validity/ Reliability	Definition of Death/ Mortality	Control Factors Identified
All Newspapers, Ireland 1800—1975 Period covered: 175 yrs	During 175 years: 897 organization-al deaths Population size (N) =1017 Total mortality: 897/1017=88.2% Mean mortality: 88.2/175 =0.5%/year Mean mortality rate (mean mortality divided by 100): 0.005%/yr	Carroll & Delacroix 1982	Study began close to beginning of industry Little left censorship. Right censorship Usable	Disappearance due to failure or (infrequent-ly) success; merger; absorption of subordinate partner.	
All Newspapers, Argentina 1800—1900 100 yrs	1346 deaths, N=1457, Mortality: 92.4% Long term Mean mortality rate: 0.009%/yr	Carroll & Delacroix 1982	Event history from beginning of industry Hazard function Tuma's Maximum Likelihood Program Right censorship. Usable	Same as above i.e. disappearance	
All Newspapers, 7 Metro Areas, USA 1800-1975 175 yrs	About 474 deaths, N = 2768 Short term mortality rate: 15.7% of 2,768 Mean short-term mortality rate: 0.089%/yr Long Term mortality rate: 2.4% of 2,768. Mean long-term mortality rate: 0.014%/yr	Freeman, Carroll & Hannan 1983	Life histories of newspapers in 7 metropolitan areas. All newspapers in those areas for which identifiable birth and death rates available. Little left censorship. Right censorship. An urban population consisting of 7 cities. High reliability Representative of urban newspapers Usable	Dissolution, absorption i.e. disappearance	New-ness
All Newspapers, Finland 1771—1963 192 yrs	33 deaths, N = 1011 Mortality rate: 3% of 1011 Long term Mean mortality rate: 0.015%/yr	Amburgey, Kelly & Arnett 1993.	Retrospective study of a population. Quantitative. No left censorship. Right censorship. Usable	Ceased publication i.e. disappearance	Change
All USA producers of semi-conductors, 1951—79	About 75 deaths, N = 1,159 Medium-term mortality rate: 6.5%	Freeman, Carroll, Hannan 1983	A full population Almost no left censorship Right censored. Usable	Dissolution, absorption i.e. disappearance	Newness

Population Studied	**Mortality Rate**	**Source**	**Study Validity/ Reliability**	**Definition of Death/ Mortality**	**Control Factors Identified**
28 yrs	Short-term mortality rate: 36% Medium-term study Mean mortality rate: 0.232%/yr				
USA all early Pennsylvania telephone companies 1861—1934 73 yrs (mutual & commercial co.)	36% short-term Long-term study Mean mortality rate: 0.232%/yr	Barnett, 1994	Life histories, maximum likelihood & instantaneous rate of failure analyses A population No left censorship. Right censorship. Usable	Dissolution i.e. disappearance	
Fortune 500 firms, USA 1955—75 20 yrs	Small businesses: 8%/yr, Mortality 78% in 20 years Large businesses: mortality 25% in 20 years N=500 Medium-term study Mean mortality rate: Small 3.9%/yr Large 1.25%/yr	Hollan-der 1967; Bolton 1971; Hannan & Freeman 1977: 959	Fate of existing successful companies Poor. Small and large organizations reported separately. Identified success & failure Left & right censorship. Low as above & only two measures. Not usable.	Merging or disappearing i.e. disappearance	Small size
Atlantic Canada Worker Cooperatives 1940—1987 47 yrs	158/205 new co-ops Mortality: 77.1% Long-term Mean mortality rate: 1.64%/yr	Staber 1989	Coops from provinces of NB, Nova Scotia and Prince Edward Island A population Fate of new cooperatives Right censorship Outlier: completely different kind of corporation, with higher mortality, and all new orgns (coops). Not usable	Disappeared from coop list (Discontinued incorporated cooperative) i.e. disappearance	
Almost all new & dying companies, Munich & Upper Bavaria, Germany 1980 to March 31, 1989 9.25 yrs	Short-term mortality rate: 155,415 usable of 171,502 cases of newly founded industry, trade & service businesses (mostly individuals) Mortality: 65% Short-term Mean mortality rate: 7.03%/yr	Brüderl & Schüssler, 1990 Personal correspondence with Dr. Brüderl, 6 January 2009	Complete set of business registrations & deregistrations. New companies incl. one-person companies. A population, Event history or survival analysis. High validity. No left censorship. Right censorship. Outlier: short-term study	Company deregistered i.e. disappearance	Small size Adolescent age Lack of resources

Population Studied	Mortality Rate	Source	Study Validity/ Reliability	Definition of Death/ Mortality	Control Factors Identified
			Not usable.		
All Facsimile Companies, Manhattan From beginning 1965-92 27 yrs	New & old co's. 114/170= 67.1%/27= 2.49%/yr	Baum, Korn & Kotha, 1995	One city only, not a population No left censorship, right censored. High reliability Not usable	Disappeared from the White and Yellow pages of the phone book	Pre-post dominant design cohort
Largest US Bank Holding Companies (BHCs), 1975-95 20 yrs	N=45 Mean failure 0.04 = 4%/20 yrs =0.20%/yr	Wischnev-sky & Daman-pour 2008	Not a population: Only largest BHCs Not usable	Failure = bankruptcy, merger, acquisition, determination by regulatory authorities that a bank was insolvent.	-Industry de-regulation -Concentra-tion -Prior radical structural change -Prior radical strategic change -Duration of inertial spell—structure -Duration of inertial spell--strategy

The material in Table 7.1 has been reproduced from Glor (2013): Appendix I.

Notes:

1. For all tables, time period definitions: Short term—15 years old and under (studies included 9.25, 10, 10, 11, 11 years), medium term—16 to 30 years old (studies included 22, 26, 27, 28 years), long term—over 30 years old (studies ranged from 43 to 192 years).
2. Studies of the American brewery industry were not included because the industry has such a peculiar profile. It began in about 1800 (Carroll & Wade, 1991), disappeared in 1920 with prohibition, and had only 43 firms in 1983 (often the data reported is for breweries not firms, which is the unit of study in this paper) (Carroll & Swaminathan, 2000, p. 716).
3. N = population size; % = per cent

survival rates were different among different types of organizations, the death rates of young organizations were consistently about five times higher than those of old organizations (Freeman, Carroll & Hannan, 1983, p. 702). These were large liabilities of newness.

This literature did not identify the shape, only the magnitude of the impact of newness on organizational survival, but Brüderl and Schüssler (1990) suggested that this theory required that its shape should be expected to be a steady decline in the rate of mortality from founding to death. As discussed below, Brüderl and Schüssler found that it was not. The highest death rate was not during infancy, as expected, but at adolescence among PS organizations. When Carroll and Huo (1988) examined the Knights of Labour, in the NPS, they also found the shape of the decline of mortality was not monotonic. While young organizations died more frequently than old ones, the highest death rate was at a slightly later

age, called adolescence. Other studies also found death rates were highest during adolescence, but adolescence did not occur at the same age in all organizations (Carroll & Huo, 1988).

Other liabilities were also identified. Examining already-existing organizations on the list of the Fortune 500 in the USA, Hannan and Freeman (1977) identified a ***liability of smallness*** (1977, p. 959). They studied the organizations in 1955 and again in 1975, reporting that 78 per cent of small businesses but only 25 per cent of large businesses died over the 20 year period. Since small organizations died at triple the rate of large ones, smallness was considered a significant liability.

By studying almost all of a population of government registrations and deaths of PS organizations in one area of Germany, Brüderl and Schüssler (1990) demonstrated a ***liability of adolescence*** and a ***liability of lack of resources***. They calculated the mortality hazard of 155,415 business registrations and deregistrations for Munich and Upper Bavaria, in then-West Germany between January 1, 1980 and March 31, 1989. The database included industry, trade, and service business foundings, but excluded crafts, agribusinesses, physicians, architects, lawyers, and the few firms with more than 99 employees. Brüderl and Schüssler demonstrated that neither the continuous decline to be expected in a liability of newness (Stinchcombe, 1965) nor the continuous decline of death rates to be expected in a population ecology approach (Hannon & Freeman, 1984, p. 157) existed in their population. Instead, they concluded that there is both a liability of adolescence, which they sometimes called post-adolescence (an age-related control factor), a ***liability of smallness*** (size), and a liability of resources. A liability of adolescence, smallness, and resources is a higher risk of mortality for adolescent, small, and poorly resourced organizations compared to newer and older, large, and well-resourced ones. Rather than the previously-used Makeham model (Hannan & Freeman, 1977), they used a log-logistic model to study businesses during the 9.25 year period (Brüderl & Schüssler, 1990) and observed an overall 65 per cent mortality rate during that period (personal correspondence with Dr. Brüderl, January 6, 2009). The age-related mortality pattern was fairly low mortality in young organizations, increasing to post-adolescence, and then declining mortality. In their meta-analysis of studies of innovation and organizational size, Camison-Zornoza et al (2004, p. 350) confirmed a significant and positive correlation between size and innovation (Abstract).

Drees and Heugens (2013) performed a meta-analysis on 157 resource dependence studies and confirmed Pfeffer and Salancik's (1978) theories. Using resource dependence theory (RDT), a framework for understanding organization-environmental relations, they found that organizations respond to resource dependency by forming interorganizational arrangements like alliances, joint ventures, in-sourcing arrangements, interlocks, and mergers and acquisitions. These make them more legitimate and autonomous. The mechanisms linking arrangements to organizational legitimacy and autonomy differ across arrangements. They also addressed whether RDT is a theory of organizational performance, finding that autonomy positively mediates between arrangement formation and performance but legitimacy does not. They suggested that RDT can explain organizational actions that have societal acceptance rather than economic performance as a motive (Drees & Heugen, 2013, 1666).

Baum, Korn and Kotha (1995) found an important difference in the mortality of facsimile (fax) companies prior to and following a change in the ***dominant design technology***

favored by customers. Amburgey, Kelly, and Arnett (1993) studied all 1011 Finnish newspapers ever published between 1771 and 1963 from birth to death, examining not only whether organizations survived, but also the impact of change on them. Rather than considering organizational demographics and resources, as other researchers had done, they considered factors under management control; namely, newspaper content and frequency of publication. ***A change in content*** of publication was, for example, a shift from general to specialized content, which was seen as a goal change. Specialized content included newspapers focussing on such issues as political content (most) and non-political issues (a minority), like economic news or religious topics. Frequency of publication was usually either weekly or daily.

Their most important finding was that there is a liability associated with all kinds of change, a ***liability of change***. It is an increased likelihood of death among organizations that change. Amburgey et al. found support for the following hypotheses. (1) Organizational change increases the failure rate of organizations, independent of the effects of the changed characteristics; (2) The disruptive effect of organizational change increases with the age of the organization; (3) The disruptive effect of organizational change decreases with the elapsed time since the occurrence of the change; (4) The probability of an organizational change increases with the number of prior changes of the same type; (5) The probability of a given type of organizational change decreases with the elapsed time since the last change of the same type; (6) The probability of organizational change decreases with the age of the organization; (7) Early occurrence of a change of a given type increases the probability of subsequent changes of the same type.

A liability of change presents a challenge to the pro-change and pro-innovation literature, because it is contrary to what the proponents of change and innovation have implied. The PS literature suggests that there are liabilities associated with the organizational traits of adolescent (and infant) age, small size, and lack of resources, and that adolescent, small organizations with limited resources are considerably less likely to survive than large, old, well-resourced organizations. It also found that organizational change, which in evolutionary approaches is considered the attempt to adapt, increases rates of organizational mortality, and increases it considerably, to equal the mortality rates of young organizations.

The Non-Profit Sector[11]

In the NPS, a curvilinear, nonmonotonic (with variation) pattern of organizational mortality has been reported in three studies—of business interest associations (Aldrich & Staber, 1988), the Knights of Labor (Carroll & Huo, 1988), and voluntary social service organizations (VSSOs) (Singh, House & Tucker, 1986 a, b). (I am not aware of such an analysis for the other studies of NPO.) Table 7.2 reports the findings of seven studies of survival in the NPS.

In their study of 11,851 locals of the Knights of Labor, Carroll and Huo (1988) found four environmental selection mechanisms at work, of two kinds: organizational and political. The ***organizational variables*** were niche width and reorganization. ***Niche width*** was either specialist organization (all local assemblies organized on a single trade basis) or generalist (all others). This

[11] While the non-profit sector is sometimes identified as the non-business, non-market sector, research has been done on both business and labor associations, so all deliberately non-profit organizations are included in this category.

distinction is known as fitness set theory (Levins, 1966; Hannan & Freeman, 1977). While specialist local assemblies were particularly vulnerable to hostile forces, Carroll and Huo argued that they were likely to generate high internal solidarity. Compared to generalist locals, they found a syncopating pattern of effects for the specialist organizations. The syncopating pattern involved a higher initial death rate in the first year, then lower rates in the next two years, followed by no significant differences from the generalist assemblies in subsequent years. This syncopating pattern is similar to what Brüderl and Schüssler (1990) subsequently found among German businesses, and called a ***liability of adolescence.***

Table 7.2: Mortality Rates of Non-Profit Organizations

Population Studied	Long-term Mortality Rate	Source	Study Validity/ Reliability	Definition of Mortality	Control Factors ID'd
USA Business Interest Associations - membership mostly manufacturing companies 1883-1983 1942-83 best data 100 yrs	Initial death rate: reported yearly. Range: 0 to 0.025 mortality rate/yr Long-term study Mean treated as 0.025%/yr because small range.	Aldrich & Staber 1988	Retrospective Makeham model Close to a populatio Only right censored	• Dissolution • Merged/absorbed • Ceased, no remnants • Transformed • Stopped operations i.e. disappearance	
All USA National Labour Unions (National means active in more than one state) 1860-1980: 120 yrs	N = 476 Initial mortality rate: 5.9% Long-term mortality rate: 1.2% Mean mortality rate: 0.01%/yr	Freeman, Carroll & Hannan 1983	Life histories of all national unions Retrospective Makeham model A population Only right censored	Dissolution, Absorption i.e. disappearance	
USA Credit Unions 1980-89 10 yrs	611 deaths/20,248 credit unions, mortality rate: 3% Short-term study Mean mortality rate: 0.30%/yr	Amburg-ey, Dacin & Kelly 1994	Event history A population Left & right censored	Liquidation & assisted merger i.e. disappearance	
USA Trade Associations (Asso.) 1900-1983, 83 yrs of national asso., plus 17 yrs of regional associations preceding the national ones.	355 disbanded, 77 transformed, 460 merged/ absorbed, 199 lost in the records = 1091 deaths 2248 still active in 1983. T population=3339 associations with known founding dates Mortality rate = 1091/ 3339=32.6% Long-term study Mean mortality rate: 0.393%/yr	Aldrich, Staber, Zimmer & Beggs 1990	Close to a complete listing Event history analysis Log-odds or logit, logistic regression. High Almost no left censorship Only right censored	Authors' definition: disbanding Recalculated to include disbanding, merger, absorption, lost. T mortality= 1091 i.e. disappearance	
USA Labour Unions 1836-1985 149 yrs	461 deaths: 191 disbandings, 140 mergers between national unions, 130 mergers with unions of equal status to form	Hannan & Freeman 1988: 35-36	Retrospective A population High reliability Only right censored	Disbanding & merger i.e. disappearance	

Population Studied	Long-term Mortality Rate	Source	Study Validity/ Reliability	Definition of Mortality	Control Factors ID'd
	new unions; 160 still surviving. T population=621 unions Mortality: 74.2% Long-term Mean mortality rate: 0.50%/yr				
All new Toronto voluntary social service organizations that changed 1970- 1982 11 years	Deaths: 107/389 (N=270 for structural change data). Mortality: 27.5% Short-term Mean mortality rate: 2.5%/yr	Singh, House & Tucker 1986b	Retrospective. A population of changed VSSO Event-history analysis Time-varying covariate model High reliability Right censored Outlier: all organizations new	Birth=formal incorporation. Death=ceasing to exist as a formal entity. Merger same as death (only 5). i.e. disappearance	• Adoles-cence • Lack of resources incl. external legitima-cy, sup-port of major in-stitutions
American & some international Local Assemblies of Knights of Labor 1869-1896*	11,202 died/ 11,502 created = 97% mortality rate /24 yrs = 4.04% mean mortality rate/yr Garlock (1974, p. 13, Table 35) found membership of 778,000 in 1886, the peak year.	Garlock, 1974	Retrospective Makeham model A population.	Main sources of mortality data: Local assembly failed to report and to be published in Knights' official *Journal of United Labor* or in *Proceedings* of the General Assembly, indicating no annual report had been provided by th local to the Nation-al Trade Assembly.	• Adoles-cence • Niche width • Change in older orgns • Non-capital city • Non-political • Electoral success Caarroll & Huo 1988

The material in Table 7.2 has been reproduced from Glor, 2013: Appendix II. Abbreviation: ID'd=identified.
*Carroll and Huo (1988) reported that 11,851 local assemblies had been created from 1869 to 1973; however, no mortality data was provided, so this data was not used.

Reorganization status was based on the number of times the local assembly had been previously reorganized. Carroll and Huo (1988) found that reorganized locals had higher death rates than initially established (pioneer) ones but only in two later age groups. This is a ***liability of change in older organizations***. They postulated that areas where local assemblies were re-established were areas hostile to the Knights, while in more receptive areas the assemblies thrived and did not need to be reorganized. The ***political variables*** were capital city location and organized third-party electoral involvement. Locals were either in a capital city or not. Capital city location correlated with a lower death rate in the first year. This created a ***non-capital city liability.*** Carroll and Huo (p. 188) speculated that employers might refrain from or are restrained from taking strong measures that they might if located in capital cities.

Locals either ran as a political party in local elections or not. In areas where there was a labour party in the county, the locals were less likely to die. This created a ***non-political***

liability. The greater survival could be due to a spill over effect from strong local assemblies organizing labour parties; alternately, the effect could be due to protection from the labour party in power. The former would likely lead to few additional benefits for the local, while the latter would probably lead to further benefits. The political success of locals correlated with the loss of viability of both the national organization and the local assemblies. In areas where the labour parties were unsuccessful electorally, locals had greater longevity. This was an ***electoral success liability***. Carroll and Huo (1988, pp. 191-192) suggested this paradox is due to the utopian nature of the Knights and the labour parties: Once elected, the legitimacy of the party and of the locals was quickly undermined. They also observed that the victorious political parties almost created their own local political environments, a potentially relevant factor for PSO. Carroll and Huo did not find economic factors to be important.

In their study of 389 VSSOs in Toronto, Canada that changed from 1970 to 1982, using a time-varying covariate model, Singh, House, and Tucker (1986a) identified six core changes: goal, structure, service area, sponsor, CEO, and location They found the death rate initially rose sharply to age two, dropped until age four, rose to the maximum death rate at age five, declined monotonically to age ten, then became constant (Singh, House & Tucker, p. 598).[12] Like Brüderl and Schüssler (1990) and Carroll and Huo (1988), they discovered a ***liability of adolescence***. Two hundred and seventy VSSOs experienced structural changes (undefined) but few changes in service-area (presumably type of service/activities), goals or sponsors. Twenty-eight per cent of the 389 organizations died during the 11-year period.

Resources (as defined by Aldrich and Staber, 1988, Table 2) were also critical for the VSSO NPOs. ***External legitimacy*** and the ***support of major institutional actors*** were also important to the survival of young VSSOs (Singh, House & Tucker, 1986b). Isomorphism (imitation of form) was seen as contributing legitimacy to the organizations (Singh, House and Tucker, 1986b). Legitimacy requires recognition from actors outside the organization, in the environment.

The Public Sector

A number of survival risks have been identified for private and NPS organizations. Fourteen PSO mortality studies were found, half of them of the American federal government. Early work considered organizational mortality "termination," thus emphasizing the role of human will in organizational mortality. Mark Daniels places the beginning of the study of organizational terminations with a symposium chaired by Eugene Bardach in 1976, which led to the first collection of termination case studies in *Policy Sciences*, also in 1976. The idea of agency immortality had been introduced earlier (Downs, 1976; Lowi, 1979). Herbert Kaufman's *Are Government Organizations Immortal?* (1976) had a major impact in defining the character of the study of PSO mortality. It was somewhat contradictory, both cautioning against reading too much into the work and asserting that more PSOs needed to be terminated.

Kaufman (1976, p. 34) examined the number of PSOs that existed at the federal level in the USA in executive agencies in 1923 and then again in 1973. In 1923 this included seven executive departments, to which were added four new departments (Housing and Urban

[12] Birth was formal incorporation; death was ceasing to exist as a formal entity. Mergers were counted as deaths: only five mergers occurred.

Development; Transportation; Health, Education and Welfare; and the Executive Office of the President) by 1973. Many of the 175 agencies existing in 1923 had existed since the first federal government took office in 1789. Although *Are Government Organizations Immortal?* has many caveats about the conclusions that can be drawn from the study, conclusions were drawn, including a suggestion that the growth of federal government organizations was on a trend that would lead to far too many PSOs (undefined).

The termination literature has promoted the need for deliberate PSO terminations, beyond what would happen in the natural evolution of PSO. The need for PSO terminations was argued initially by Herbert Kaufman (1976) and Eugene Bardach (1976). Most authors based their arguments on Kaufman's argument (e.g. Brewer and deLeon, 1983, p. 390; Daniels, 1977). Kaufman made a strong argument for the risk presented if PSO were immortal, and concluded that they largely were. Kaufman based his argument on the simple math that in 1923 there were 175 organizations in the executive department database, of which 148 still existed in 1973, including 31 at lower administrative levels and 8 no longer in executive departments (Kaufman, p. 34). He described the increase as "explosive growth" in the number of organizations in the government and asserted that attendant problems are approaching rapidly. He argued they may already have arrived (Kaufman, p. 70). The public administrative system is a much wider range of organizations than he examined in his book. Kaufman did not convincingly demonstrate that PSO growth was explosive nor provide examples of explosive growth.

When commenting on his data, Kaufman was much more tentative than his introduction and conclusion would suggest. In fact, there were many weaknesses in his formative research. *First*, he only took two readings of the number of organizations. This severely limits his capacity to draw valid conclusions. Although Kaufman recognized that PSO births and deaths occurred in fits and starts, it is not clear that he took his readings at similar points in these cycles. He took the first measure after a quiet period in terms of PSO growth, and the second one just after a period of active growth. As well, studying only two points omits completely births and deaths during the 50 year period. *Second*, many of the initial PSO existing in 1923 were already old and were even older in 1973. Old organizations are known to have low mortality rates. Kaufman argued these were more likely than new organizations to die, but the private and NPS literature has found the opposite. *Third*, he only looked at executive agencies and the President's office. Moreover, he omitted the Department of Defence, an important and large executive agency, which may have been the one with the most births and deaths. *Fourth*, he did not consider all federal government PSO. Executive agencies may not have been representative of all federal PSO (see argument below). *Fifth*, because Kaufman only took two readings of the numbers of PSOs, he completely eliminated from consideration PSOs that were both created and terminated during the period under review. These included, for example, all of the Depression-era, World War II, Korean War, Viet Nam War, and Just Society PSOs that were created and then abolished. Kaufman admitted that he had made every effort to show that government had grown and not shrunk, and indeed he did—his study had major biases in favour of the growth of government, and ignored the shrinkage.

Kaufman indicated that the rate of growth he found in the limited group of PSO he examined only matched that of the growth of the population of the USA as a whole. This would not seem to suggest a problem, let alone a major problem. Moreover, Kaufman believed that governmental activities tend to perpetuate indefinitely. (Kaufman, 1976, p. 64),

yet he found deaths in his limited group of PSO. Moreover, Kaufman admitted that he went looking for ways in which PSO had not died, refusing to acknowledge a death unless all evidence of the organization had disappeared. This is not the definition used in the private and NPS literature. Moreover, the PS organization death rates with which he compared PSO mortality were not measured the same way. PS organizations that were absorbed by other ones were, for example, considered to have died, while Kaufman did not consider PSO that were absorbed to be dead. Kaufman argued that more PSOs should die, but he did not demonstrate the need with his research.

Conclusions were drawn, despite admitted biases built into the study; despite the biases, Kaufman's research became canon in the PSO termination literature. Most writing on it quotes him, and quotes him erroneously as having shown that PSO are immortal. These authors include Brewer and deLeon (1983, p. 390), who said Kaufman found only 27 federal agencies of a "sample" of 421 had been terminated since 1923 (1983, p. 390). Kaufman's database neither included all federal government agencies during that period, nor all of the PSO that were born and died during the period. It was not, therefore, a representative sample of the PSO population, and this conclusion cannot be drawn from it. While a valuable effort at developing hypotheses about PSO termination, Kaufman's work was too limited to demonstrate the phenomena he is credited as having proven (Lewis, 2002). Nonetheless, academics, political parties, presidents and Congress have since then quoted him as proving their assertion that more deliberate termination of government agencies is a necessary public policy task.

Mark Daniels' book, *Terminating Public Programs* (1997), contains a Preface by Senator William V. Roth, Jr., who headed up President Nixon's 1960s effort to examine the size and scope of government programs in order cut and streamline programs. Roth suggested, as did Kaufman, that the fate of government programs is virtual immortality (Daniels, p. xiv). Ten years later, Ronald Reagan appointed the Grace Commission, the Private Sector Survey on Cost Control, to identify and suggest remedies for waste and abuse in the US federal government (Grace Commission, 1984). In both the scholarly and political spheres, the argument was being made that PSOs are practically immortal. The literature built hypotheses (Kaufman, 1976), examined case studies (Bardach's 1976 symposium), and provided guidance for the management of termination (Brewer & Peter deLeon, 1983). Assertions about the desirability of PSO termination thus evolved into consideration of its implementation. None of this (mostly qualitative) literature confirmed Kaufman's initial thesis, that PSO are practically immortal nor demonstrated that there are too many PSO. Nonetheless, the idea that there was a need for more terminations entered both the political and academic culture in the USA.

Much of the academic work on PSO termination that followed Kaufman's and others' (Daniels, 1997; deLeon, 1978; Meyer and Zucker, 1989; Geva-May, 2004) work accepted this premise and an academic literature on how effectively to terminate PSOs developed (e.g. Bardach, 1976; Behn, 1978; Geva-May, 2004). This thread of thinking, combined with the downsizing efforts of the Nixon and Reagan presidencies, produced a perfect storm of scholarly and political definition of the need to abolish more PSOs. This literature asserted that PSO termination should be part of the overall process of public policy-making (Brewer and deLeon, 1983; Daniels, 1994, p. 450). For example, Garry Brewer and Peter deLeon (a

Rand Corporation employee like Kaufman), in *The Foundations of Policy Analysis* (1983), devoted 85 pages (18 per cent) of their policy text to planning terminations.

This approach was initially supported by zero based budgeting and sunset legislation. Although sunset legislation was never introduced at the US federal level, it was practiced for most new programs in the Canadian federal government during the 1990s. One of the products of this effort is publication of the U.S. federal government Office of Management and Budget (OMB)'s yearly budget document on terminations and cut-backs, *Terminations, Reductions, and Savings* (OMB, 2012). The cut-backs continue: The OMB identified 76 terminations in the 2012 document. Terminations together with reductions and other savings reduced the budget by $780 billion from 2012 to 2021 (OMB, Table of Contents, pp. 3-7).

The Canadian Stephen Harper government has also introduced the practice of identifying government organizations that have been abolished. Abolition of seven organizations (identified on the website as institutions) were identified on the Treasury Board Secretariat (TBS) website, for example, between January 1 and June 30, 2013 another five between July 1, 2013, and September 30, 2013, and another ten on November 18, 2014 (TBS, 2014). Treasury Board (the expenditure and management department) is also conducting a ten-year, systematic review of all government organizations to determine whether they should be continued. The TBS website does not identify the source of the abolitions.

The presentation of organizational death as a political, organizational and public policy objective has occurred only in the public sector and its literature, not in the PS or NPS literature. Little or no accompanying research has addressed the effects of reductions in resources on PSO survival, although in the private and non-profit literature resources have been demonstrated to be an important control factor for organizational survival. While those who studied organizational birth and death in the PS and NPS often approached the subject from an evolutionary perspective (e.g. Carroll, 2000; Hannan & Freeman, 1977), referring to it as death or mortality, the study of PSO death has focused on politically-, public policy- and managerially-driven change. This literature emerged at about the same time as the political movement asserting that the American federal government was too big and needed to be reduced Most of the cuts were done by the second Nixon and the Reagan administrations. In this context, PSO mortality was correctly referred to as termination, a will-based, not an evolutionary action.

Much better quantitative studies of PSO survival and termination in the US federal government were conducted following Kaufman's study (Peters & Hogwood, 1988; Lewis, 2002; Carpenter, 2000), and errors in the initial research were corrected. The researchers did not find that PSOs were immortal. Peters and Hogwood (1988) examined births and deaths in the U.S. federal bureaucracy from 1933 to 1982, and found active births *and* deaths. David Lewis demonstrated that the overall mortality rate for federal government agencies over the thirty year period 1946 to 1997 was, rather than immortality, a 62 per cent death rate over 31 years. Rather than a lower rate, this mortality rate for PSOs is similar to the long-term death rates being reported in both the private and the NPS. Lewis (2002) argued it is a myth that PSO have a low mortality rate. Working from Kaufman's (1976) data set, and using a non-linear model, Daniel Carpenter firmly rejected the claim from the public choice literature that the hazard of agencies is monotonically decreasing (Carpenter, 2000).

Several substantial American studies considered PSO survival at the U.S. federal level, using the USGM, the official handbook of the American federal government (see Table 4, 3). It provides information on organizations of the legislative, judicial, and executive branches (e.g. USGM, 2013), and includes terminations and transfers of agencies. Senator Roth discovered, as did other researchers, that there is no single listing of government programs, and so it is difficult, he said impossible, to identify them (Daniels, 1997, pp. xiii-xiv). The USGM is therefore a highly valuable, albeit macro level, resource for those interested in PSO mortality.

Kaufman's (1976) and Carpenter's (2000) methodology created a bias in favour of long-existing PSOs, since those that survived were all at least 50 years old and they were the organizations still considered necessary 50 years later. A reading of the list suggests they provide the basic functions of government—e.g. justice and welfare. To suggest, as Kaufman's reasoning did, that no new organizations were needed over a 50-year period of depression, war, and modernization in the USA seems unreasonable. To suggest that the number of PSOs existing in 1923 should form a ceiling for the numbers of organizations that should be created seems artificial.

Meier (1980) suggested that executive departments may have longer longevity than other agencies because regulatory agencies in cabinet departments have a more favourable environment than independent regulatory commissions (Lewis, 2002, pp. 90-91). While Kaufman posited possible hazards for agency mortality, he did not test whether they affected mortality in his database. A hazard rate is a probability, expressed as the likelihood of an organization being terminated given lifetime to date (Lewis, 2002, pp. 91, 96; Carpenter, 2000, p. 209).

With his methodology of taking only two readings of the numbers of PSOs, many years apart, Kaufman conducted research with left, middle and right censorship biases (Peters and Hogwood, 1988, p. 121; Hannan & Freeman, 1977). The 50-year mortality rate reported in Kaufman was 27 per cent. This may have been low compared to the private and NPS, but studies of those sectors include all organizations.

Moreover, in those sectors, large, older and well-resourced organizations are less likely to die. This phenomenon has also been demonstrated in the public sector (Carpenter, 2000). Kaufman only considered a population that was old.

Kaufman's research assumed that older organizations were more likely to die. Carpenter (2000) examined this assumption by calculating the product limit estimates for the hazard rate of all executive departments established between 1865 and 1923 (Carpenter, p. 91). He demonstrated that old PSOs are not more likely to be terminated, and that the hazard rate is nonmonotonic and nonzero. Lewis built on this work (1) by analyzing data that were not biased toward durability (i.e. by studying young as well as old organizations), (2) by including agencies that did not exist in 1923, and (3) by estimating models including covariates to examine substantive causes of PSO mortality.

Lewis (2002) studied new organizations reported in the USGM created after 1946 and still in existence in 1997. Some organizations thus existed for short periods of time, others for fifty years. Lewis reported an overall mortality rate of 62 per cent during the fifty year period, compared to Kaufman's 27 per cent mortality rate in the previous 50 year period.

While Kaufman and Carpenter were concerned solely with birth and mortality, Lewis also examined correlates of survival and mortality, with a view to understanding causal effects. He emphasized both the politics of agency termination *and* controls and constants. Firstly, Lewis addressed ***political factors*** several ways. Two are discussed here. First, he measured ***unified government***, the degree of political change since the last government, on the assumption that an agency created under a government where the president and Congress were of the same party would be at most risk under a new government of a different party and a unified president and Congress. The unity of the Congress and the president were measured by an unfriendly majority in the Congress, an unfriendly president, an unfriendly Congress and president, and interaction between them. In about 46 per cent of the observations, different parties controlled the presidency and the houses of Congress. This measure is based on party differences, but there are disagreements in the literature about how important parties are. Lewis therefore developed a second political measure, a set of models based on non-partisan ***policy preference*** measures. He employed measures for the House and the presidency, and compared the legislative and executive branches (Poole, 1998). Lewis measured degree of ideological change from the time the organization was created until the observation, with the expectation that a large degree of ideological change between these actors and overall will create a greater risk to the agency. A low ideological difference was expected to represent a low hazard (Lewis, 2002, pp. 93-95).

Secondly, Lewis examined controls and constants for other hazards (variables-controls), including the economy, war, competition among agencies, a new presidential administration, the ideological predispositions of Congress and the president, and characteristics of the agencies (Lewis, 2002, p. 95). The *economy* was measured through average yearly unemployment, on the assumption that political actors cut spending during economic hard times, and that one of the chief ways to reduce spending has been through agency termination and reorganization (Arnold, 1998). *War* was measured by identifying whether the USA was at war, because Congress has historically given presidents discretion to reorganize the government during war efforts. C*ompetition among agencies* was measured by the net number of new administrative agencies created during a year. A *new presidential administration* was thought to represent a hazard for PSOs because of presidential attempts to improve management capabilities, to gain control of the bureaucracy through administrative reorganization, the predispositions for smaller government among Republican presidents and congresses, and the effect of common space orientations.

Agency characteristics that represented hazards were an ***agency designed to be temporary*** (one of the strategies of those who sought more PSO terminations), agency ***origin in executive decree*** (rather than legislation), and ***small size***. Lewis hypothesized that agencies created by statute and large agencies, with a line in the budget (and therefore with many employees or affecting many people) were more difficult to terminate than small agencies with small budgets, employing few people and agencies targeted at specific interests are easier to terminate (Lewis, 2002, p. 96). Although agency durability has been modeled by others through the natural log of the survival time and the hazard rate, Lewis modeled it through the hazard rate. Because four parametric hazard models were inconclusive, Lewis used a Cox proportional hazards model, where a one unit shift in an independent variable increases the hazard rate and decreases agency durability (Lewis, p. 97). Since the data set had multiple observations on each agency, he use an estimator of variance that adjusted correlation of errors on data on the same agency (Lewis, p. 97).

Lewis found the hazard rate for agencies was much higher during ***wartime***, a new presidential administration (positive but not significant at the 0.05 level), and for agencies created by executive action. Competition among agencies was not important—the number of federal agencies (density) did not increase agency hazards; rather, during growth the hazards were lower. Lewis suggested this was because tax revenues were growing, and an increase in the number of agencies did not mean increasing competition for scarce budget resources (which he did not measure). ***Political turnover*** was also an important factor: ***unfriendly presidents*** increased the hazard rate by 0.67 and ***unified governments*** by twice. The most dramatic change in probabilities occurred with the most dramatic type of political turnover, a change from a unified government (president and Congress of the same party) to a unified government of the other party. In the Canadian government this is only a majority of one party to a majority of another party, a regular occurrence, though one which frequently had minority governments between them.

Measures based on ***policy preferences*** rather than partisanship confirmed the findings for the ***preferences of the president*** and a ***preference change in both branches of government***. Lewis concluded that PSO mortality has been high, not low as popular myth would have it and that agencies were at greatest risk when the ***degree of political turnover*** was greatest. Turnover from unified control by one party to unified control by the other increased agency hazard rate by more than 260 per cent.

Lewis raised a possible limitation in his findings, including the possibility that agencies created since 1946 have been less durable than those created prior to 1946. Although agencies created prior to 1933 were more likely to be created by legislation, Lewis found no reason to conclude there were other differences among the periods.

Abolishing government departments has not been a politically neutral activity. ***Republicans*** were ***more likely*** to cut government programs than Democrats. The introduction of sun setting programs, i.e. programs with temporary (often four or five year) mandates, starting in 1976 (Daniels, 1997, p. 36), has made it easier to terminate programs.

Lewis (2002) saw the ***implications of agency mortality*** as threefold. First, even if agency functions continue, organizational structure determines the degree of influence of political actors. In the American federal political system, the president appoints managers four levels down in an agency. Even if the functions continue, abolishing the structure and integrating the functions into another structure potentially ***reduces presidential influence*** on the functions. Lewis suggested that public policy outputs and organizational structure are inextricably linked (Lewis, p. 102). Second, ***if agencies are terminated frequently***, agency structure does not protect agencies from political influence, as previously thought. Third, he observed that the politics of delegation, agency creation and design continue after agencies are formed, and the ***coalitions*** formed to create them continue to promote them, seek higher budgets, and protect them over time. He recommended research on ***whether certain types of agencies,*** especially those insulated from political control, are indeed ***more durable***.

Using different tools, Carpenter and Lewis (2004) reanalyzed Lewis' (2002) data on American agencies (not executive departments). From 1946 to 1997, 398 new agencies were created, of which 227 were terminated, a 57 per cent mortality rate. They constructed numerous models, including log-logistic, generalized gamma, and Cox models. These models tend to overestimate agency hazards early and underestimate them later. They also

constructed an ordinary logit model. Because they discovered two equal hazard peaks, at ages 2 and 5, followed by a fairly steady decline in mortality, they rejected the hypothesis that PSO mortality declines monotonically (Carpenter and Lewis, 2004, pp. 218-222), concluding ***mortality declines non-monotonically.***

Corder (2002) examined the mortality rate among 216 US federal executive credit programs between 1974 and 2001. He examined programs, unlike the other authors described above, who examined organizations. The programs were drawn from the *Catalogue of Federal Domestic Assistance (CFDA).* His database included both programs run by Cabinet departments and ones run by independent agencies. Programs of independent agencies and direct lending programs were more likely to be terminated while programs of Cabinet departments and indirect credit programs were less likely. Corder speculated that programs of agencies were more likely to be terminated because they were less controllable by political actors. Corder confirmed the survival patterns and control factors hypothesized or found in other studies: The death rate of programs increased steadily from creation until adolescence, then declined steadily. About half of the programs were terminated in the first twelve years, another quarter during the last fifteen years. Only one quarter of the programs remained after 27 years. Berry, Burden and Howell (2007) also found discretionary programs had a high mortality rate.

By including not only the programs that were in existence in the starting year (1974), but also programs created after that date, Corder overcame the middle censoring bias of Kaufman's (1976) work for older organizations. Corder found a higher mortality rate among American federal government credit programs than most researchers had found in PSOs: 56 per cent in a shorter period of time—26 years, a 2.15 per cent mean annual mortality rate. Corder concluded that the cumulative effects of short-term biases in termination led to a portfolio of programs heavily biased toward programs sharing characteristics of early survivors. This is the phenomenon remarked by Kaufman (1976) and Daniels (1997).

Peters and Hogwood (1988) repeated Kaufman's study but considered the whole federal bureaucracy (both executive departments and agencies), a much bigger database of 2245 organizations, from 1933-82. Like Kaufman, they restricted their definition of mortality to total termination but used a different methodology.

Glosser and Jochim (2009) reanalyzed Lewis' (2002) data (1946-97), using an event history analysis. They, Peters and Hogwood (1988) and Lewis (2002) argued it is a myth that American PSO have low mortality rates. To the contrary, PSO mortality rates in the American government have been high, rather than very low.

Organizational mortality and sometimes control factors have also been studied in other countries. In the Westminster system countries of Ireland and Canada, the model is one of large umbrella departments with numerous organizations below the departmental level. Ireland has a legal limit on the number of departments and Canada has consistently restricted the number of departments (Glor, 2013), as has the US. Irish studies found a mean mortality rate between 0.78 and 1.1 per cent mortality per year. The Canadian studies ranged from 0.51 to 0.60 per cent per year. The study of the British colony of the Canadas found a high mortality rate because it was created and abolished within 20 years (Hodgetts, 1956; Glor, 2011). Its censoring was thus different from that of the other studies. Both Ireland and Canada created a substantial number of agencies starting in the late 1980s. The mortality rate

Table 7.3: Mortality Rates of National/Federal Public Sector Organizations

Population Studied	Long-term Mortality Rate	Source	Study Validity/ Reliability	Definition of Mortality	Control Factors Identified
USA Federal Executive Agencies + Presidential Office 1923-73 50 yrs	N=421 Mortality rate: 27% Long-term Mean mortality rate: 0.54%/yr	Kaufman 1976	Low validity Studied some executive departments Poor validity - biased toward agency durability, only 2 points compared, at different stages of the govt organizational creation cycle Left, middle & right censorship & other biases (Peters and Hogwood, 1988; Glor, 2011)	Survived: Listed in USGM* in 1923 & 1973, as of 1976. Death: Disappeared from USGM	Natural tendencies. Agency competition.
USA Federal Executive Agencies 1865-1923 58 years	27 terminated 135 bureaus created Mortality: 20% Long-term study Mean: 0.35%/yr	Carpen-ter 2000, Table 1	Low validity for comparison of populations despite omitting other biases. Biased toward agency durability Covers >98% of agencies created (p. 229) A population Left, middle & right censorship and only two measures	Listed in USGM in 1865 & 1923. Disappeared from USGM.	Not studied
USA Federal Govt Agencies 1946-97 51 years	262/423 Mortality: 62% Long-term Mean mortality rate: 1.21%/yr	Lewis 2002	High validity A population Studied existing and new organizations No left censorship, right censorship	Birth: New listing in USGM after 1945. Death: Disappeared from USGM.	Competition among agencies Characteristics of the agencies. Economy, War Ideological predispositions of Congress and President A new presidential administration (not $p<0.05$) Agencies created by executive action (lack of statutory authority). Dramatic political turn-over
USA Federal Government Agencies Created 1946-	227/398 Mortality: 57% Long-term study Mean mortality	Carpen-ter & Lewis 2004	Reanalysis of Lewis, 2002 data. High validity Constructed numerous models, incl. ordinary logit, log-logistic, generalized	Disappeared from USGM.	Highest mortality (peak hazards) at 2 & 5 years old, then decline (pp. 218-9).

Population Studied	Long-term Mortality Rate	Source	Study Validity/ Reliability	Definition of Mortality	Control Factors Identified
1997 51 years	rate: 1.12%/yr		gamma & Cox models. They tend to overestimate agency hazards early & underestimate them later (p. 218). No left censorship, right censorship		Fiscal: Budget surplus. Political environment: unified govt (60% higher hazard rate)
Federal USA Agency Birth & Death 1946-97 51 years	250 terminated/ 450 agencies Mortality: 55.5% Long-term study Mean mortality rate: 1.09%/yr	Glosser & Jochim 2009	Reanalysis of Lewis' data (2002) High validity Event history analysis (hazard rate) A population No left censorship, right censorship	New listing in USGM after 1945. Disappeared from USGM.	Not studied
USA Federal Executive Departments & Agencies 1933-82 49 years	314+ 1100 =1414/2245 Mortality: 63% Long-term study Mean 1.3%/yr When existing organizations included, mortality 35%/49 yrs, mean mortality rate: 0.71%/yr	Peters & Hogwood 1988	High validity Studied full federal bureaucracy. (see also Adam et al, 2007). Every USGM initiation, termination & succession was recorded. A population No left censorship, right censorship	Only defined terminations as deaths (24%). Data was recalculated in current study to include both terminations & successions as deaths. Disappeared from USGM	Not studied
USA Federal Executive Department & Agency Credit Programs 1974- 2001, 27 years	Existing 1974 & newly created: N= 216 Mortality 55.6% Medium-term Mean mortality rate: 2.06%/yr	Corder 2004	High validity A population Left and right censorship Not comparable as study reviews programs, not organizations	Date of last entry in the *Catalogue of Federal Domestic Assistance (CFDA).* i.e. disappearance	Time: Hazard of adolescence Mortality hazard increased from birth to age 12, then declined steadily. Politics: Threat & use of termination is a political control mechanism whose utility declines over time. Type of organization/program: - Independent agencies - Direct lending programs
Irish	19 died	Hardi-	High validity (assessed from data	Disappeared from	Not studied.

Population Studied	Long-term Mortality Rate	Source	Study Validity/ Reliability	Definition of Mortality	Control Factors Identified
government departments 1959-2008 49 yrs	16 remaining in 1958 + 18 new = 34 created Mortality: 55.9% Long-term Mean mortality rate: 1.1%/yr	man & MacCar-thaigh 2010.	provided in same way Glor, 2011 Canadian data assessed) A population Left and right censorship	database. Department considered abolished even if new department with similar name created.	
Irish government agencies The year of the Republic's founding, 1922-2009 87 yrs	228 terminated, 336 created Mortality: 67.9% Long-term Mean mortality rate: 0.78%/yr	MacCar-thaigh 2010, Verhoest et al. 2010, Hardi-man & Scott 2010	Time-series database of Irish national-level state institutions constructed by UCD Geary Institute, University College Dublin http://www.isad.ie/ Valid and reliable A population No left censorship, right censorship	Death= organization disbanded, no replacement created, functions not transferred to another organization. Termination = transfer to a sub-national level of government, split, absorption, merger, replace-ment & death i.e. disappearance	Not studied.
Canadian federal government departments Year of founding, 1867-1970 103 yrs	68 created, 42 abolished Mortality: 62% Long-term Mean mortality rate: 0.60%/yr	Hodgetts 1973	High validity A population No left censorship Not compable, as govt existed for only 20 yrs, and, unlike other studies, the study is not right censored.	A ministry disappears as a legal entity	Not discussed
Canadian federal government departments Year of founding, 1867-2010 143 yrs	85 abolished , 117 created** Mortality: 73% Long-term Mean mortality rate: 0.51%/yr	Glor 2011	High validity A population No left censorship	A ministry disappears as a legal entity	Not discussed
Canadas (now Ontario &	33 abolished, 49 created, during	Hodgetts 1956	High validity A population	Birth: Department created by law 1841-1867.	Not discussed

Population Studied	Long-term Mortality Rate	Source	Study Validity/ Reliability	Definition of Mortality	Control Factors Identified
Quebec) departments From year of founding to abolition 1841 to 1867. 26 years	government, rest abolished in 1867. Mortality: 100% Full term. Mean mortality rate: 3.85%/yr		No left or right censorship	Death: A ministry disappears as a legal entity	
West German Federal Agencies (all) 1949-2006 57 years	14 terminated, 8 privatized, total died=22 of 140 federal agencies. Mortality: 15.7% Long-term Mean mortality rate: 0.28%/yr	Adam, Bauer & Knill 2008	High validity A population. No left censorship	Federal government agency listing in OECKL. An agency is terminated (14) or is privatized (8). i.e. disappearance	Public perception of organizational failure, dissolution of organizational function, will to achieve gains in efficiency. No relationship found between termination & political turnover or fiscal deficit.
Norwegian State Admin-istration Database 1947-2010 63 yrs All changes to ministries	24 disbandings of 33 creation & disbanding events Mortality 72.7% Long-term Mean mortality rate: 1.15%/yr	NSD website Rolland & Roness 2011.	High validity A population of changes. Database did not include existing ministries, only new foundings and endings No left censorship http://www.nsd.uib.no/civilservice/	Organizations: non-temporary organizations with full-time employees Death: absorbed, split, merged, pure disbanding, complex reorganization i.e. disappearance	Not discussed
Korean Agencies 1993-2010 17 years	39 agencies terminated of 108 Mortality 36%/17yrs = 2%/yr	Park, 2013	Korea has 3 types of agencies, of which two are covered by the study. Not a full population. The omitted type has mostly small agencies so the study includes a disproportionate number of large quangos. Not valid. A mean for the population could not be calculated. Not a population Left & right censored. Fairly short time period covered.	Termination includes reorganization— merging, splitting, shifting to the PS, but not change of name.	No internal. External: -Political turnover -Presidential time in office (max. 5 yrs) -Presidents Dae-Jung Kim & Moo-Hyun Roh -Institutional change -Social demand (in media) for change

The material in Table 7.3 has been reproduced from Glor (2013), Appendix III. ** Including the first 16 departments created in 1867, which was an incomplete government. *Abbreviations:* USGM = United States Government Manual; OECKL = Taschenbuch des öffentlichen Lebens

in the Norwegian government was 1.15 per cent from 1947-2010 and in the West German and then German government it was a mean of 0.28 per cent per year from 1949 to 2006. The mortality rate among two kinds of mostly large Korean quangos[13] from 1993-2010 was 2 per cent per year. Details are provided on the PSE studies in Table 7.3.

Research Synthesis of Organizational Mortality Studies

The data found on PS, NPS and PSE organizations were used to identify the normal mortality rate among organizations. Aguinis et al (2011) found that when meta-analyses attempt to test existing theory, they receive a larger number of citations, but that when meta-analyses are used to build new theory, they receive fewer citations (Aguinis et al, p. 6). Nonetheless, Glor employed a meta-analysis to build new theory on normal organizational mortality. She conducted a research synthesis of the quantitative studies of normal organizational mortality (Glor, 2013). To determine whether the studies were usable in establishing normal organizational population mortality rates, two criteria were applied: (1) whether the study effectively captured a full population and a mean population mortality rate could be calculated, and (2) whether the population was normal. Application of these criteria eliminated several studies (Table 7.4).

Table 7.4: Population Mortality Study Count

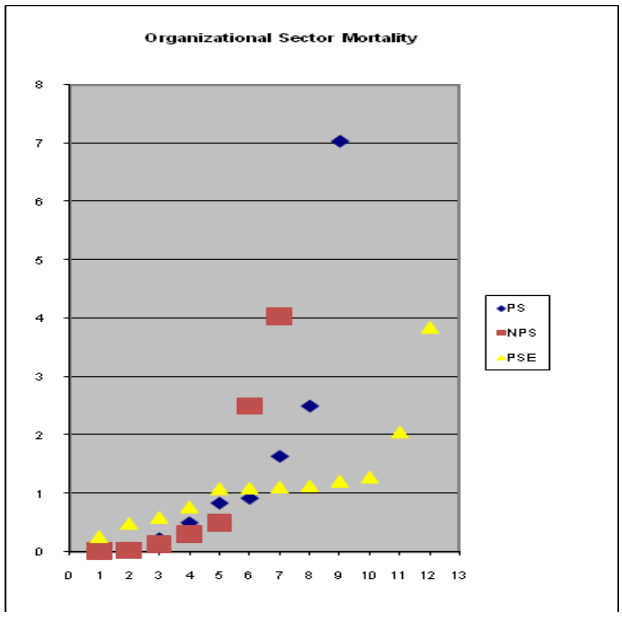
	Private Sector	**Non-Profit Sector**	**Public Sector**	**Total Number of Studies**
# of studies found	11	7	15	**33**
1st criterion: Population mean can be calculated	***Minus:*** Fortune 500 companies Largest US Bank Holding Companies (BHCs)	***Minus:*** None	***Minus:*** Kaufman Carpenter (2000) Korean quangos	***-5***
Sub-total	9	7	12	**28**
2nd criterion: Not an outlier	***Minus:*** Atlantic coops Manhattan fax co. New Munich co.	***Minus:*** Short-term Toronto VSSO Medium- term Knights of Columbus	***Minus:*** USA credit programs Medium-term not-censored Canadas	***-7***
Total remaining	**6**	**5**	**10**	**21**

[13] In countries such as Republic of Ireland and the UK, quangos are quasi-autonomous non-governmental organizations to which the government has devolved powers.

Excluded Studies

A total of 33 PS, NPS and PSE studies reporting mortality were found. Of the 33 studies, five were eliminated using the first criterion: In the private sector, Fortune 500 and the largest US bank holding companies and in the PSE, Kaufman's study of USA federal executive agencies and the presidential office, Carpenter's (2000) analysis of Kaufman's data, and Park's study of Korean quangos. A population mean could not be calculated in these studies. The 28 studies remaining after the first screening, for which population means per year could be calculated, are compared in Figure 7.1. It identifies the pattern of mortality rates among population sectors and national governments and compares the means of all the studies for which a mean could be calculated, by sector. The vertical axis represents mean annual mortality rates while the horizontal axis represents the individual studies ranked from lowest to highest mean mortality rate per year. It makes clear that some studies were outliers.

Figure 7.1: Comparison by Sector of Mean Mortality Rates per Year of 28 Studies for which a Population Mean could be Calculated



Notes: Vertical axis: mean mortality rate per year in populations. Horizontal axis: each point represents one study in a sector. For example, the results for 12 PSE studies are shown.
Tables 7.1, 7.2 and 7.3 show the range of mean mortality rates per year by sector.

While most of the organizational populations studied in the three sectors have relatively similar mortality rates, each sector has outliers. Factors that can affect normalcy include outlier populations, censoring and challenges created studying organizations across borders and sectors (all to be called "outliers"). In keeping with the second criterion, outliers were removed: outlier studies were either not representative of their entire population or they researched populations that could be expected to have higher or lower than normal mortality rates because of the characteristics of the populations studied (e.g. a study limited to successful organizations would be expected to have a lower than normal mortality rate and a young population would be expected to have higher than normal mortality rates. The outlier studies had mortality rates

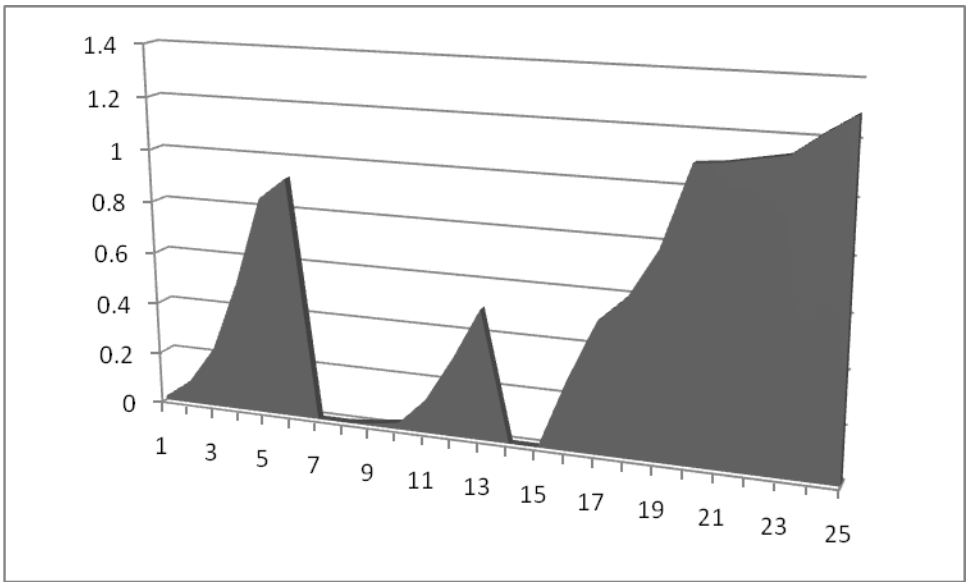
multiples larger than the normal ones. Of the 28 studies remaining after application of the first criterion, seven studies were removed as outliers following application of the second criterion—in the PS, Atlantic Worker Coops, Manhattan fax companies and Munich businesses; in the NPS, Toronto social service agencies and the Knights of Labor; and in the PSE, USA credit programs and the no-censorship Canadas (Glor, 2013). This left 21 organizations that could be compared.

The 21 normal studies were compared. All of the studies had mean mortality rates below 1.29 per cent mortality per year. The mean mortality rate per year for the 21 studies is compared by sector in Figure 7.2. While mortality rates varied among studies, once invalid (criterion 1) and outlier (criterion 2) studies were eliminated, the mortality rates were more similar and the highest mortality rates were found in the American PSE. This finding is the opposite of that claimed by early scholars of PSO mortality.

Conclusion

The research on patterns of organizational survival reviewed in Chapter 7 demonstrated that organizations do not die or survive at the same rates. Nonetheless, good quantitative research has suggested that organizational survival follows regular patterns. The next chapter examines the factors reported in the literature to be associated with organizational mortality and survival.

Figure 7.2: Mortality Rates by Sector of Twenty-one Studies Meeting all the Criteria



Notes: From left to right: private sector, non-profit sector, public sector.

Chapter 8: Control Factors for Organizational Mortality and Survival

ABSTRACT

Chapter 7 reported the literature on organizational mortality, showing that different studies found different mortality rates and also different factors correlated with mortality. Chapter 8 draws on this literature to examine more carefully the control factors associated with organizational deaths and survival. When associated with increased mortality rates, these factors are known as liabilities. Researchers have found liabilities of newness, adolescence, smallness, lack of resources, and change. Changing seems to reset the organizational survival "clock" of older organizations, back to the higher death rates of younger organizations. This chapter considers the literature on organizational liabilities in the PS, NPS and PSO sectors in terms of the types of liabilities found, organized by internal and external factors. It also considers whether the factors found to be at work in the PS and NPS are also found in the PSO literature.

Introduction

Organizational mortality is not consistent across organizations and also may not be consistent across the PS, NPS and PSO. Geoffrey Vickers (1959) described the elements of a system like an organization as the individual, society and the environment. These three elements resemble the factors important to innovation patterns—the individual, the social dynamics and the challenges faced to change (Glor, 2001a, b). To these Vickers added a regulating process with the functions of sending and receiving information and selecting behaviors. Glor employed the term feedback for similar functions in PSO systems (Glor, 1998a).

Control factors for organizational survival identified in the literature are examined below. While the survival of PS and NPO has mainly been published in the sociological literature, PSO liabilities have been addressed in the public administration literature. First, as with the case studies in earlier chapters, the factors are presented, organized into two types of control factors—internal factors (social and individual) such as organizational traits and external (environmental) factors such as politics. The control factors are analyzed in terms of whether they are traits of the organizations themselves (which have been created by earlier dynamics) or are imposed/ induced by the environment. Second, the similarities and differences of control factors found among the three sectors are compared and contrasted.

Types of Factors

The choice of types of factors to examine related to organizational survival imposes a theoretical framework on research. It is therefore an important decision. Burke (2002) argued that the way to change organizations fundamentally is to intervene at the strategic level, in what he called transformational factors. The transformational factors affect all parts of the organization, and include three elements: the organizational mission and strategy, leadership, and organizational culture. On the other hand, to create continuous improvement (evolutionary or selective rather than sweeping change), Burke recommended intervening in the transactional factors. These include structure, management practices, systems (policies and procedures), work unit climate, task requirements and individual skills, motivation, needs and values. Structure,

according to Burke, is a transactional not a transformational factor.[14] Wischnevsky and Damanpour (2008) made a similar distinction between radical strategic and structural change.

Carroll and Hannan (2000, p. 368) came to a different conclusion about the nature of structural change. They see it as transformational, not transactional (to use Burke's terminology). For Carroll and Hannan, four features are transformational or, to use their terminology, "core." They also see structural change as hierarchical, in the following order: an organization's mission, authority structure, technology, and market strategy. Core changes modify its organizational-form default classification (Carroll & Hannan, 2000, Chapter 4). At a more general level, changing core features implies extensive other changes in the organization related to structures and routines (Carroll & Hannan, 2000, p. 368). Hannan and Freeman (1984, p. 156) argue "core" structural change leads to an elevated risk of organizational failure and mortality while changes affecting the "noncore" or periphery structure are not seen as being as risky nor are they expected to produce the same outcome; indeed, they might lower the risk of mortality (Barnett and Carroll, 1995).

According to Carroll and Hannan (2000), transformation or change of an organization can and has been approached from two different perspectives: the content of the change, which requires a before and after assessment, and the way the change in content occurs, the process. Using a demographic/evolutionary perspective, Carroll and Hannan (2000) indicate both internal or structural changes and the processes occurring in the external environment of an organization should be studied. With regard to internal factors, they break changes into two types, core structural changes and non-core or periphery changes. Core and non-core changes were identified in the previous paragraph. In the environment, processes are also important, such as competition and technological change. They see Schumpeterian approaches (e.g. Tushman & Romanelli, 1985) as taking selection approaches (Carroll & Hannan, p. 361). Glor (2001b) suggested the key factors in organizational pattern formation are two internal factors, individual motivation and organizational culture including its leadership style, and an external factor, the challenges presented by the environment.

Internal Factors

Much research on organizational survival has focused on issues that can be considered internal to the organizations, especially organizational traits. Internal control factors included the ***liability of newness,*** found in the PS (Stinchcombe, 1965; Freeman, Carroll & Hannan, 1983), the NPS (Singh, House & Tucker, 1986 a, b) and the PSE (Carpenter & Lewis, 2004). None of the authors identified the magnitude of the impact of newness on organizational survival, but Brüderl and Schüssler (1990) suggested its shape would be a steady decline in the rate of mortality as the organization aged. Whether there is a liability of newness has been controversial. Further research suggested there was a liability of newness, and an even bigger ***liability of adolescence,*** sometimes referred to as post-adolescence (Brüderl & Schüssler, 1990). Carpenter & Lewis (2004) found both in the public sector as well.

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[14] From: Eleanor D. Glor, Assessing Organizational Capacity to Adapt, *Emergence: Complexity & Organization* (*E:CO*), Vol. 9 No. 3, 2007, pp. 33-46

Another internal control factor was a liability of ***smallness***. Hannan and Freeman (1977, p. 959 detected it in the American Fortune 500 organizations between 1955 and 1975. They reported that 25 per cent of large businesses died in twenty years, while 78 per cent of small businesses died. The small Fortune 500 businesses were three times as likely to die as the large ones, an enormous difference. Damanpour and Schneider 2009: 506, 509) found large and ***urbanized*** local governments were more likely to adopt NPM-type innovations. Walker (2013, Table 2) found large local governments were more likely to be innovative in a review of ten studies.

The issues of size and age are primarily characteristics or traits of the organizations themselves and often relate to the infrastructure of the organization; in other words, they relate to internal control factors. Like people, organizations are never completely defined by their traits, however. Organizations cannot survive without, for example, resources and they do not do well without legitimacy. These factors also influence change to conform with current organizational and societal culture, especially power structures.

Issues such as ***resources*** affect the internal functioning of the organization, but they often have both internal and external elements, that is, both external and internal actors play a role in whether resources are available to the organization. Resources regulate whether or not an organization can grow. In the for-profit sector external actors that affect resources can be larger organizations or individual customers; in the not-for-profit sector, donors; in the public sector, elected officials and voters. Walker (2013, Table 2, p. 12), however, found ***slack resources*** were not a significant control factor in adoption of process innovations in local governments, while Damanpour (1987) found they were, in a study of libraries. He also found ***all factors together*** were a better predictor of technological than administrative or ancillary innovations. He also discovered that specialization and organizational slack had stronger effects on technological innovations than on administrative or ancillary innovations. Administrative intensity and organizational size had a stronger effect on administrative innovations.

Damanpour and Schneider (2009, 506, 509) found resources were important in adoption of NPM-type innovations in local public organizations. They also suggested that ***complex environments*** may stimulate innovation (Damanpour and Schneider, 506); Daft, 2001; Glor, 2007a). In five studies, Walker (2013, Table 3, p. 12) found ***administrative capacity*** was a significant control factor for adoption of process innovations in local governments. Bhatti et al (2010) and Fernandez and Wise (2010) also found positive associations between new organizational forms and personnel reforms, respectively, and administrative capacity.

In addition to a liability of newness, and adolescence, Brüderl and Schüssler (1990) found a liability of ***lack of resources*** in their private sector data, which is especially reflected in small organizations. Amburgey, Kelly, and Arnett (1993) found a ***liability of change*** in (primarily) private sector Finnish newspapers. Changes in newspaper content or in frequency of publication created a liability of change. A change in content of publication was, for example, a shift from general to specialized content, which was seen as a *goal change*. Specialized content meant newspapers focusing on issues such as political content (most) and non-political issues (fewer) like economic news or religious topics. Frequency of publication was usually either weekly or daily.

Amburgey, Kelly, and Arnett found support for the following hypotheses:

(1) Organizational change increases the failure rate of organizations, independent of the effects of the changed characteristics;

(2) The disruptive effect of organizational change increases with the age of the organization;

(3) The disruptive effect of organizational change decreases with the elapsed time since the occurrence of the change;

(4) The probability of an organizational change increases with the number of prior changes of the same type;

(5) The probability of a given type of organizational change decreases with the elapsed time since the last change of the same type;

(6) The probability of organizational change decreases with the age of the organization;

(7) Early occurrence of a change of a given type increases the probability of subsequent changes of the same type.

Amburgey, Kelly and Arnett found strong support for each of these hypotheses but nuanced hypothesis 7 to differentiate between different types of changes, goal changes and technical/strategic changes. *Initial goals (content)* became institutionalized quickly. If changed early, they were more likely to be changed again later; if they were not changed early, they were not likely to change again. *Technical/strategic characteristics* followed a different pattern. Initial characteristics were more likely to be changed than ones that were adopted later. Momentum decayed much more slowly for goal changes than technical/strategic changes. They speculated this difference was due to their different positions in Hannan and Freeman's (1984) hierarchy of organizational attributes. Because content (goals) is closest to the core, it is slow to change, but if a change in goals occurs, it produces the greatest momentum. Because technology and strategy changes (frequency of publication) are closer to the periphery, they are easier to change, but momentum decays more quickly (Amburgey, Kelly & Arnett, 1993: 71).

A liability of strategic and structural change might have been expected. Wischnevsky and Damanpour looked at radical strategic and structural change,[15] but did not find that either type of change had a significant effect on the profitability and survival of the 50 largest bank holding companies over 20 years (Wischnevsky & Damanpour, 2008, p. 53).They also found a high correlation between performance crisis and sustained low performance (Note 8, page 80). The firms they studied were large and well-recognized. Organizational culture and core technology were not examined (Wischnevsky & Damanpour, p. 75). They suggested that most of the antecedents of radical change cited (e.g. CEO change, performance pressure) do affect undertaking of radical strategic changes, but they are not usually predictors of structural changes. In fact, they found that a trigger of radical structural change is often prior strategic change. These he found to be the direct antecedents and that other independent variables mostly acted indirectly

[15] Radical change was defined as a change between organizational states differing remarkably from each other, over a short period. They allowed for loose coupling among attributes. Strategy was long-term objectives, courses of action and allocation of resources to achieve the objectives. Structure was the set of ways an organization divided labour into tasks and achieves coordination (Wischnevsky & Damanpour, 2008, pp. 55, 56)

as the triggers to strategic change that preceded structural change" (Wischnevsky & Damanpour, Wischnevsky & Damanpour, p. 73). They also conducted other analyses indicating radical strategy changes drive radical structural changes but that the opposite may not be true. Regarding antecedents of radical strategic change, they found it is assisted by new top executives without commitment to current strategies, by prolonged low performance but not by executive teams with large proportions of new members (Wischnevsky & Damanpour, p. 73). They also found that larger organizations undertake higher rates of strategic and structural changes (Wischnevsky & Damanpour, p. 65). Environmental shift had a positive effect on the occurrence of structural but not strategic change. Firms were more likely to undertake radical structural (111 examples) than radical strategic (46) change (Wischnevsky & Damanpour, pp. 64-65). The researchers took measurements at three levels: the organization (age, size [measured by assets]), industry (industry concentration, per cent of total bank assets held by the largest four banks in their home state, environmental shift [specific events], industry deregulation [a major factor] and macro-environment levels (GDP change).

Legitimacy may also be like this. Internal to an organization, employees and managers have perspectives on the legitimacy of the elements of the organization, especially those in competition with the organization being considered, but so do outsiders, and those opinions can be different from those of the employees or owners. Legitimacy may be both an internal and an external factor. Legitimacy was a particularly important issue for Toronto VSSOs. *External legitimacy* and the *support of major institutional actors*, which reflects legitimacy, were critical to the survival of young VSSOs. *Isomorphism* (imitation of form) was seen as contributing legitimacy to the organizations (Singh, House & Tucker, 1986a).

External/Environmental Factors

External factors derive primarily from the organization's environment. While the organizational environment includes factors at work from outside the organization, it can also include influences from inside, and is thus mixed. The orders of change required of the organization to accommodate the change can also be considered mixed because different orders of change require internal and/or external action, but the higher order changes tend to originate from outside the organization. External factors may influence the organization's available resources through such factors as such as economic booms and recessions, the dominant political ideology and politics, and the magnitude of change demanded by the environment.

External (or environmental) factors have not been studied much. Carroll and Huo (1988) are an exception, having addressed in their study of the Knights of Labor such internal factors as age and reorganizations but also such external factors as ***legitimacy***, ***niche width*** (single trade or mixed local assemblies) and such ***political factors*** as non/capital city and no/political representation through a local labor party. Damanpour and Schneider (2009, Table 2) found that a mayorality system in local governments was negatively associated with introducing NPM-type innovations. Manager's pro-innovation attitude, political orientation and tenure were positively associated. Carroll and Hannan (2000, p. 198-202) identified four external factors: ***resources***, political factors, ***technology*** and *ethnic identity* (which they saw as the distribution of socially constructed identities in the human population affecting an organization).

Studies of the public sector, in particular, have brought out such external factors as politics, the economy (Lewis, 2002), and competition/niche width (Lewis, 2002). Politics were found to be important control factors in the NPS (Carroll & Huo, 1988) and the PSE (Carpenter & Lewis, 2004; Lewis, 2002). Walker (2013) did not, however, find that external antecedents (need, wealth, urbanization) were significant factors in adoption of process innovations in local government studies. He suggested that lack of common measures may have been a factor in external antecedents and in slack resources.

This review of control factors identified seven internal and six external control factors. This supports a multi-causal selection hypothesis, not a commutable, exogenous condition (Singh & Lumsden, 1990, pp. 185, 190). The internal and external context, along with the legitimation process and the political process are studied in the next section of this chapter. It analyzes the factors correlating with organizational survival and mortality according to the internal and external categories

Control Factors by Sector

Are the control factors consistent across organizational sectors—do PS, NPS and PSE organizations have similar or different survival rates and control factors?[16] To be sure, the PS, NPS and PSE are all influenced by such internal factors as competition and access to finances, and such external factors as the economy and ideology/politics but they could be differentially affected by them. If the survival rates are different in the different sectors, this may indicate that different control factors are at work or that the impact of the control factors is greater in certain sectors. Control factors are summarized in Table 8.1 by sector and type of factor (internal and external). Internal factors were found in all three sectors, as factors regulating the organizations, though not as strongly in the public sector. External factors played a much stronger role in the public sector, especially political factors.

Private Sector

Organizational survival has mainly been studied in the private sector (Table 7.1), where government business registrations provided the best and most complete databases (Brüderl & Schüssler, 1990). Hannan &Freeman (1977) studied the Fortune 500, the yearly list of the 500 most profitable companies in the USA published by Fortune magazine. Comparing 1955 and 1975, they found newness to be the major factor in mortality. Freeman, Carroll and Hannan (1983) also found newness to be an important control factor, in American newspapers and in

[16] While it is tempting to get into a discussion of whether these three sectors could form the basis for an organizational classification system, this issue is not the focus of this monograph.

Table 8.1: Summary of Literature on Control Factors for Organizational Mortality by Sector

Factors	Private Sector	Non-Profit Sector	Public Sector	Type of Change
Internal Factors:				
Smallness	Yes			Internal Structural?
Newness (only if defined as young)	Yes	Yes	Yes (age 2)	Internal structural
Adolescence	Yes	Yes	Yes (age 5)	Internal structural
Time			Yes	Internal regulation ??
Characteristics of the agencies			Yes	Internal structural
Lack of resources	Yes	Yes	No (only budget surplus)	Internal regulation
Liability of change	Yes	Yes (in older orgns)	Not examined	Internal regulation
Legitimacy		Yes: lack of resources, external legitimacy, lack of support of major institutions		Internal regulation
External Factors:				
Competition & Niche Width		Yes: niche width in Knights of Labor	Yes: Competition among agencies	Internal or External
Economy			No Yes	External Social
Political		Yes: --Electoral success --Located in non-capital city	Yes --A new presidential administration (not $p<0.05$) --Agencies created by executive action (not statutory) --Dramatic political turn-over --War --Ideological predispositions of Congress and President --Political environment: unified gov't (60% higher hazard rate)	External Social

American semi-conductor firms. Brüderl and Schüssler (1990) studied most of a population of 155,415 new private sector organizations in southern Germany. Small, adolescent organizations and ones lacking resources had much higher mortality rates.

Non-profit Sector

In the non-profit sector (Table 7.2), a curvilinear, nonmonotonic pattern of organizational mortality was reported in three studies, of business interest associations (Aldrich & Staber, 1988), the Knights of Labor (Carroll & Huo, 1988) and voluntary social service organizations (VSSOs) (Singh, House & Tucker, 1986a). In terms of organizational goals, Carroll and Huo found that specialist organizations (compared to generalist organizations) had a syncopating pattern involving a higher initial death rate in the first year, then lower rates in the next two years,

followed by no significant differences from the generalist assemblies in subsequent years. They found reorganized locals had higher death rates than initially established (pioneer) ones but only in two later age groups. This is a ***liability of chan***ge in older organizations. The political variables examined were capital city location and organized third-party electoral involvement (locals were either in a capital city or not). Capital city location correlated with a lower death rate. This was a ***non-capital city liability.***

Like Brüderl and Schüssler (1990), in their study of 389 VSSOs in Toronto that changed from 1970 to 1982, Singh, House, and Tucker (1986a, p. 598) found a nonmonotonic ***liability of post-adolescence***, where the death rate initially rose sharply to age two, dropped until age four, rose to the maximum death rate at age five, declined monotonically to age ten, then became constant.[17] Twenty-eight per cent of the 389 organizations died during the 11-year period. In this population, 270 VSSOs experienced structural changes (undefined) but few changes in service-area (presumably type of service/activities), goals or sponsors. ***Legitimacy*** was an important issue for VSSOs. *External legitimacy* and the *support of major institutional actors* were critical to the survival of young VSSOs (Singh, House & Tucker, 1986b). *Isomorphism* (imitation of form) was seen as contributing legitimacy to the organizations (Singh, House & Tucker, 1986a).

A striking difference between the non-government and government sectors is evident. Most of the control factors found in the private sector and the non-profit sectors, as described above, were internal, but the most important of the control factors identified in the public sector was external.

Public Sector

In addition to the internal and regulatory factors that are shared among sectors (newness, adolescence), the public sector (Table 6.3) has additional exogenous (external) factors which affect it. This result does not seem intuitively correct. No one has found an economic factor for PSO, but this seems unlikely, given their short-term perspectives, especially in recent years. The PS shares the NPS political factor and competition.

Government potentially affects the public sector in at least two ways, as tax (resource) dependence, driven both by the economy and by government policy, and as politics and ideology. Elections are a legitimate mechanism for changing the government and bringing the population's perspective to bear, but even in democratic countries, the government represents an exogenous control factor for PSO. This is more true in some democracies than others. In the USA, for example, a new administration appoints its choices to the top four or five levels of the civil service when it comes to power. It basically changes all the managers. In Canada, on the other hand, the government only appoints the first level (deputy ministers and, in large departments which have them, associate deputy ministers, who share the deputy minister role). This does not mean that political control does not penetrate the Canadian public service; rather, it takes longer to do so.

[17] Birth was formal incorporation, death was ceasing to exist as a formal entity. Mergers were counted as deaths (only five mergers occurred).

A new presidential administration, agencies created by executive action (lack of statutory authority), dramatic political turn-over, war, ideological predispositions of Congress and the President, and a political environment of unified government (60% higher hazard rate) affect PSO survival in the US (Lewis, 2002). There may also be a link between the orders of change that governments impose on public services and the way fundamental political (ideological) change has expressed itself.

With the international movement to a global economy and free trade agreements, the PS is more influenced by international institutions and agreements than it once was. International institutions have tended to have greater influence on smaller governments than on larger ones. International economic institutions have been the most effective in influencing governments, and have reflected and reinforced political ideology. Even G8 countries such as the UK (Guardian Weekly, 2009) and Canada in 1994 (Glor, 2001e) have had the IMF influence the setting of their spending plans. In 1977 the UK introduced austerity and the Margaret Thatcher government was elected shortly afterwards. In 1995 the Government of Canada introduced austerity, following a visit from IMF officials in December of 1994. All governments are somewhat influenced by international institutions, although the USA has at times attempted to isolate itself from them.

Politics and ideology were not the only external control factors affecting PSO survival. Others included the economy and war (Lewis, 2002). While not external to the government, competition among agencies is external to any one PSO (Lewis, 2002).

Conclusion

The literature has identified a number of control factors for organizations, both internal and external, as described in this chapter. Are there other control factors at work in organizational change? What control factors are salient in the public sector, as opposed to the for-profit and non-profit sectors? Are the factors at work in Canadian governments the same or different from what others found? Whether the factors were found in the Canadian case studies is reviewed in Chapter 9, and, using a grounded theory method, theory of public sector control factors is explored in more detail in Chapter 10.

Section IV: Conclusion

As recommended in the grounded theory literature (Glaser & Strauss, 1967), the Conclusion in Chapter 9 compares the case studies to the literature on organizational survival and mortality, and to the few other studies of PSE innovation that identify the fate of the innovations. Chapter 10 consolidates the substantive theories and hypotheses of PSO innovation and the formal theories and hypotheses concerned with organizational change developed in this book and considers theories developed for the PS and NPS.

Chapter 9: Comparison of Findings in the Case Studies to the Literature

ABSTRACT

Chapter 9 compares the findings about factors that affect survival of organizations in the PS, NPS and PSE, as described in Chapter 7 and Chapter 8, to those for the nine PSE case studies, described in Chapter 2 and Chapter 6. It (1) compares the mortality results of the assessments of the nine case studies (Chapter 6) to the results for other studies of the PS, NPS and PSE in the USA and other countries (Chapter 8), (2) considers whether different factors were found in the Canadian PSO case studies and discusses established and possible additional control factors in the fate of the case studies, (3) considers whether the pattern of mortality found is typical in Canada, (4) compares the mortality rate of organizational populations that changed (studied in Chapter 7) to that of organizational populations that identified other factors as being correlated with organizational mortality, and (5) identifies the mortality rates in three other studies of innovations and compares the fate of those innovations to the fate of the case study innovations.

Introduction

The work presented so far made some progress developing substantive theory of PSO innovation and change and their implications for organizational survival. Using a grounded theory method, nine Canadian public sector innovations were scrutinized in order to develop properties of the concepts and hypotheses for possible control factors for PSO survival. A grounded theory approach was used because the nature and characteristics of Canadian PSO death and survival have not previously been established. These issues have, however, been studied in the US federal government and in a few other locations with single studies.

Studying the PSE, some of the properties of the key concepts have been identified and hypotheses and indicators for the concepts and properties of organizational adaptability, communication, capacity for fitness, challenge, fitness and survival/mortality have been constructed. Nine case studies that innovated (changed) were assessed and ranked for adaptability, fitness and survival. Control factors for PSO survival were identified in the case studies and also in the academic literature.

In this chapter, the scope of the work is expanded to developing a *substantive theory* of the impact on the survival of organizations of *organizational innovation* and a *formal theory* of the impact on the survival of organizations of *organizational change*. This done by drawing from literature on PSO innovation and change, and by comparing work on PSO change to PS and NPS change, in keeping with the approach to developing grounded theory recommended by Glaser and Strauss (1967). The scope of consideration is expanded from substantive fields to more sectors in order to create formal theory through comparison (see Chapter 2 for more details).

Working with the case studies, measures were defined and developed for PSO death and survival in Chapter 4 and three groups of control factors were identified for survival: time,

magnitude of challenge, and politics. The nine organizations studied were better able to survive before the 1990s than after, when making non-core rather than when making core changes, and before the dominance of conservative ideology more than afterwards. What other control factors could be at work in organizational change? What control factors are salient in the PSE, as opposed to the PS and NPS?

Methodology

Using a grounded theory method, possible new control factors for organizational survival and mortality in nine Canadian case studies were explored, based on (1) an attempt to find in the case studies the control factors identified in the literature on the PS, NPS, and other public sectors, (2) a comparison of the factors found in the other sectors to those found in the case studies, and (3) a comparison of the mortality rates of the Government of Canada (GoC)'s departments from 1867 to 2010 to those found in the case studies.

Analysis

(1) Comparison of Mortality Control Factors in Case Studies to Those Found in the PS, NPS, and Other Public Sector Survival Literature

In Table 9.1, an attempt was made to find, in the case studies, the internal and external control factors found in the literature and posited by Carroll and Hannan (2000). One of the most important was change, because innovation is a change. As discussed earlier, several authors have focused on core and non-core change as an important distinction. Non-core change is thought to be less threatening to the survival of organizations and innovations than core change. In Table 9.1, the case studies are reviewed according to this distinction.

Table 9.1: Type of Change in Case Studies

Case Study	Pattern	Non-core/ Periferal/ Transactional	Core/ Transformational	Fate of Innovation	Fate of Innovative Organization
Literacy N.B.	Imposed		-Priv'd from PSE to NPS -Service delivery from prof teachers to para-prof --Change in source of funding (from prov. to federal govt)	Service (literacy training) survived	Privatized Coordinating agency, Literacy N.B. disappeared
Operating Budgets	Reactive	Procedural		One-time budgetary effect	T.B. continued
Missing Children	Active	Process Small increase in employee workload		Continued	A number of organizations: all survived

Case Study	**Pattern**	**Non-core/ Periferal/ Transactional**	**Core/ Transformational**	**Fate of Innovation**	**Fate of Innovative Organization**
Mississauga Excellence	Buy-in	Process	Structural: new orgn, status changed from reporting to City Manager to reporting to H.R.?? Manager Employee role changed to include searching for ways to improve efficiency & save money	Disappeared	Unit made permanent, then abolished
PPP Database	Proactive	Project		Privatized	Temporary unit disappeared
Ship Repair Atlantic	Necessary		Structural—org status changed from directorate to ASD Employee role changed to include searching for ways to improve efficiency & save money	Continued	Status changed from government department/direc-torate to ASD
PCS	Transfor-mational	Mined potash throughout	Structure (purchased) in 1975 then privatized in 198?? Added public good goal; deleted public good goal.	Structure, goals changed Abolished	Privatized (abolished)
Health Promotion	Continuous	Consolidated and expanded program, anti-drug program abolished	New structure: directorate in Health & Welfare Canada	Part continued, advertising deleted	Organization continued
PHAC*	Buy-in	Later, augmented infectious disease program	Structural: new agency	Survived	Survived Greater independence not achieved

Abbreviations: ASD = Alternate Service Delivery, cost-recovery based, govt=government, priv'd=privatized, prof=professional

*PHAC: Intrinsic motivation (infectious disease staff had favored for some time), top-down from senior management and an investigation of SARS performance, minor magnitude

The control factors from the literature are compared to the case studies in Table 9.2. Several factors described in the literature, but not previously identified in the case studies, were also found in the case studies in this way. These included characteristics of the agency (although this factor overlapped somewhat with infrastructure), liability of change, poor economy (but only for PSO created during the early 1990s), and unified government (all Canadian governments are unified). The other factors such as being small, young, adolescent, and poor economy were important in some cases but not others, that is, they were not consistently factors across cases (and governments and time).

Table 9.2: Analysis of Survival and Mortality of Case Studies by Control Factors

Mortality Control Factors from Literature:	Case Study Survived					Case Study Died			
	Ship Repair	**HP**	**Missing Children**	**Opg Budgets**	**PHAC**	**Literacy NB**	**PCS**	**Mississ -auga**	**PPP**
Internal Factors:									
Small	no	no	yes	yes	No	no	no	yes	yes
Young	no	no	no	no	Yes	no	no	yes	yes
Adolescent	no	no	no	yes	Yes	no	yes	yes	no
Characteristics of the agency:									
-other character-istics	Yes - potentia l for recoveri ng costs, good staff-mgmt coopn	Yes-Intd in preve ntion	Yes - good staff-mgmt coop'n	Yes-helped both central agency & depts	Successor to two branches of Health Canada	No – Fed. funding removed from ABE, transfers to provs reduced, prov in deep deficit	Yes – too left-wing for new govt	Yes – too central-ized	Yes – no core budget or staff
Change:									
-type of change	Org'al; still PSE	Org' al	Coordin-ation (org'al?)	Budge-tary	Org'al	Org'al	Change of sector	Admin	Change of sector
-created by exec decree not legn	no	yes	yes	yes	Yes, 2004 No, 2006	yes	no	yes	Yes
-org design-ed to be temporary	no	no	no	yes	no	no	no	no	yes
-demotion in org hierarchy (reduces ministerial influence)	yes	no	no	no	2004-no 2006-yes	Priv'd	Priv'd	Abo-lished	Priva-tized
-short elapsed time since last change	Yes-yearly	No - long	No - long	No - long	Yes (9 years)	Yes – 2 years	Yes – 14 years	Yes – 5 years	Yes – 2 yrs
-primarily core/ non-core	core	core	Non-core	Non-core	core	core	core	core	non-core
-transfor-mation (Liability of) change	Yes – destabil-ized - soon changed again to become ASD	Yes – affect ed identi ty & perm an-ently	No	No for TBS. Yes for dpts as must do each year for little increm.	Yes (large amount of new money for emergency prepared-ness & response)	Yes – destabil-ized literacy funding. Two major changes within 2	No –PCS stabil-ized in the PS	Yes - Role slowly change d from bottom-up to more	Yes – director made redund ant, created final unsupp

Mortality Control Factors from Literature:	**Case Study Survived**					**Case Study Died**			
	Ship Repair	**HP**	**Missing Children**	**Opg Budgets**	**PHAC**	**Literacy NB**	**PCS**	**Mississ -auga**	**PPP**
		lost media funds		gain		yrs		top-down	orted project
-any change	Yes-kept changing	Yes-lost identity	Don't know	Yes-govt lost its con-science		Yes-kept changing	Yes-kept changing	Yes - kept chan-ging	Yes-kept chan-ging
-change in technology	No	Yes-child deve-lop-ment. Down grade from for-mer pro-grams	Yes – new passport technology	Yes-better financial tracking systems		Yes-teaching technology down-graded	No	Yes-quality assurance, but not new	Yes-interactive data-base manipulation technology
Niche Width:									
Generalist/ specialist orgn	Specialist	Spe-cialist	Specialist	Spe-cialist	Specialist	Specialist	Spe-cialist	Spe-cialist	Spe-cialist
Lack of internal legitimacy	No	Some -staff young and hip	Union agreement limited tasks	Yes Legitimate first year but not since	No	Lost PSO union members	Some staff of original PS organization never came on board.	Some internal resistance to efficiency measures	Yes -no permanent budget -staff funded through student & short-term pro-grams
Processes:									
Alignment with env/ capability	No	Yes	Yes	Yes	Yes (govt agency)	No	Yes	Yes	1***/2***
Drift (env changing)	Yes	Yes	Yes	Yes	Yes (change of govt)	Yes (funding env)	Yes	Yes	Yes
Obsoles-cence	1***/2***	1***/2***	New	New	No (but not res-ponding to all issues equally)	Yes	Yes	Yes	Yes
Position --	Fragile	Ro-	Robust	Robust	Robust	Fragile	Fragile	Fragile	Fragile

Mortality Control Factors from Literature:	**Case Study Survived**					**Case Study Died**			
	Ship Repair	**HP**	**Missing Children**	**Opg Budgets**	**PHAC**	**Literacy NB**	**PCS**	**Mississ -auga**	**PPP**
fragile/ robust)		bust							
External Factors:									
Competition and Niche Width	Yes	Yes	No	Yes?	From Health Canada No change	No	Yes	Yes	Yes- govt encouraging PPP
Lack of resources	Yes- director ate	Yes -govt	No – no budget	Yes - govt	Some areas Booked reduction of 9% in 2015-16	Yes – Prov	No – made $ for province	No – princi-ple of decen-tralization adopted	Yes – dept cutting deeply
Lack of External Legitimacy/ Credibility	Yes – Legitimacy P.C. govt did not support govt performing industrial functions	Some – credibility- last media ad. Program did not go well	Some – Legitimacy - Some citizen's cultures did not agree with policy	Internal only	No – some critics but generally respected.	Yes - Legitimacy -No govt wanted to fund -Replaced qualified teachers	Yes -Not legitimate with new neo-liberal govt	Some – Credibi l-ity -Perm-anent unit but lack of interest	Yes – Credi-bility During down-sizing un-likely it would be made perman ent
Poor Economy	No -early 90s	No -late 80s	No	Yes -early 90s	Yes	Yes -early 90s	No -late 80s	Yes – early 1990s	Yes Early 90s
Political Factors:									
-Located in non-capital city	Non-feder-al capital Prov cap	Capital	Decentra lized	Capital	No	Decen-tralized	-Policy unit in capital -Mines decentral ized	Capital	Capital
-New govt	No	No	No	No	No	Yes	Yes	No	No
-Not statutory	N.S.	N.S.	N.S.	N.S.	No	N.S.	Statu-tory	N.S.	N.S.
-Dramatic political turnover	Yes 1993	No	Yes	Yes 1993	Yes: 2006	Yes 1987	Yes 1982	No	No
-War	Yes	Yes	No	Some	Yes –	Some	No	No	Some

Mortality Control Factors from Literature:	**Case Study Survived**					**Case Study Died**			
	Ship Repair	**HP**	**Missing Children**	**Opg Budgets**	**PHAC**	**Literacy NB**	**PCS**	**Mississ -auga**	**PPP**
	-origi-nal crea-tion during WWII	when created -Viet Nam War led to student radicali sm 1960s		- peace-keepers in many places, costly -Lg fed deficit	Afghanis-tan	- peace-keepers in many places, costly -Lg fed deficit			- peace-keepers in many places, costly -Lg fed deficit
-Ideology of govt	Yes	Yes – childre n deservi ng poor	Yes-children deserv-ing poor	Yes	Yes – climate change	Yes	Yes	Yes	Yes
-Unified govt	Yes*	Yes*	Yes*	Yes*		Yes*	Yes*	Yes*	Yes*
-Threat & use of termination (utility declines over time)	Yes - threat	No	No	No	No - rumors	Yes	Yes	Yes	Yes
Public perception poor	No	No – except debate about govt role in drugs & alcohol	No, except among cultures that regard children as the property of their fathers	No	Yes, somewhat, after SARS	Yes – low success in improving literacy	No, except poor response to ad campaig n	No Internal ly, some resistan ce	No

*****The Westminster system is unified but the head of state is separated from the head of the executive. In the US the head of state is integrated with the head of the executive in the President (since late 1940s/early 1950s, beginning under President Truman [Peri, 1998].)

Abbreviations: org'al=organizational; admin=administrative

(2) Did the Case Studies Evince the Factors as a Group?

In the private and non-profit sectors, three factors have consistently been found to relate to higher rates of organizational death: young age, smallness, and lack of financial resources. Among the nine PSO studied, three died before they were ten years old and a fourth one before it was 15 years old. Even two of four old organizations died—a very high rate for old organizations. Two of four small case studies died; four of six financially insecure organizations died (all but three organizations were financially insecure: the financially secure cases were PCS, Operating Budgets (no budget and saved money) and Mississauga Excellence, which had just

received its own budget). The NB literacy program had survived 25 previous years, but it only survived transfer of the service to the non-profit sector for two years.[18] Once destabilized and transferred to the non-profit sector, the transfer to being a federally funded program was not unwelcome to the NGOs. This was two structural changes within two years. The two other old organizations (25 years and older) survived. Of the four large and medium-sized organizations, two died, with some of the activities surviving. The main factors in the private and non-profit sectors were not, however, the main factors among Canadian PSO. Table 9.3 summarizes this comparison for the case studies.

(3) Comparison to Mortality Rates of Government of Canada (GoC) Departments

The mortality rate of 50 per cent among the case studies is in keeping with the high mortality rates found in recent public sector literature (Lewis, 2002; Carpenter and Lewis, 2004; Corder, 2004). It is a profile of widespread termination that suggests a pattern of destruction and waste of PSO organizational and human resources. One particular factor was of concern: all but

Table 9.3: Factors Associated with Increased Organizational Mortality Rates

Increased Mortality Hazard Rate	Source Which Found an Increased Hazard Rate	Did the Case Studies have this Hazard?
Organizational Characteristics:		
Newness (young age)	Stinchcombe, 1965 Freeman, Carroll &Hannan, 1983 Amburgey, Kelly & Arnett, 1993	Yes
Adolescence	Brüderl & Schüssler, 1990 Carroll & Huo, 1988 Singh, House & Tucker, 1986b	Yes
Smallness	Hannan & Freeman, 1977 Brüderl and Schüssler, 1990	No
Lack of Resources:		
∗ Financial	Brüderl and Schüssler, 1990 Singh, House & Tucker, 1986b	Yes
∗ External Legitimacy	Singh, House & Tucker, 1986b	Yes
∗ Support of major institutional actors	Singh, House & Tucker, 1986b (NPO)	Yes - Support of govt
Location:	Singh, House & Tucker, 1986b	
Non-Capital City	Carroll & Huo, 1988	Sometimes
Change	Carroll & Huo, 1988 (in older organizations) Amburgey, Kelly & Arnett, 1993	??
Types of Change:		
Elapsed Time Since Last Change	Amburgey, Kelly & Arnett, 1993	Not assessed
Reorganization (in 2 later age	Carroll & Huo, 1988	Yes

[18] In the count of survival and mortality, it was considered to have been terminated when it was broken up and privatized.

Increased Mortality Hazard Rate	Source Which Found an Increased Hazard Rate	Did the Case Studies have this Hazard?
groups)		
Political Factors:		
Not an Important Issue	Ferreira, Farah and Spink, 2008 (Brazilian PSO innovations)	Impt
An Important Issue		Yes
Electoral Success	Carroll & Huo, 1988	N/A
Organizational Goals	Singh, House & Tucker, 1986b	Yes
Organizational Structure	Singh, House & Tucker, 1986b	Yes
Organizational Service Area	Singh, House & Tucker, 1986b	No
Organizational Sponsor	Singh, House & Tucker, 1986b (NPO)	Yes
Organizational CEO	Singh, House & Tucker, 1986b	DK
Specialized Organization	Carroll & Huo, 1988	N/A
Not a Factor:		
Economy	Aldrich & Staber, 1988 --insufficient evidence	No

DK = Don't know, N/A = Not applicable.

two of the young and adolescent organizations was abolished. All but one of the organizations created during the 1990s died. This is a time-related factor, and may relate to a specific decade—the 1990s were a period of large deficits and debt in the GoC. Reinforced by political (neoconservatism) and administrative (New Public Management) ideologies asserting the need to reduce the role of government, the GoC made substantial organizational changes in the early 1990s and then again during the early 2010s.

Table 9.4 examines whether this was an unusual pattern at the departmental level in the GoC. It shows the number of years since Confederation (1867) when four or more federal departments were either created or abolished. (This data is from the GoC Parliamentary database described in the introduction to Chapter 4.) Excluding the first year, when the GoC was being formed, only two periods witnessed substantial amounts of creation and abolition of departments in Canada. The first was the 14 year period 1936 to 1950, when 19 departments were created and 20 were abolished. This period included the Great Depression, World War II, downsizing from WWII, dramatic ideological change from conservatism to liberalism, and introduction of the "welfare state" (introduction of a national unemployment insurance scheme, hospital and medical insurance, and a universal pension plan). This was a time of major changes in the role of the Canadian state. The other period of substantial change in departments was the 13-year period from 1983 to 1996, when 28 departments were created and 28 were abolished. This was a period of economic boom and bust, dramatic ideological change from liberalism to conservatism, and several changes of government, in other words, a period of substantial change and turbulence. The creation of departments was concentrated in economic areas.

Table 9.4: Historical Patterns of GoC Departmental Creation and Abolition

Year	# Created	# Abolished	Net #	Prime Minister
1867	16	0	+16	JA Macdonald
1892	5	2	+3	JGD Thompson
1936	2	10	-8	WLM King
1940	6	0	+6	WLM King
1944	4	1	+3	WLM King
1946	4	0	+4	WLM King
1950	3	9	-6	L St-Laurent
1969	7	9	-2	PE Trudeau
1983	3	4	-1	PE Trudeau
1988	5	3	+2	B Mulroney
1990	5	2	+3	B Mulroney
1994	1	4	-3	J Chretien
1995	8	9	-1	J Chretien
1996	6	6	0	J Chretien
2014	2**	2**		S Harper
Total	**77**	**59**	**+21**	
Accounts for:	**77/107**	**61/96**		**15 years**

Source: Collected July 2010 from the Parliamentary Library website, http://www2.parl.gc.ca/Parlinfo/Compilations/FederalGovernment/historyofdepartments.aspx?Menu=Fed-Gouv-Dept&Department=04fcae6f-b225-4674-bddc-8ab9908a358c&RoleClass=&Name=&Party=&Constituency=&Province=&Gender=&Picture=False
Criteria for inclusion in table: Years in which four or more GoC departments were either created or abolished.
* In 2006 the GoC created an Office for Religious Freedom in the Department of Foreign Affairs and Trade. In 2006 the GoC abolished three statutory and other agencies, one departmental corporation, two Crown corporations, and one shared-governance corporation: Collected September 25, 2013 from http://www.tbs-sct.gc.ca/reports-rapports/cc-se/institution/changes-changement-eng.asp
**November 18, 2014 the GoC abolished one department (26 other organizations) or changed the names (6) of several organizations and added three organizations. Collected February 9, 2015 from http://www.tbs-sct.gc.ca/reports-rapports/cc-se/institution/changes-changement-eng.asp The two departments added and deleted were name changes.

During the Depression of the 1930s there had been large demonstrations and riots in Canada which threatened the security of the state (Canada's first social programs—health and pensions—were created after World War I). These radicalized Canadians went to war, and when they returned better social programs were created. The 1980s and 1990s were years of instability in the federal public sector, one of whose main responsibilities had been, during the years of the welfare state (approximately 1943, when unemployment insurance (UIC) was introduced, to the 1990s, by which time UIC and federal funding for the family allowance, health, education and welfare services had been severely cut), to create greater stability and equality in Canadian society. There was another important change of government in 2006, to a clearly neoliberal government, but it has not as yet led to a year in which there was a large change in the number of departments, although it has led to major budget cuts. Historically, departments were frequently abolished and created at the same time, thus preserving many or some of the functions of the

previous departments, while bringing new perspectives to them. Their resource levels may have changed at the same time.

Table 6.1 positioned the case studies in their periods. Only three of the nine case studies were created outside the two periods of turbulence just identified. Those three were created in response to smaller but also important changes. PCS (1975) was part of the election platform of the newly elected NDP government in Sask. Health Promotion was a reorganization, refocusing and expansion of the health promotion work of the Le Dain Commission on non-medical use of drugs and alcohol (1969-72). The new HP Directorate addressed a much wider range of health promotion issues. PHAC was created to consolidate public health functions in the GoC, in keeping with the NPM, and in response to the difficulties involved in responding to Severe Acute Respiratory Syndrome (SARS), a new, highly infectious disease.

While the internal factors of period of creation, period of change, magnitude of change, policy environment, age, and size were found to be important internal factors in the nine Canadian case studies, the external environment was important too. Competition, political will and ideology seemed to be even more important than managerial will during the 1980s and 1990s. This was confirmed by the analysis in Table 9.1 of changes in federal departments. In other countries, especially the US, as in Canada, politics was a major control factor for PSO mortality. Organizational mortality appeared to have increased substantially in the USA starting in 1969 with the election of President Richard Nixon, a right wing conservative.

A change in political ideology may have been the major driver of change in government during the 1980s, 1990s, and 2000s in both Canada and the US. It brought about the introduction of more second and third degree change, which was associated with innovation and organizational mortality in the Canadian PSO cases. PSO terminations were politically referred to positively—sometimes as fitness--but for it to be fitness it would have needed to be positive for organizational survival. To describe increased mortality as fitness would have required the turning of the evolutionary concept of fitness into its opposite, so that fitness became the destruction of organizations, rather than their survival. For governments it was regarded as positive, though, as governments were reelected based on these policies, saving taxpayers from the tax increases that would otherwise have been required to pay for the services they had been receiving in Canada, during the 1980s through deficit financing. This became untenable, so program reductions or tax increases were required and Canadian governments and electors chose program reductions, although the electors may not have realized they were doing so. Typically, governments are elected in Canada with about 40 per cent of the vote (approximately 50 per cent of the eligible population votes). Governments chose tax reductions, thus increasing the program reductions that were needed to balance budgets and create the surpluses required to pay back debts immediately (as opposed to letting the economy grow the government out of the deficit). Privatized PSO died, taxpayers had to pay incrementally for the services now received in the PS, as well as for a profit; the costs of the services came off the books of governments and the salaries and benefits of those doing the work came down.

The case studies were better able to tolerate some types of change than others. They survived first order change, change within the system better than second and third order change, change of the system. They survived non-core but not core changes; they survived internal non-core changes better than major political and ideological changes. While Canada experienced a political upheaval under the 1980s Mulroney government that had important consequences for

federal departments, the greatest changes occurred during the Liberal Chretien government's major downsizing of the federal government over a three year period during the mid 1990s. Large cut-backs were made to transfer payments to individuals, provinces and NPO, cuts of the same magnitude were made within the GoC. Another major downsizing is currently underway in the GoC (2013) and is on the books for the period after the next election, which is required by law in 2015.

These analyses may also cast light on the high death rates observed in the Pollitt et al. (2007) study of quality initiative PSO reported in Table 9.5. Many of the organizations they studied were small and new. The organizations with high death rates shared smallness and they shared having changed, being admired for their excellence, and most importantly, being created in a management and political environment that asserted organizations were riddled with "fat" and therefore could absorb the infrastructure costs of new organizations and other downsizing. Innovations may have been seen as part of the fat; indeed, some say innovation can only occur if there are slack resources to apply to innovation, while others see the shape of the relationship as U-shaped (Nohria & Gulati, 1996).

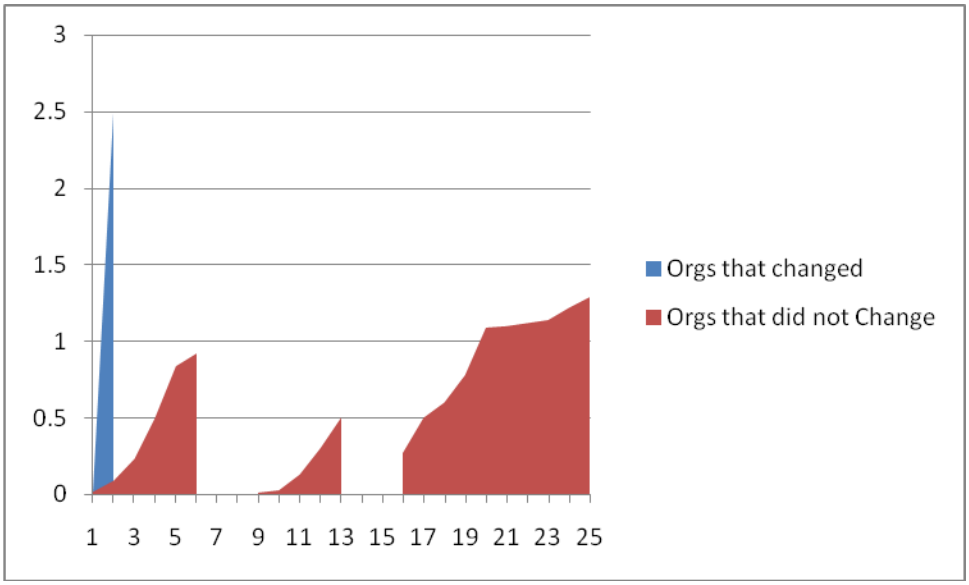
(4) Comparison of the Mortality of Populations that Changed and Ones that Did Not Change

The author found three studies of organizations that changed. Kelly and Barnett (1993) and Amburgey, Kelly and Barnett (1993) studied two internal changes in Finnish newspapers—frequency of publication (e.g. weekly, daily publication) and change in content focus (e.g. politics, economics). Singh, House and Tucker (1986a) considered six structural internal changes in their population of voluntary social service organizations (VSSOs)—change of chief executive officer, service area, goals, sponsorship, location, and structure. Carroll and Huo (1988) studied reorganizations of locals in and found a higher mortality rate among older locals in the Knights of Labor. These studies indicated that organizations that change are more likely to disappear than normal organizations (Chapter 7). Figure 9.1 compares the mean annual mortality rates of organizations that changed to those that did not (where mortality rates could be calculated). Innovative organizations can be seen as changing organizations (Chapter 1). In the two studies that reported mortality data for organizational populations that changed, the Finnish newspapers had very low mortality rate (0.015%/yr) as large studies over many years tend to do and the VSSO had a very high mortality rate per year (2.5%/yr). Organizational populations that change appear to have higher mortality rates. Do organizations that innovate have higher or lower mortality rates? We will now review the little information available on this subject.

(5) Mortality rates in (mostly small) studies of organizational innovation and how they compare to the mortality rate in the case studies

Mortality of PSE innovations and their organizations has been studied much less and less systematically than that of organizations more generally. Four studies that reported PSO survival are summarized in Table 9.5. The first three studies did not study the organizations from birth, so they cannot inform life cycle issues. In a first, small (N=18) study of collaborative coordinating agencies nominated for the Innovation in American Government Award, Bardach (2008, pp. 116-120) found three clearly died (17%) and 8 (44%) clearly survived. They were studied from the early and mid-1990s to 2007-8. In a second study, of Brazilian innovation award nominees over seven years (1996-2003), 16 (11%) died and 124 (89%) survived.

Figure 9.1: Comparison of Mean Mortality Rates by Sector among Studies of Populations that Changed and Ones that Did Not Change



Notes:
Blue graph includes two studies—all Finnish newspapers (0.015%/yr mean mortality rate) and VSSO that changed in Toronto (mean annual mortality rate 2.5%).
Red graphs, from left to right: PS, NPS, PSE
Abbreviations: orgs=organizations

In a third study, among best practice nominees for the European Quality Award, Pollitt, Bouckaert and Loffler (2007, p. 4) found they were unable to contact anyone for 45 (69%) of the nominees after two years (2004 - 2006). These are very different survival rates. None of the three studies indicated the organizations' age or status at the beginning of the study, so it was impossible to say whether they were new or old organizations when they changed, and thus to position them in terms of the theories developed about organizational mortality. The current study of nine case studies found a 44 per cent mortality and 56 per cent survival rate. Since all four PSO studies involved change, the liability clock (Amburgey, Kelly & Arnett, 1993) for all of these organizations had presumably been reset, yet the death rates were very different—17, 11, 69 and 44 per cent. Among the studies reviewed earlier, and among the three sectors, the Pollitt, Bouckaert and Loffler (2007, p. 4) study had the highest death rate (69%) and was in the public sector. This occurred over the course of only two years. It was also the largest study (N=65), and the only one that has the potential to stand on its own numerically. The studies reviewed included both innovations and organizations, depending on what was nominated. Among the case studies, for example, PCS, Literacy N.B. Mississauga Excellence, Ship Repair Atlantic and PHAC were organizations but Missing Children, Operating Budgets, and the Department of Agriculture's PPP were projects. We can distinguish the two, but we do not know how many of each was studied. More details on these four studies are provided in Table 9.5.

Table 9.5: Mortality Rates of Public Sector Innovations in Studies of Award Nominees and Case Studies

Study	Short-term Death Rate	Sh-term Mean Death Rate	Long-term Death Rate	L-T Mean Death Rate	Period	Public Sector	Source	Reliability of Study	Definition of Death
Innovation in American Government Award nominees Interactive Collaborative Capacity Projects	N=18 (all nominees = 400) 3 died/18 = 17%	17% in 15-17 years. Survived : 8 (44%) 17/16 yrs = 1.06%/yr		Not applicable	Early & mid-1990s to 2007-8 (est.) 12 yrs	Sub-national until 1995	Bardach, 2008: 116-120.	Limited. Studied small, successful organizations Not a population	Death then reinvention was not same thing as death. Def'n adjusted to define death as: Dying, died, died then reinvented Survival: Thriving & coping
Brazilian innovation award nominees, sub-national governments	N=140 Died: 16 (11%) in 7 years. Survived 124	11/7 = 1.57%/yr		Not applicable	1996-2003 7 yrs	Sub-national state, local, indigenous govts	Farah & Spink, 2008: 85-86	Medium Case studies Not a population of all innovations but representative of successful ones	Privatization is death (defined as discontinuity)
Best practice nominees, European quality conference	N=65 Died: 45 in 2 yrs (69%)	69/2 yrs = 31%/yr		Not applicable	2004-2006 2 yrs	National-nominated by their countries	Pollitt, Bouck-aert, Loffler, 2007: 4	Medium Studied successful organizations Not a population.	Unable to contact anyone by phone after two years
Canadian innovations PSOs of 8 different patterns (current study)	N=9 Short-term mortality = 2 Literacy N.B. PPP 2/9 = 22%	22%/2 yrs = 11%	N=9 Died: 4 (44%) Survived : 5	Mean existence: T=177 yrs Mean: 177 yrs existed divided by 9 case studies = mean 19.67 yrs	1943 to 2013. Indivi-dual number of years survived were calculate.	1 municipal, 2 prov, 6 federal	This study	Medium Case Studies Very small number studied Not a population.	Death then reinvention same thing as death.

Study	Short-term Death Rate	Sh-term Mean Death Rate	Long-term Death Rate	L-T Mean Death Rate	Period	Public Sector	Source	Reliability of Study	Definition of Death
				44%/19.67 = 2.24%					
Meta-analysis	Total N = 232 66 died 66/232 = 28%	Total of 27 yrs among 4 studies = mean 6.75 yrs 28% died in 6.75 yrs = 4.15%/yr	Not calcula-ble	Not calculable	Various	Various	Original analysis	Various	Varied somewhat

The meta-analysis of the mortality rate among the four innovation studies summed the number of innovations that disappeared, the total number of innovations, identified a mean of the years covered, and calculated a mean annual mortality rate for all the innovations. This short-term mean rate was a 4.15 per cent mortality rate per year. This is a difficult number to compare to the data in Chapter 7, because it is not known how long the innovations survived (except for the case studies). Only the period covered is known.

Conclusion

Systemic change in the last 50 years was risky for PSO. Many were wary of change, such as "innovation," "business process reengineering," and "quality improvement" programs. It turns out they were right—they should have been wary of it. This may not be a generalizable conclusion to all eras, but it was true for the case studies in which governments generally sought to reduce the role, size and functions of government through the NPM, in Canada especially during the 1990s and later again during the late 2000s and early 2010s (Glor, 2001c). A focus on privatization of Crown corporations during the 1980s and 1990s expanded to privatization of PSO programs and organizations during the 1990s and 2000s. Governments considered the disappearance of PSO and public servants acceptable, even desirable, in this environment. Fifty thousand of 250,000 public servants were released or accepted a special early retirement package as part of the downsizing of the GoC from 1995-97. Employees and clients of the PSO did not necessarily agree that this was desirable. Based on the experiences of the cases examined, organizations needed to be wary about their survival when changing. Change initiatives could and did become levers for PSO death. This cleared the landscape for the expansion of the PS in Canada but the economy has not done particularly well. On the other hand, what would have happened had these organizations not changed? In a changing environment of ever scarcer resources, due to tax cuts, recessions, and declining real income, PSO that did not change might have died anyways.

The recent American literature on American departments also found a pattern of destruction and waste of PSO organizational and human resources. Likewise, the GoC abolished many departments in the 1990s, and created some new, mainly economic, departments, and introduced another major downsizing during 2012-13.

Chapter 10: Building Purposive Theory of Public Sector Organization Innovation and Formal Theory of Organizational Change

ABSTRACT

Using a grounded theory approach, this book has developed substantive theory of Canadian PSO innovation and change and formal theory of organizational innovation and change that is more widely applicable. Chapter 10 consolidates the theories and hypotheses and develops substantive and formal hypotheses for control factors for change, death and survival in Canadian PSO. As discussed in Chapter 2, grounded theory is presented either as a set of propositions or hypotheses or as a running theoretical discussion that uses conceptual categories and their properties. The form of the theory is not what makes it theory; rather, a theory predicts something. Having developed theories using a grounded theory approach, Chapter 10 then discusses how these theories relate to theories of innovation developed by other authors.

Introduction

Wolfe (1994) suggested that there were five possible theoretical models within which innovation could be studied: institutional, rational choice, emergent (complexity theory), contingency, and grounded theory. This study used grounded theory. Glor's (2001b) earlier theories and the ones developed from the current grounded theory study are outlined below.

Hypotheses and Theories of PSE Innovation from Glor and This Study

Previously, Glor (2001b) developed the following theories and hypotheses:

- Innovation occurs in patterns.
- How people are motivated, the culture of a government organization and the magnitude of challenge are primary relationships in determining patterns of innovation.
- Innovation patterns predict the creativity of the ideas considered, the implementation environment and implementation challenges to be faced, and the fate and impact of innovations.
- Eight innovation patterns help to identify the issues to which practitioners should pay special attention during the implementation process.
- A systems analysis of the patterns can identify stable and unstable innovations, and can therefore predict their long-term probability of success.
- Innovation patterns in an organization can suggest the areas where leaders and staff could intervene most beneficially.

Both substantive and formal theory has been developed in this book. Based on personal experience, analysis of nine case studies, and comparison with private sector organization PS, NPS and with American, Irish, Norwegian and German PSO mortality literature, the following *substantive theory and hypotheses* about PSO innovation are proposed for further research.

Substantive Hypotheses of Canadian PSO Innovation:

- Some PSO innovate.
- Some PSO innovate more than others.
- Some governments innovate more than others.
- The character of PSO innovations changes over time.
- PSO innovation is substantially influenced by politics and ideology.
- Individuals, social dynamics and the challenge of implementation have important effects on PSO innovation.
- PSO innovate in patterns.
- PSO that innovate are more likely to disappear than PSO that do not innovate.
- Organizations that innovate are more likely to disappear than organizations that do not innovate
- Organizations that innovate are more likely to disappear than organizations that do not change.

Theories:

- PSO fitness and lack of fitness predict PSO mortality and survival.
- Innovating organizations are more likely to survive if:
  - They do first order change—changes in activities and limited changes in structure and goals
  - They are fit
- Innovating organizations are more likely to die (to be terminated) if:
  - They lack resources
  - They lack permanent finances
  - They recently changed
  - They lack legitimacy with the government of the day
  - Their approach does not integrate well with the dominant ideology of the day
  - Their approach does not match the ideology of the government
  - They were created in a poor economy
  - They were created during the early 1990s
  - They face substantial competition
  - They are small
  - They were small and created during the early 1990s, rather than large and created before the 1980s.
  - The rate of survival of organizations changed from the period prior to the New Public Management to the period after (times varied depending on location). Among the case studies, it showed up as before and after 1990.
  - They undergo second and/or third order of change—major changes in structure and goals.
  - They were created without infrastructure.
  - They are undergoing goal change rather than undergoing structural change
  - They are undergoing second and third order change rather than first order change.

These factors were included if five or more case studies reflected the factor.

- The PS and NPS share most control factors with the PSE; however, the main factors in the PS and the NPS are not the same as the main factors in Canadian PSO.

The following formal theories about organizational change are proposed for further research, based on analysis of the case studies and the other research discussed.

Formal Hypotheses of Organizational Change:

- Organizations evolve.
- Organizations only evolve (adapt) if they have sufficient variety, reactivity, capacity for emergence, and positive feedback.
- Organizations can be fit and unfit.
- The organizational death rate increased in the GoC (and organizations) during the 1990s.[19]
- The organizational death rate increased generally in the West during the 1990s
- PSO have had a high mortality rate since 1990, compared to the prior period.
- The rate of survival of PSO declined with the introduction of New Public Management.

Formal Theories:

- Organizational fitness and lack of fitness predict organizational survival and mortality
- An organization is more likely to be terminated if:*
  - It lacks resources
  - It lacks infrastructure
  - It has changed its goals
  - It has changed its structure
  - It has recently changed
  - It lacks internal and/or external legitimacy
  - Its approach does not match the dominant ideology of the day
  - It was created in a poor economy
  - It was created in the early 1990s
  - It was created during a period of cost-cutting
  - It faces substantial competition
  - It is small
  - It is young
  - It is adolescent
  - It has undergone third order (goal) and/or structural change
  - Its organization at a higher level did not give it an infrastructure to support it.
  - It was created during the period of NPM
  - It was creating during the period prior to NPM
- Organizations engaging in second and third order change are less likely to survive than ones undergoing first order (activity) change.
- Organizations' will be more able to defend their boundaries if they are large organizations with infrastructures than if they are small organizations with no infrastructure.
- Organizations undergoing structural change are less likely to survive than ones undergoing activity change.

[19] Table 6.3 provides some confirmation of this hypothesis, and suggests this increase may have started in the 1980s.

*Factor included if five or more case studies reflected the factor.

- Large and medium PSO are more likely to be created during good economies and small ones during poor economies.
- Large and medium PSO were more likely to be created before 1980 than after.

Consideration should be given to including an infrastructure element in the definition of organization.

Other Innovation Theories

This chapter concludes with a comparison of the theories of innovation developed in this book with those developed by other authors. Fifteen years ago Gopalakrishnan and Damanpour (1997) reviewed innovation research in economics, sociology and technology management. They identified the research questions that groups of innovation researchers were addressing. A number of them are relevant to the issues discussed in this book and are identified below, along with the groups studying them. The relevant issue discussed in this book is noted in brackets.

Economists:

- What is the impact of R&D (innovation development) programs on subsequent growth and profitability (survival) at the firm (organization) level?

Technologists:

Contextual technologists:

- What is the nature and dynamics of technological change (innovation) at the industry (population) level?
- What is the impact of technological breakthroughs (innovations) on the environmental conditions of a firm (organization)?
- What are the factors that determine how a technology (innovation) gains currency within an industry (population)?
- What steps can firms (organizations) take to improve their ability to manage technological transitions at the industry (population) level

Organization technologists:

- A variety of questions regarding R&D groups and transfer between developers and users of technology.

Sociologists:

Variance sociologists:

- What are the characteristics that distinguish organizations that adopt many innovations from ones that adopt few?
- What characteristics distinguish early adopters of innovation from the laggards?
- What class of variables (e.g. structural, process, contextual) are most important in explaining variability in adoption behavior?
- Are the organizational correlates of technological innovations different from those of non-technological innovations?

Process sociologists:

- How do innovations develop over time from concept to implementation?
- What innovation processes lead to successful and unsuccessful outcomes?
- To what extent can knowledge about managing innovation and change processes be generalized from one situation to another?
- How can organizations develop and maintain a culture of innovation and entrepreneurship? Gopalakrishnan and Damanpour (1997, Table 2).

Damanpour (2013) reviewed the state of study of management innovations (organizational, administrative, managerial) and Crossan and Apaydin (2010) of innovation types recently, both studies concluding that study of management innovation lags technological innovation , due to continuing conceptual ambiguity and methodological challenges. Innovation has been mainly conceptualized as technological innovation, despite acknowledgement that it is needed in management (e.g. Damanpour and Aravind, 2011). The next sections of this chapter review theories about innovation in organizations developed by other researchers and how they relate to those developed in this book. The studies considered are identified in Table 10.1.

Theories of Organizational Birth, Survival and Mortality – PS and NPS

The theories outlined in this book have been developed from PSE experience. Most other theories have been developed based on experiences from the PS and sometimes the NPS (appendices 1 to 8). Carroll and Hannan (2000) developed organizational theory about organizational and population survival and mortality, and the effect of environment, based on their extensive research in the private and non-profit sectors. They studied *legitimation* (rather than legitimacy). Presumably legitimation is the process by which something becomes legitimate. Lemma in Artistotle is a premise of a syllogism or, in mathematics, is a theorem proved in order to prove another theorem. The tem is used especially where the lemma is not of interest once the theorem has been proved (Runes, 1975, p. 167). According to Wikipedia (2013), in logic lemma is simultaneously a premise for a contention above it and a contention for premises below it.

The factors that protect against or increase mortality hazard, about which they have developed theory, include legitimation, competition (density dependent processes), multilevel systems (which PSO typically function within), segregating processes, which are driven by resource partitioning, and specialist/generalist organization. Generalist forms are affected by aggregate distance of larger competitors. The legitimating effects of specialist organizational density are affected by the normative status of the specialist form and its social visibility.

Another important factor is senescence (aging). It is affected by endowments, which provide immunity, superior capability and position. Immunity is created by financial endowments. When an organization lacks immunity, it is driven by internal friction, knowledge and the quality of its external ties. Theories about age vary considerably, and are linked to capability and structural position. Carroll and Hannan think that the changes in organizational mortality between youth and adolescence may be due to endowment.

Carroll and Hannan also developed theories about processes. They described processes of alignment, drift, obsolescence, transformation and mortality. The term alignment describes whether the organization is aligned with its environment, in somewhat the same way

Table 10.1: Studies That Have Developed Theory of Innovation in PS, NPS and PSE

Authors and Date	Subjects Addressed
Theory Based on Experience in PS:	
Carroll and Hannan, 2000 (PS & NPS)	Population theories, addressing: -constitutive legitimation, competition/ density, founding rates, a multilevel model, subsystem density, segregating processes (specialists, generalists) Organization theories: -age dependent processes, effect of endowment (immunity), liabilities of newness, adolescence, senescence (aging) Relationships to the environment: -Capability in different environments, liability of obsolescence, aging, the relationship between transformation and mortality.
Gopalakrishnan & Damanpour, 1994	Generation & adoption of innovation in organizations (contingency models)
Damanpour & Gopalakrishnan, 1998	Patterns condusive to different types of innovation
Damanpour & Wischnevsky, 2006	Relationship between organizations & innovations
Drees and Heugens, 2013	Resource theories and interorganizational relationships
Wischnevsky & Damanpour, 2008	Radical strategic & structure change, based on 45 U.S. holding companies
Sapprasert & Clausen, 2012	Organizational innovation
Rothaermel & Hess, 2007	Innovative output and antecedents in pharmaceutical biotechnology industries
Theory Based on Experience in PSE:	
Glor, 1997, 2000	Hypotheses developed in this book, based on 159 innovations in the full Sask. government (a population) over 11 years, 1971-82
Damanpour & Schneider, 2006	Effects of environment, organization &top managers on adoption of innovations in organizations as reported in 1997 in response to a mailed survey about "reinventing government" sent by the ICMA to 2858 city managers/chief administrators, with a 44.6% response rate
Damanpour & Schneider, 2009	Direct & moderating hypotheses, based on the association between innovation characteristics, manager characteristics & innovation adoption in local public organizations. Information was provided by input from a panel of experts & 2 surveys conducted in 1997 on "reinventing government" and alternative service delivery. The survey identified 25 innovations to the respondents. The questionnaire was mailed to the city manager or chief administrative officer of 2858 municipalities with a population of 10,000 or more and to counties with a population of 25,000 or more, with a 32.0% response rate. Data from the 2 surveys were merged.
Damanpour, Walker & Avellaneda	Combinative effect of innovation types & organizational performance in PSE service organizations. Data from a panel of 428 PSO in the UK.
Walker, 2013	Antecedents of process innovation in several studies of local government found in the Thompson Reuters Web of Science database.
Author of this book	This book: nine case studies from different organizational patterns & different governments, ranging from the 1940s to the 2010s.

that Glor described fitness (1997a, c). An organization is assumed to be aligned at the time of its founding. Capability is higher in the environment to which the organization is aligned. Superior capability lowers the hazard of mortality. The obsolescence theorem for endowed organizations (Theorem 13.9.2) is that in a drifting environment, an endowed organization's hazard of mortality is constant during the period of immunity; beyond the period of immunity, the hazard rises with age. Position (fragile or robust) is more important than alignment. Inertia is not desirable, but selection favors organizational inertia. Superior alignment of forms with environments produces a superior capacity to mobilize resources and members, and produces superior viability. The assumptions, lemma and theorems Carroll and Hannan developed take eight pages to reproduce. Based on this logic, Carroll and Hannan went on to develop equations to describe the logic. The PSE theories outlined in this book are concerned with a number of the same issues, including the patterns that innovation birth, implementation, mortality and dissemination assume, the interest in both organizations and populations, the control factors for survival and mortality, how to integrate complexity into theory, and the effect of the environment.

Damanpour and his colleagues have systematically developed theories about PS and sometimes about NPS and PSE innovation. Hypotheses have also been developed, based on PS experience, by Drees and Heugens (2013) about resource dependence, Sapprasert and Clausen (2012) about organizational innovation, and Rothaermel and Hess (2007) about the multilevel nature of innovation. Damanpour and Gopalakrishnan (1998) identified important factors and propositions concerning innovation adoption rates (low, high), speeds of adoption (slow, moderate, fast), innovation types (technical/administrative, incremental/ radical), sources (imitative, acquisitive, incubative), and forms (mechanistic/organic, hierarchy/clan/market/ adhocracy) and they developed propositions on patterns of generation and adoption of innovation in organizations.

Some theories have been developed based on the PSE, usually local governments. Damanpour and Schneider (2006, 2009) developed theory based on PSE experience in American local governments, concerning the effect of environment, organization and top managers on adoption of innovation; the relationship among innovation characteristics, manager characteristics and innovation adoption. Walker (2013) developed and tested theory about the antecedents of process innovation in local government. (These bear similarities to a number of factors explored by Glor and this book. PSE studies are of particular interest in the context of this book.

The results Walker reports were not always confirmed in Glor's and this book's analyses. Walker's Hypothesis 2 regarding complexity makes an interesting contrast. Both the GoC and Sask. permitted departments to seek new money for innovations (they could also reallocate funds internally, sometimes without central agency permission). New money required approval of the innovations at the Treasury Board level. The Sask. government permitted departments to bring forward for approval packages of innovations related to their departmental mandates while the GoC only permitted loans for innovations that served a preset goal—it would save money in the short term and the funding would be returned to Treasury Board. Sask. approved packages of innovation, while the GoC approved them one-by-one.

I was responsible for implementing four of five innovations approved by Treasury Board for Sask. Health. This experience is described in Appendix 10.1. There was some complexity in the inter-organizational interactions (though resistance only in the case of the school board).

Complexity emerged. It worked against implementation of two projects but worked for implementation in the accident committee. Complexity was not a major issue in approval, however, as Damanpour and Schneider's (2009) Hypothesis 2 suggests. Many of the hypotheses developed by Walker and Damanpour and Schneider were not particularly relevant to those developed in this book, but managers' political orientation was and the change of government in Sask. was.

Many PS, NPS and PSE organizations created innovative relationships with other organizations, in the form of inter-organizational initiatives, collaborations, joint ventures in their many versions, organizational communities, and public-private partnerships (Hollen, 2013). These relationships have added complexity to accountability, cost accounting, and clarity of results both in terms of the goals set and the effect on the organizations. The simplest innovations are not always chosen; complex innovations are more difficult to deliver successfully but have more potential for addressing complex problems (e.g. the HeadStart program in the USA).

While many theories, lemma and hypotheses have been created about innovation in the PS and NPS; they do not yet amount to a coherent understanding of innovation, in particular of administrative (also known as management or organization) innovation. The innovations developed in the PSE do not yet amount to a coherent theory of PSE innovation.

Conclusion

According to the Resilience Alliance, systems at a variety of scales influence any one system at any scale. They said that complex social and ecological systems function across scales. Managers and scholars must understand ways in which higher systems influence the system of interest, even when the interest is managing the system. Likewise, observers must understand how the system dynamics of the focal system are affected by small systems it comprises (Resilience Alliance, 2007, p. 22)

The implications for the larger systems of the destruction of innovation and change revealed in this book in the PSE should also not be ignored. If small organizations are the incubators and demonstration projects for innovation and change, little innovation or change would seem to be thriving or surviving in the PSE. The focus appears to be destruction of innovations, existing programs and services, and organizations.

In this book, case studies were reviewed at many scales. Similar factors were found influencing many of them. Both internal and external control factors were important, but external environments and control factors seemed to be more important in the public sector. Internal control factors were identified as important to survival in the private sector, and the internal control factors of adolescence, smallness and lack of infrastructure resources were important in the public sector case studies as well. Competition and politics seemed to be the key external drivers at work in both the case studies and the federal GoC departments. Elevated termination rates and uncertain survival were common both among the case studies and among Canadian federal ministries during the 1990s, and additionally among Canadian federal ministries during the 1980s and the 2010s as well.

Similar patterns were found in other studies as well. Research on local governments in numerous studies (Walker, 2013) and other US research found politics to be a very important factor, including dramatic political turn-over, war, ideological predispositions of Congress and President, a new presidential administration (not $p<0.05$), agencies created by executive action (not statutory), and a political environment in which both houses of Congress and the President were of the same party, called unified government (60% higher hazard rate) (Lewis, 2002, pp. 93-95). The ones of these factors that were observed in the case studies were dramatic political turn-over and ideological predispositions of government. Factors from the American list that were not found in the Canadian data included new government, executive versus statutory creation (it was not examined), and a political environment where both the House of Commons and the Senate were dominated by the same party. Canada's House of Commons, based as it is on the British Parliamentary system, always has a unified government, so the Executive and the House of Commons are controlled by the same party and have the same leader, the Prime Minister.

Suggestions for further research

In their review of the literature on organizational survival and mortality, Adam, Bauer, Knill and Studinger (2007) called for more study of PSO other than those of the federal government in the USA. They also recommended the development of case studies of change. This book contributed information on nine Canadian case studies of innovation and survival in Canadian governments. More research is needed in Canada, on survival of PSO at the departmental and lower levels, and also at both the departmental and lower provincial and municipal levels.

Second, additional research is needed to determine (a) if concepts applied to PSO innovation can also be applied to organizational change, and (b) whether concepts of and criteria for capacity for fitness, fitness and survival/death can be applied to other types of organizations in addition to PSO. This further work would contribute to the creation of formal theory about how and what and why PSO and other types of organizations (PS, NPS) innovate and change and how their innovation, change and normal operating behavior compare. Formal theory is needed based on comparing how organizations operate and change.

Third, more work is needed on what the appropriate level of study should be. Is it the organizational or the pattern level or both? Is it more intellectually productive to move to the pattern level to consider evolution of organizations, as it is with animals and plants? While organizations do change with the generations of people who work in them (e.g. Glor, 2001d; Berry, 2013), do they evolve otherwise? If so, what evolves? How much evolution can/does occur this way? How is that affecting organizational patterns within organizations and organizational species outside individual organizations, in organizational communities and populations?

Fourth, how does the evolution of an organizational species affect other organizational species and vice versa? For example, the introduction of the NPM species was the deliberate introduction of ways of functioning in the PS into the PSE. Are there examples of the reverse or of the NPS developing new species? Was and how was this related to the integration in some (many) cases of schools of public administration into business faculties in Canada? Did this happen elsewhere?

Appendix 10.1: Experience with Innovation Pilot Projects in Saskatchewan

Three of the five demonstration projects approved by Treasury Board for Sask. Health involved implementation in the non-profit sector, and were very successful (seniors' health centre, Regina native women's pre- and post-natal program, child and youth safety committee). The fourth, a pre-natal nutrition program, which was to be implemented by the local health unit and the local Indian health centre, was not effectively implemented. Both agreed to implement it, accepted the funding, but did not deliver the program in full. It was a complex program. In both cases, the duties were added to those of existing staff but they were not relieved of existing duties for a sufficiently long time. A key impediment was the willingness of a local fraternal organization to provide funding but the public health unit's inability to find a way to implement this key element of the program—the distribution of free healthy food (eggs and oranges), thus providing an incentive to participate in the program. This was the model followed in another implementation of this innovation, which was jointly offered with a hospital in Montreal. The seniors' health centre and the Regina native women's program had been proposed by them. The provincial safety committee was created by the province to provide advice but the members took matters into their own hands, taking action to implement the recommendations under the umbrella of the committee (it enhanced legitimacy and thus facilitated permission to act). Child and youth mortality due to accidents declined one quarter within the province within four years.

All programs were asked to track delivery of services, numbers of people served, and results. While the senior's centre, located in a poor area of the city, focused on inputs and stories about results, the Regina women's project kept detailed records as did the nutrition program. The Regina native women's project served a completely unserved group of Aboriginal pregnant women but did not attempt to distinguish high risk from low risk mothers, in the same way that the Regina Health Unit did. While the nutrition program was burdened with detailed record keeping, its more serious problem was finding and keeping track of high risk women, who were often young, moved frequently and did not have financial access to good food. The nutritionist, a very personable and friendly person, was asked to screen and serve only high risk mothers. She could not keep track of them and had no incentive to offer to them. Only a few women were tracked throughout their pregnancies. The fifth program was a pilot reproductive health information program, to be delivered in a conservative area of the province through the schools by public health nurses. The department failed to secure permission from the school board to deliver the program.

Damanpour and Schneider (2009) hypothesize that three characteristics of the innovations will be key to their adoption. They define complex innovations as less divisible, more sophisticated and more original (newer) than simple innovations. I am not aware of what the GoC approved. The provision that savings had to be achieved in the short term, however, eliminated complex innovations. The Sask. innovation initiative had no such requirement and was focused on finding effective ways to deliver mandates, not to same money (although preventive programs save money in the end). Because the five Sask. Health projects were demonstration projects, costs were held down initially, but if found to be successful, the expectation was that they could become province-wide programs. The next, neo-conservative, government abolished all of the projects.

Complexity was not an issue considered in the five health projects, although the health issues being addressed were certainly complex. The need to find effective ways to address the target problems were the primary considerations. The problems in the two projects that were not successfully delivered were problems with the inter-organizational and inter-institutional commitment of the organizations and leadership that was meant to receive/deliver the projects: The reproductive health project was not approved by the school board while the prenatal nutrition project was approved by the health institutions (the North Battleford Health Centre [federally funded] and North Battleford Health Unit [provincially funded]). In the cases of the three successful projects, in two cases the proponents sought to deliver the projects (seniors and Regina native women). In the case of the accident committee, the province put on the committee organizations or individuals who wanted to see action taken. While no provincial money was made available for programming, a number of members of the committee took matters into their own hands. A para-professional worker at the same Indian health centre that was involved in the nutritional program set up a program in partnership with a provincial association she became aware of through the Committee that loaned car seats to new mothers living on Reserve. A survey of high schools in one region of the province was an element in that area beginning to participate in a Saskatchewan Health Promotion sponsored graduation night vehicle accident prevention program. The provincial power company initiated a program to prevent youths from climbing hydro towers. There were two political appointees on the Committee. They also started something in their areas. The representative from the Automobile Association introduced more emphasis on youth safety. The Health Promotion (Sask. Health)-coordinated graduation night program became better known. A pamphlet was prepared and distributed pointing out child and youth safety risks such as putting gasoline in pop bottles (the cause of death of a child of one of the members). The provincial Native worker hired to work on the prevention pilots worked with the native worker on the safety committee, the nutrition project and the Regina prenatal projects, to help them be effective in the Native community: the projects and the people interacted with each other. The Committee recommended that three-wheel recreation vehicles, which were tipping over at alarming rates, be taken off the market by their manufacturer—they were. An award program acknowledging those taking action was introduced by the Committee, helping to make the issue better known. And so on. A synergy and cooperative spirit emerged that led to effective, largely uncoordinated action but the people, the Committee and sometimes outside elements interacted.

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