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Exploring strategic risk in communities: evidence from a Canadian province

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Abstract

Purpose – The purpose of this paper is to examine the management of strategic public sector risks in communities and municipalities.

Design/methodology/approach – This research collates information on public sector risk management through a series of key informant interviews and content analysis of municipal plans.

Findings – Financial, environmental, social and other strategic risks were found to be important by communities but not necessarily managed as part of the strategic planning process.

Social implications – The paper explores the question: what are the strategic risks that communities report on and how they are managed? What risks are identified in communities and how they are managed, if they have significant practical and social implications.

Originality/value – It is an interesting time to study public sector risk management. From a regional policy development perspective, public sector organizations will be facing substantial strategic risks in the coming years due to demographic changes (implications of the graying population), urbanization, economic downturns (or booms in certain regions of North America), as well as changes from advances in technology and communication.

Keywords Canada, Public administration, Risk management, Communities, Town planning, Municipal planning, Strategic planning, Strategic risk

Paper type Research paper

Introduction

As more organizations, both private and public, are focusing on systemic and controllable risks a question emerges as to how this fits within public sector organizations, specifically communities and municipalities, managing their strategic objectives. How do communities recognize and report on their "strategic risks"?

The notion of risk as a fundamental part of strategic management has become increasingly important in organizations (Slywotzky, 2007; Authors, 2010). The rise of concepts such as enterprise risk management (ERM), integrated risk management, sophisticated approaches to financial risk by both financial and non-financial organizations as well as an emphasis by regulators on risk related issues manifests this importance.

It is an interesting time to study public sector and community risk management. From a regional policy development perspective, public sector organizations will be facing substantial strategic risks in the coming years due to a number of issues including significant demographic changes (implications of the graying population),

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urbanization, economic downturns (or booms in certain regions of North America) as well as changes from advances in technology and communication.

Specific risks emerge that may even further impact communities' traditional economic and social objectives. The concept of strategic risk may be seen as a useful lens to view how communities might address their important risks. The practitioner literature emphasizes the importance of strategy, decision making, and implementation management in addressing risk within any organization – both public and private (Zonis and Wilkin, 2001; Lam, 2003; Wolfson *et al.*, 2008). The extant academic literature has also been robust in the study of financial risk management (Asenova *et al.*, 2007; Cho and Lee, 2006; Das and Teng, 2001; Purnanandam, 2008; Best, 2010). Strategic risk would seem particularly important when public sector organizations are concentrating on developing a cohesive, consistent strategy, and plan.

In order to address questions on the management of public sector risks, our research explores approaches to strategic risk management at a regional and community level. Our research collates information on public sector risk, focusing on communities and regions, while addressing the practice of strategic risk management through a series of key informant interviews and content analysis of municipal plans in the province of Newfoundland and Labrador in Canada.

Although risk management is somewhat of a new field of study in North America, the people of Newfoundland and Labrador are no strangers to risk. Located at the most easterly point of Canada and lying between the 46th and 61st parallels, the province of Newfoundland and Labrador is an island surrounded by the Atlantic Ocean and an adjourning land mass located in Eastern Canada (Environment Canada, 2011; Newfoundland and Labrador Tourism, 2010). Regardless of whether it was the tsunami of 1929, their active involvement in Second World War with American military bases across Newfoundland and Labrador, or their role on September 11, 2001, the people of Newfoundland and Labrador have been reacting to risk (Authors, 2010). Even though the inhabitants of the province have been living with risk and reacting to it, we were intrigued by the question, "How do communities effectively recognize and report on strategic risk as part of their strategic plans?"

We use the province of Newfoundland and Labrador in Canada as our field of study, primarily for convenience, but also as it is a region with a multitude of communities experiencing strategic concerns emerging from external environmental pressures. Two specific external environmental pressures, population, and natural resources mega projects, make the province an interesting place to study.

A trend of declining population is one reason for studying the province's communities. The population of Newfoundland and Labrador in January 2010 was estimated at 510,805 persons, an increase of 2,510 (0.5 per cent) since July 2009 (NLDF, 2010). The 2006 Canadian census reported a total population of 505,469, representing the first year-over-year population increase since 1992 (NLDF, 2009). Net migration to the province in 2008-2009 was also positive. This was the first time that this has been the case since 1982-1983. In 2010, population growth was the result of positive net-migration of almost 2,000, which offset a natural population decline (NLDF, 2010). Deaths now exceed births in the province and the natural increase component of population has had a negative value since 2006-2007. With an aging and declining population, the result is a province with increasing limited human capacity to deal with strategic risk related issues such as deciding how to fund infrastructure

maintenance as well as ensure the sustainability of communities, especially rural ones, where there has been a significant decrease in some areas.

The second major external pressure for studying Newfoundland and Labrador is the large number of natural resource projects that have been occurring in the province. It is estimated that there are almost 357 major projects occurring in the Atlantic Canadian region within 2011-2012 period worth CDN$100 billion (APEC, 2012). In Newfoundland and Labrador, approximately $28 billion in major capital spending is planned or underway. The mining, oil, and gas category tops the list at about $13 billion. The Hebron oil project is the single largest item in the category with a total estimated cost of $8.3 billion. Utilities are the second largest category with the estimated $6.2 billion Muskrat Falls Hydro Electric project the most significant. Industrial/Manufacturing is third in size, mainly reflecting the estimated US$3.6 billion on a nickel processing facility at Long Harbour (NLDF, 2012). The impact of these projects on individuals, towns and the province creates a number of risks and opportunities that have to be identified and managed especially by public sector organizations.

In studying the area of public sector risk management within the province of Newfoundland and Labrador, our paper attempts to make two contributions. Our first contribution is to lead to a better understanding of what strategic risks communities are facing. Our second contribution is to better articulate, for practitioners, the importance of understanding strategic risks in the public sector planning process. We conclude with recommendations for municipalities and other public sector organizations engaged in the practice of strategic risk management including a high level three phase model. The ultimate purpose of our study is to explore strategic risk management within communities.

Strategic risks in the public sector

Risk is an incredibly important concept in management and was traditionally understood in terms of its role in "taming chance" by quantifying and controlling uncertainty. The early management literature reflects this understanding of risk following the work of Knight (1921) and Keynes (2006) where distinctions are made between risk, where probabilities are known, and uncertainty, where they are unknown (Berstein, 1996).

Risk, within a public sector organization, is usually much broader than the traditional private sector financial, operational, or capital project risks (Authors, 2010). Government departments at a regional and community level are responsible for a wide range of services such as the provision of health care, education, protecting the environment, regulating industry, and the provision of social security. Service delivery and development all pose some degree of risk. Moreover, regional and municipal governments usually have to deal with a more finite amount of resources than the private sector in addressing these risks (Baldry, 1998; Hood and Kelly, 1999; Funfgeld, 2010).

As a result of the breadth of these risks at all levels of government, at an international level, there would seem to be significant guidance on the area of risk management. In the UK, for example, the Treasury's *Orange Book* on risk management is used to assist local authorities (municipal government policies) in consideration of three main categories: external risks, operational risk, and risks associated with organizational change. The external risk category includes political, economic, socio-cultural, legal/regulatory, and environmental risks (NAO, 2000; HM Treasury, 2004).

Elsewhere in the world, Australia and New Zealand have produced detailed guidance for local authorities (Government of Western Australia, 1999). In the USA,

there has also been an attempt to understand some of the risks facing public sector organizations particularly from an insurance standpoint. In Canada, where this study is based, the exception to a lack of a consistent approach to risk management within the public sector is at the federal level where Treasury Board has published an approach to risk management entitled "Integrated risk management" (Robillard, 2001; Treasury Board of Canada, 2003).

Most organizations have viewed the process of risk management primarily as an issue of compliance with statutory or regulatory requirements. As a result, risk management within organizations has traditionally occurred within specific areas – technology, regulatory, financial, environmental, etc – with little or no coordination. Major "risk" events such as September 11 and Enron made it increasingly apparent that the processes, policies and procedures of managing organizational risk must be a cohesive, constant analysis of both the internal and external organizational environment (McGee, 2005).

The contemporary understanding of public sector risk management has involved a broadening of the traditional bureaucratic approach to risk beyond the boundaries of purely financial risks (Beck, 1992). However, evidence suggests that, in reality, public sector risk management does not always match the rhetoric (Hood and Kelly, 1999; Earle, 2010). A formalized approach for risk assessment and management should ultimately contribute towards success in strategy and planning as well as the overall operations of public sector organizations. Successful implementation of risk management plans usually means a proactive rather than reactive approach, enabling management to take action prior to the occurrence of risk. As the extant literature indicates, this approach to risk management does not normally occur and is rarely reflected in formalized strategic plans (Hood and Kelly, 1999; Hood *et al.*, 2007; Qiao, 2007; Mikes, 2011; Zwikael and Ahn, 2011).

Having identified what risk management is, it is important to define why it is important in the public sector. A definition by Hill (2001, p. 3) focused on the public sector describes:

> The concept of risk has captured a growing importance in modern society reflects a desire to improve decision making under uncertainty: to maximize the benefits and to minimize the costs.

Using Hill's definition, the importance of risk management to modern society would seem to be clear. However, how risk influences the development of strategies at a community level, including economic, business and social, is not clear from the extant literature nor is the importance of strategic risks to a community.

The extant literature shows that those risks that can be precisely quantified receive most of the attention from academic researchers as well as risk managers, while "soft risks" however significant often receive little notice (Drew and Kendrick, 2005; Drew *et al.*, 2006; Hansson, 2010; Mikes, 2011). The perplexing element for public sector risk managers is that the majority of the risks they face are essentially "soft risks" and ultimately more difficult to manage through traditional avenues such as risk transfer. The management of strategic risk should then be of concern to communities, regions and the overall public sector.

Definitions on strategic risk are numerous including: Slywotzky and Drzik (2005, p. 80) as "an array of external events and trends that can devastate (an organization)'s

growth trajectory and shareholder value"; Chapman (2006, p. 225) as: "the risk associated with initial strategy selection, execution, or modification over time that results in a lack of achievement of overall objectives"; Johnson *et al.* (2006, p. 369) as "strategic risk can be seen as the probability and consequences of a failure of strategy". The interesting element of Johnson *et al.*'s (2006) definition is that it focuses on the "strategic" rather than solely the element of "risk". The probability and consequences of a failed strategy may also have more relevance to communities and regions as they develop strategic plans as part of their governance and operations. The identification and management of these strategic risks then becomes an essential element in any planning process. It is unclear, though, whether risk identification, assessment and management is reflected either formally or informally in communities' strategic plans.

Methodology

In the approach to this study, we used a mixed methodology approach that may be seen as appropriate in exploratory studies (Bryman and Bell, 2007). In conducting this research, we were driven by Beck's (1992) concept of how society shaped risk as well as how risk is perceived differently in society (Douglas, 1992; Gephart *et al.*, 2009; Hansson, 2010).

The ability to develop a framework for managing risk and particularly strategic risk should be vitally important for municipal, community and regional governments in managing the services that they offer their citizens. In order to explore what are the strategic risks that communities report on and how they are managed, our research approach had two phases.

In Phase 1, we examined strategic risk methodologies for the public sector. This was to ensure we understood what the strategic risks that communities reported on were. Our review of the literature showed that there is an existing extant literature on strategy and risk methodologies in the public sector (Renn, 1998; Jenkins, 2007).

In Phase 2, we conducted key informant interviews with public sector risk management experts in both North America and Europe as these were two areas where there was a legacy body of public sector risk management policies and practices. Originally we were going to interview public sector risk managers at a community level solely in the province of Newfoundland and Labrador. Unfortunately, we found that there was only one. The guidance we received from interviewing this public sector risk practitioner was to speak to other managers elsewhere in Canada and the world. She was able to facilitate a number of interviews with interested public sector risk managers across the country and suggested we also interview practitioners from outside of Canada. Ethics approval to conduct the key informant interviews was sought and granted from our local university's ethics committee. Using subject matter experts or key informant interviews may be seen as an appropriate approach to developing research questions as well as understanding the general area of public sector risk management. A limitation emerges in that subject matter experts may be potentially viewed as a convenience sampling approach (Easterby-Smith *et al.*, 2002; Fromm, 2006; Chazdon and Lott, 2010). With the guidance from the public sector risk manager in Newfoundland and Labrador, we were able to interview key informants in government (federal, provincial, municipal in Canada), Chief Risk Officers and as well as management consultants. Within Canada, we attended two national Risk and Insurance Management Society conferences where we interviewed key informants

such as practicing risk managers and other stakeholders (insurance brokers and adjusters) in the public sector risk management field. In Europe, specifically the UK, we interviewed a small number of risk managers and practitioners to better understand the risk frameworks emerging from the public sector in that region. From the key informant interviews, we used a networking approach for practicing risk managers and other experts (Bryman and Bell, 2007). This allowed us to understand a broad range of approaches and techniques towards managing strategic risk especially at a community level. Detailed notes from all interviews were taken and collated as part of the study and in total we conducted 30 interviews. The interviews helped us to obtain a better understanding of the context and issues emerging from the practice of public sector risk management.

In Phase 2, we used a content analysis of municipal community plans in the province of Newfoundland and Labrador in Canada. The content analysis was specifically used to answer the question of what risks that communities are reporting on. As outlined above, we chose Newfoundland and Labrador for convenience purposes and the strategic decisions as well as risks communities are facing in the coming years. Content analysis, as a class of methods at the intersection of the qualitative and quantitative traditions, is used for rigorous exploration of many important but difficult-to-study issues of interest to management researchers (Woodrum, 1984; Krippendorff, 1994). Shapiro and Markoff (1997) produce a minimal and encompassing definition of content analysis that we also adopt: "any methodological measurement applied to text (or other symbolic materials) for social science purposes" (Shapiro and Markoff, 1997, p. 14).

Our approach to the content analysis was done on existing municipal plans for the communities of the province of Newfoundland and Labrador. Regulatory requirements require that communities in the province (formally incorporated as municipalities) produce plans for a five- to ten-year basis (Urban and Rural Planning Act, 2000). It is important to note, the plans were different than that of the spatial planning documents that are developed by communities for land use. Specifically, in our key informant interviews, municipal plans were considered strategic policy documents by key stakeholders such as elected officials and government representatives. The municipal plans also fit the remit of a strategic plan as they usually had a longer-term time horizon (typically five years or more) (Johnson *et al.*, 2006). These plans were analyzed by gaining access to the provincial Department of Municipal Affairs library where regulatory provisions require all municipal plans to be stored (Urban and Rural Planning Act, 2000). As researchers, we analyzed each municipal plan in the library and then coded the documents to identify risks to each community.

The municipal plans were coded by one of the authors of this paper and a research assistant using a taxonomy developed by Chapman (2006). Following a content methodology approach (Krippendorff, 1994), the main author of this paper reviewed the coding of the research assistant and we found a high degree of correlation. We also reviewed a number of plans for municipalities outside of Newfoundland and Labrador and in Canada to explore if the regional approach to municipal planning is generalizable and found consistent themes and approaches. Although there are specific regulations that guide the development of municipal planning documents in Newfoundland and Labrador (Urban and Rural Planning Act, 2000), we would argue that the results can be applicable to other jurisdictions and provinces through a process of analytical generalization (Yin, 1984). However, we note there will always be differences in how

risks are perceived within a society as well as how they are managed (Beck, 1992). In choosing one region to do our analysis, we wanted to ensure consistency between strategic municipal plans but accept a limitation in terms of an ability to generalize our findings to other regions and countries. Thematically, we believe a number of the same issues found are consistent in different regions, countries as well as across a number of types of communities.

We note that there are also limitations to our research approach specifically utilizing content analysis. There were also certain municipal government documents that were restricted, limiting the researchers from potential valuable information. Second, documents were all paper based which limited the use of computer based analytical tools. A final limitation was the actual municipal plans observed. On the days that analysis of the municipal plans was conducted, certain documents were absent. It is essential to note that from the observed documents many were out of date and this was an issue in itself. Overall, using an approach of key informant interviews and content analysis, we were able to gain a better understanding of the process, issues as well as factors behind how communities reported on and identified strategic risk in communities.

In total, we reviewed over 133 municipal plans. It is important to note that there are 282 incorporated municipalities within the Province of Newfoundland and Labrador but the sample of 133 represents the complete library of municipal plans within the Department of Municipal Affairs and close to 50 per cent of municipalities within the province. While this may be perceived as a small sample size, we would contend that we were able to use the full compilation of plans available to the government and, as our study is an exploratory one, were less interested in being able to generalize our findings. Instead, we were focused on exploring the question; what are the strategic risks that communities report on?

Discussion and findings

Our key informant interviews and content analysis of municipal plans led to a number of findings. We group the findings around two discussion questions: how are strategic risks at a community level managed and what strategic risks are reported on by communities?

How are strategic risks at a community level managed?

One theme from our key informant interviews with community risk managers was the need for an approach to risk management in the public sector below that of a federal level in Canada encompassing external, operational and organizational change risks to communities:

> I'm pretty good at my job, I know the insurance industry. I find out what is happening form other risk managers but apart from that I am alone except for speaking to my broker [. . .]. A framework dedicated to risk managers who are operating in towns, municipalities, not just the federal government or big corporations would be very useful.

Another theme emerged from the key informant interviews that the strategic needs of communities, over the next five to ten years, reinforces the requirement for an approach that maximizes opportunities and minimizes the hazards in addressing risk management. This is primarily done by having a dedicated risk manager. In Newfoundland and Labrador, we found only one municipality had a dedicated risk

manager (subsequent to our research, another city appointed one), while communities below the designation of a city (e.g. a town) did not. Yet a dedicated risk manager may not be a panacea for managing all risks in a community. Outside of Newfoundland and Labrador, in interviewing key informant risk managers at a community level, they had little or no direct involvement in strategic planning. As one key informant interview indicated:

> I use risk management strategically by making sure my broker understand my insurance needs. I sometimes examine reports from council to give the insurance implications of a policy decision. But I am not used to formally examine the risks facing us [. . .]. I tell my boss and they report into council.

Overall, a trend emerged from our key informant interviews that risk managers and formalized risk management concepts, in general, have little no presence in the development of public sector strategy and planning. This proves to be an impediment in the effective recognition and management of strategic risk at a community level.

What strategic risks are reported on by communities?

Using the content analysis methodology, upon coding and classification of the risks mentioned in the Newfoundland and Labrador municipal plans, the frequency of each risk classification field was calculated using the content analysis methodology and is outlined in Table I.

Identified risks were compiled from the content analysis and coded according to the Chapman (2006) taxonomy. The taxonomy gives a risk classification from the following nine codes: financial, operational, technological, economic, environmental, legal, political, market, and social (Chapman, 2006, p. 133). This classification was used because it had the most applicability for the public sector and is a well known reference source for risk management.

There is now a description of the classification and findings of three of the most frequently identified risks. Through identification of the most "important" risks, communities may be better able to manage strategic risk.

Economic risk

The most frequent risk observed throughout the analysis of the municipal plans was economic. Although there is not a universally accepted definition for economic risk, according to Chapman, it is "the influence of national macroeconomics on the performance of an individual business" (Chapman, 2006, p. 287). Within the macroeconomic model, economic risk is the influence government has in the manipulation of aggregate demand

Classification of risk	Frequency of risk
Financial	4
Operational	21
Economic	42
Environmental	38
Legal	0
Political	2
Market	9
Social	15

Table I.
Risk classification and frequency

and consumer spending through government policy. Some of the sources of economic risk are: a fall in demand, government policies, movement in house prices, exchange rates, and inflation.

Of the 88 Newfoundland and Labrador municipalities that mentioned risks in their municipal plan, there were 42 mentions of economic risk. This is significant as nearly 48 per cent of the municipalities recorded were affected by economic risk. In the analysis of the plans, certain trends emerged that were specific to the province. Common economic risks that were observed included but were not limited to: limited employment prospects, high unemployment rates, impacts of the cod moratorium and fishery, one industry towns, closures of mines, the closing of the railway, the forestry and forestry related industries, supply and demand of natural resources, and land development issues based on a shortage of land. The majority of these risks would be consistent with activities involved in Newfoundland and Labrador economic development.

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One major source of economic risk outlined in a number of the municipal plans was the fishery. The impacts of the cod moratorium imposed on July 2, 1991, left approximately 30,000 people unemployed and have been well documented in local and national media. This economic blow coupled with recent developments within the province's forestry and forestry related industries, and it was unsurprising that this was the main risk observed in the plans.

The frequency of municipalities mentioning their shortage of land as a risk unexpectedly emerged as part of the economic analysis. Specifically, the land set aside for economic development and the shortage of supply available was seen as an economic risk. With a total area of 405,720 km^2, the province of Newfoundland and Labrador is larger than three times the area of Prince Edward Island, New Brunswick and Nova Scotia combined (Government of Newfoundland and Labrador, 2012). Upon further analysis, this shortage of land for development was due to environmental factors such as designated flood risk zones, and erosion.

Environmental risk

The second most frequent risk observed within the plans was environmental risk. Chapman (2006) summarizes environmental risk as:

> [. . .] the deterioration of bottom-line performance from: increased regulation on energy usage, eroded reputation, brand name and market share from an environmental incident, increased operating costs from the effects of global warming, higher fuel costs as natural resources are depleted and loss of market share to more environmentally "savvy" competitors (Chapman, 2006, p. 307).

Some of the sources of environmental risk include: pollution of land, water or air, increased regulation and higher operating costs, prosecution arising from the lack of

observance of rules set by a regulatory body, reputational risk from adverse publicity, and severe weather conditions leading to the destruction of facilities (Batterson and Liverman, 2010).

From the 88 municipalities coded, 38 municipalities identified various forms of environmental risk. This too was significant as nearly 43 per cent of the recorded municipalities of Newfoundland and Labrador experienced some form of environmental risk. Certain trends as to environmental risk could be observed within the plans. Common environmental risks mentioned included: hazardous material storage, protection of rivers, avalanche risk, pollution, soil condition, quantity and quality of water supply, sewage treatment and disposal, air quality, storm drainage, erosion of land, and flood risk.

Flood risk was an important element emerging from the research. With about 17,540 km of coastline nearly 90 per cent of the provinces population living near the sea (Batterson and Liverman, 2010), we were not surprised to see municipalities recognizing flood risk. We were, however, surprised to see the magnitude of the frequency of flood risk throughout the municipal plans.

Of the 38 times a risk was coded as environmental, 20 were flood risk. Nearly 53 per cent of the environmental risk observed through analysis of municipal plans was therefore due to flood risk. Explicitly planning for flood clear would be a clear part of any municipality's strategy. The effects of floods are drastic and the risks are interrelated among other risks in the taxonomy. For example, a flood would be an environmental risk; however the destruction of property and shortage of land would be financial and economic risks.

Operational risk

The third most frequent risk observed was operational risk. Peccia (2001, p. 15) states that operational risk is, "the potential for loss due to failures of people, processes, technology and external dependencies". Some of the sources of operational risk are: outsourcing, reputational risk, systems risk, regulatory risk relating to lack of observance, certain legal risks, information technology risk, crime risk, and business risk.

From the 88 municipalities that acknowledged risk in their municipal plan, 21 municipalities of Newfoundland and Labrador identified operational risk within their planning. Common operational risks include: limited resource base, lack of defined commercial centres, no proper protection from adverse effects of development, development without proper considerations, incomplete information and assumptions, fire and safety issues, outgrowing and overdeveloping of communities, difficulty to attract workers, non-existent municipal plan, boilerplate municipal plans, lack of implementation plan, and failure to recognize risk.

One operational risk identified through our research was lack of planning documentation and this was obvious given the state of the majority of the municipal plans analyzed. Not only were they extremely out of date ranging back to the 1970s and 1980s but they also could be considered "boilerplate". Goals and objectives were unclear, and in almost all cases an implementation plan was non-existent. In our key informant interviews with municipal leaders and managers it was clear that planning documentation was an afterthought and/or only done for government compliance. This creates an implicit operational risk in that if there is no formalized planning or strategy developed then municipalities may face a strategic risk in dealing with future issues that are reoccurrences of older ones (i.e. that were not written down).

Social risk

The fourth most frequent risk observed was social risk. Social risk comes from changes in society that create changes in demand. This leads to new opportunities and may change businesses' responsiveness to demand and the characteristics of the workplace. Some of the sources of social risk are: poor standards of education, linguistic barriers, decreasing percentage of working population that is of working age, loss of market share, home improvement market, and misaligned marketing strategy.

From the 88 municipalities that identified risk in their municipal plan, 15 identified social risk within their community meaning approximately 17 per cent of the municipalities identified social risk. Common social risks included: an ageing population, decreasing population, rapidly growing population, out-migration of younger demographic, schooling issues, and a lack of facilities for the older demographic in certain communities. For example, the impact of the decline of the Newfoundland cod fishery from a social risk perspective could be seen in a number of the plans. Given demographic and socio-economic changes, we would expect that this risk will increase as time develops. Social risk is an important strategic risk for municipal strategic planning processes to recognize and address.

Market risk

The fifth most frequent risk observed in our analysis was market risk. Chapman describes market risk as, "the exposure to a potential loss arising from diminishing sales or margins resulting from changes in market conditions" (Chapman, 2006, p. 355). Some of the sources of market risk are: market structure, product life cycle, alternative strategic directions, acquisitions, game theory, price elasticity and distribution strength. Of the recorded 88 municipalities that identified risk, nine identified some form of market risk. That is to say that approximately 10 per cent of the observed municipalities that recorded risk were identifying risks based on market fluctuations. Some of the common market risks included: difficulty in the fishery, mining and forestry industries, decreased production and closure of some of the above mentioned industries, decreased supply and demand for natural resources, and high unemployment rates.

We note that there were not more municipalities mentioning market risk in the form of high unemployment. The province of Newfoundland and Labrador currently has the highest unemployment rate of all the provinces in Canada at 15.5 per cent according to a Statistics Canada Labour Force Survey released in April 2010 (Statistics Canada, 2010). It was also surprising to see that "one industry towns" do not mention the importance of the market's role in establishing the price of their commodities and in turn the supply and demand. Both high unemployment and reliance on the market are significant strategic risks that need to be managed.

Reporting on risk

The most recognizable conclusion that was visible from the very beginning of this project was with the municipal plans. It was clear that they had not been consulted or thought about in many years, and sometimes even decades. Some of the municipal plans were close to 20 years old. We initially attempted to develop a framework for risk management at a municipal government level, however as we commenced research on the municipal plans for the municipalities of Newfoundland and Labrador, it was clear that much more work was needed than initially thought. Ultimately beyond the large municipalities we saw little

or no formal identification, analysis or management of risk within the municipal plans. In our interviews, we were told that formal risk management planning beyond some of the larger municipalities just does not happen. This was also consistent with our key informant interviews outside of the province. For practitioners, it is important to consider formal risk management analysis as part of strategic planning.

The municipal plan, as in any strategic document, is supposed to be a tool used by communities to clearly identify goals, objectives, and limitations. It is impossible to do this effectively when a municipal plan for many years has been expired. In some circumstances we even saw cases of municipalities not updating and amending their plans in close to 30 years. Lack of an updated municipal plan is a strategic risk in itself. Updating strategic plans within communities is vital for both practitioners and leaders.

The next common deficiency observed was that most municipal plans were "boilerplate". It was apparent by analyzing such a large volume of municipal plans that there was a template used repeatedly. It also appeared plans were being developed because of regulatory requirements and not for the intended purpose of outlining clear and attainable goals, as well as identifying potential threats as part of a strategic development process. Practitioners should consider why and how they develop these strategic plans and how they report on strategic risks.

It was also apparent that upon analyzing of the plans, there was a need for a section on implementation. There were only a few municipalities that identified their implementation strategy out of the entire province, and some of these seemed unrealistic and lacking in substance. While identifying goals and objectives are important, it is also vital to give careful and methodical consideration to the process of how these goals and objectives are going to be obtained. Had some of these municipalities put more consideration into their implementation strategy, they would have realized how important it is to a municipal plan, and that many of their goals were unattainable.

Upon analysis of the data, a theme emerged as to the limited recognition of risk within the plans. We identified and analyzed 133 municipal plans; however only 88 were recorded in the risk database. This can be explained by the observed municipalities not identifying risk and barriers in their municipal plans with fewer than 69 per cent of the municipalities being recorded in the risk database. In their review of public and private sector risk management, Bozeman and Kingsley (1998) determined that neither public nor public sectors have riskier cultures. Rather, they concluded the organizational factors, such as leadership, clarity of organizational goals, processes, and governance led to differences in risk. This is consistent with our interviews and would point to the relative heterogeneity we saw in the municipal plans in Newfoundland and Labrador.

Conclusions and areas for future research and practice

Smith and Toft (1998) argue that the dilemma within risk management centres on the manner in which we trade-off the risk of harm associated with an activity against the benefits that might accrue. For the public sector, which is both a risk generator and regulator, this dilemma is often brought into sharp focus as the period since 1979 has been one of unprecedented change for the public sector. The private sector would seem to be more apt at understanding and managing these "trade-offs". Most private sector business is usually founded on an individual taking a risk (Sitkin and Pablo, 1992; Bozeman and Kingsley, 1998), yet the public sector may not have this risk taking propensity.

Further research is needed, at a micro level, concerning the apparent economic risk visible in rural municipalities. In Newfoundland, for example, when the cod moratorium was imposed in 1992, one of the main economic mainstays of the province vanished. Although the introduction of the tourism and oil and gas industry in the province has absorbed some of the economic burden, it is no secret that the unemployment rate has traditionally been the highest of the Canadian provinces. This can be observed specifically in rural Newfoundland and Labrador where municipalities which once flourished on the fishery industry are now economically challenged (Authors, 2010). An ongoing study of the roles and responsibilities of municipalities affected by economic risks for the long-term sustainability of rural communities would be beneficial for both practice and research.

From the research conducted on public sector risk management, risk decisions and organizational cultures are complex processes and systems. Research shows that individual risk behaviour is influenced by both risk propensity and risk perception (Sitkin and Pablo, 1992). An organizational approach to risk management is influenced by the individual through cognitive biases and individual risk behaviours and by the organization (leadership, organization strategy/model, resources, performance/reference points, macro/micro environment, knowledge management, resources, and communications). These factors offer researchers a multitude of avenues to pursue future risk management-related researched. For example, what makes municipal leaders decide to formulate strategies that are inherently risk and/or devoid of risk? Does the amount of time a municipal official spend in a role influence their propensity to make decisions that have more inherent risk? Questions on influencing factors such as time, resources and behaviour on the impact of risk decisions as well as organization culture in the public sector may be of interest to both researchers and practitioners.

From a practitioner standpoint, we found within Canada there has been some guidance on risk management by provincial governments, particularly while in British Columbia, the focus has either been on operational or sector specific risks, rather than the broader area of risk in strategy and planning within the public sector. While public sector institutions, such as universities, have developed methodologies to risk management (Hill, 2001), there would seem to be no consistent approach. A gap then emerges as to the role of risk in strategy and planning within communities and public service organizations. One of our contributions would then be to have more consistent use of risk related frameworks in the strategy and planning of communities and public service organizations.

There is also very little on how to approach strategic risk management in the literature. One exception is Slywotzky and Drzik (2005) who develop a six step approach to manage strategic risk. Their approach, like their definition, is very much focused on the external business environment. This reduces the viability of examining internal strategic risks. An alternative model more focused on the use of strategic tools and risk issues may be of benefit. Essentially a synthesis of the internal and external approach to strategic risk management may be of use for guiding further research and explaining the concept of strategic risk.

We believe a three phase approach or model can be utilized to explain strategic risk management focused on the public sector. The three phases are outlined in Table II.

The model is only briefly outlined here. However, the approach utilizes concepts from strategic management such as a SWOT analysis combined with risk management theory

Phase	Mechanisms/tools	Outputs
Phase 1. Situation and contextual analysis	Situation analysis (using strategic planning processes such as SWOT and PESTEL analysis) Existing process evaluation Resources (internal/external) Change management issues/ opportunities Risk taxonomy application	Clarifying the public sector organization's strategic risk and social objectives
Phase 2. Strategic risk analysis and evaluation	Risk taxonomy Existing controls Risk analysis (including probability, severity, etc.) analysing the public sector organization's strategic risks Gap analysis Evaluation of existing controls	A list of identified strategic risks and issues pertaining to the public sector organization Outline of major strategic risks Outline of existing controls to address strategic residual risks
Phase 3. Strategic risk alternatives and recommendations	Risk appetite Risk reduction Risk removal Risk transfer or reassign Risk retention Monitoring and controlling	Outline of target risks A series of alternatives as to how to achieve and manage the target strategic risks A series of recommendations to achieve, manage, control and monitor the strategic risks for the public sector organization

Table II.
Strategic risk process – a conceptual model

(i.e. risk taxonomies and the application of probability, severity, and volatility). Our research found that recognition of risk was an issue. In order to address this issue, categories of "common" risk then can then be assessed such as those proposed by Chapman (2006) and Slywotzky and Drzik (2005) using the model above For example, categories of risk that may be of interest to a municipal organization may include (Table III).

Strategic risks	Elements
Municipal plan	Reflects municipal strategy Assumptions Regulatory priorities
Resources	Resource needs and/or resource mismatch Ability to deliver Equity/debt/government funding
Stakeholder interests	Identified and assessed Reflected in municipal plan
Municipal organization experience	Markets/services Community members Suppliers/contractors Distribution mechanisms Products/services Risk/regulatory/legal context
Brand/reputation	Brand/reputation

Table III.
Categories of risk to be assessed

A three step process model along with examining categories of risk that may be applicable provides a starting point for public sector organizations to address strategic risk management through the utilization of both strategic and risk management tools.

In following a process approach as outlined in the model above, the capability of a public sector organization to manage their risk begins with recognition and identification. It is recommended that public sector organizations seriously consider creating plans or strategies that are updated on a regular basis. These plans should include clear objectives and attainable goals. It is also essential for municipalities and public sector organizations include a thorough implementation plan. Careful consideration of key risks and barriers that may result in problems and potential blockages to their goals and objectives should also be identified within the plans. Risk management should be an essential part of municipal and public sector planning and strategy development.

Consistent with the importance of reporting on risk is Hansson's (2010) belief that an important element of establishing and communicating the importance of risk management is through engagement of senior management and by communicating the organization's risk profile at every opportunity through the use of key messages, goals, strategy and outcomes of risk management. Fischhoff (2002, p. 102) effectively sums up the importance of formalized risk management communications, "People must understand how big the risks and benefits are (including the associated uncertainties), as well as how these risks are created and controlled".

In Newfoundland and Labrador, keeping in mind that, "most people who serve on municipal council are volunteers who dedicate thousands of hours to serving their communities" (Municipalities of Newfoundland and Labrador, 2012), the development of the municipal or strategic plan be done by an independent third party. Without the proper development of goals and objectives, it is impossible to attain them. Third parties can assist in giving an objective view of how to identify and manage risks. The success of public sector planning depends on the critical success factors of risk identification, management as well as appropriate implementation of the processes needed to ensure effective control.

From the observed municipal plans through the content analysis, a select few had outsourced the development of their municipal plan to professionals. The outsourced municipal plans were significantly better than those developed by the municipalities themselves. They were up to date, they clearly identified objectives, barriers, and even at times they mentioned implementation strategy. There is recognition that there is a cost involved with using outside sources; however a properly developed municipal plan is vital to the success of municipalities and other public sector organizations in the province and elsewhere.

At a more general level, future work should be considered in developing a comprehensive risk management methodology at a municipal government level. This methodology should reflect the situational and contextual issues that greatly influence the process of strategic planning at a community level. Specifically elements such as culture, communications and resources as well as other themes outlined in the findings section should be considered.

The analysis of strategic risk management within the municipal and public sector has identified some unanswered questions that may also prove to be areas for future research:

RQ1. Does a public sector organization have one overall risk culture or are there various subcultures? If there are sub-cultures, what influences these? Is it beneficial for an public sector organization to have more than one risk culture?

RQ2. How does a public sector organization measure its risk culture and the effectiveness of its processes? How can it measure changes in risk culture and processes?

RQ3. How can the public sector organizational function of communications influence risk perception, risk taking behaviour, risk propensity? Can communications be used to frame risks so that they result in either risk aversion or risk taking behaviour? If so, how can this be achieved?

The ability for risk managers and leaders within the public sector to influence and be heard in strategy and planning becomes critical for the management of strategic risk. Otherwise risk management becomes an exercise in managing emerging hazards rather than proactively analyzing and managing risks on a continual, strategic basis. Formalized approaches to risk management (COSO, 2004; Lam, 2003) reinforce the importance of communicating about risk to achieve integrated risk management. In fact, one of the key building blocks in the COSO ERM-integrated framework is "information and communication", which involves identifying, capturing, and communicating information that enables employees to carry out their responsibilities.

Communications plays a fundamental role in outlining the mission, vision, values and culture of a public sector organization. All of these elements are critical in managing planning and strategic risk management. Communications can therefore play a fundamental role in outlining the role of risk in planning and strategy development. Specific elements to consider in developing better communication about risk management within the public sector may include:

- creating a risk management communications strategy to communicate to key stakeholders (i.e. managers, employees, board of directors, shareholders, other stakeholders);
- clarifying organizational risk expectations to employees;
- developing policies, procedures to support strategic risk management; and
- communicating roles, responsibilities, authorities, and accountabilities.

Strategic risk management should be an essential part of community and public sector planning as well as strategy development. Without effective recognition, communication and reporting, any planning for risks may be misplaced. Communities may face a lack of understanding as to the strategic risks they face and how to manage them in the face of continual change. Building in processes around the identification, control and reporting of strategic risks should help communities manage their strategic risks to the betterment of their members and other stakeholders.

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