

Comparison of Major Grouped Antecedents of Public Policy Innovation Implementation Identified in a Systematic Literature Review to a Public 183-Innovation Population

Eleanor D. Glor
Fellow, McLaughlin College
York University
Toronto, Canada

Editor-in-Chief
*The Innovation Journal: The Public Sector Innovation
Journal*
www.innovation.cc

Comparison of Major Grouped Antecedents of Public Policy Innovation Implementation Identified in a Systematic Literature Review to a Public 183-Innovation Population

Eleanor D. Glor

ABSTRACT

Both practitioners and scholars want to understand factors (antecedents) that influence, make possible and inspire implementation of innovation in government. Antecedents identify conditions preceding implementation of innovations. Although not identifying causation as such, antecedents shared among innovations reflect situations that have encouraged innovation. Major (most frequently mentioned) antecedents were identified in a systematic literature review (SLR) of adoption (66) and trailblazing (21) policy innovation peer-reviewed publications. The SLR's 87 documents found 594 antecedents, 508 of them unique, a large variety and diverse range (Glor, 2021b, d). The SLR's most mentioned antecedents are examined in all 183 Government of Saskatchewan (GoS), Canada, trailblazing innovations implemented 1971-82 to see whether they were also found in the GoS population. Using these two large public innovation antecedent databases (SLR, new GoS antecedent database), their antecedent findings are compared.

These data on the antecedents of public innovation are compared four ways. In Model 1, major SLR antecedents are identified in the GoS innovations, ranked in proportion of mentions, and the SLR and GoS rankings are compared. This determines whether and to what extent they share major antecedents and in what order. The SLR and GoS share eight of nine major SLR antecedents but they rank differently. The SLR ranked three internal-to-government antecedents as most important (innovation process, problem/creativity/ ideas, internal structure), the GoS ranked two. In the GoS, the most important antecedents are, in order, internal structure, external context, and problem/creativity/ideas. Model 2 distinguishes adoption and trailblazing antecedents in the SLR, then compares the results to each other and to the GoS trailblazing antecedents. In SLR trailblazing innovation, political antecedents rank higher than in GoS. Model 3 examines the relevance of SLR antecedents in GoS, finding that they rank the same as in Model 1. Model 4 explores the differences within the GoS' major SLR antecedents by comparing their proportion of mentions to the GoS mean and distinguishing higher-ranked (above the mean) and lower-ranked (below the mean) major antecedents. Overall, while all but one major antecedent identified in the SLR were found in the GoS, they ranked differently in importance.

Key Words: public innovation, innovation antecedents, contextual grouped antecedents, individually-applicable antecedents, policy innovation.

Introduction

Most public innovation literature examines whether an innovation has been adopted, not how early the adoption occurred within a population, leading to confusion among trailblazing innovation (first three adoptions in a population), adoption (all adoptions) of innovations and changes in policies. This approach has produced limited interest in newness. Nonetheless, some trailblazing literature has been published, some of it based on the innovative social democratic GoS (Lipset, 1950; Mohr, 1969; Harding, 1995; Glor, 1995, 2002, 2019). The GoS work has studied trailblazing innovations, Roger's (1995) invention and early adoption stages. The GoS' population is provincial/federal Canadian and state/federal USA governments.

Antecedents are the conditions occurring prior to trailblazing and adoption of public policy (including program) innovation (Glor, 2021b: 3). They are studied in hopes of identifying conditions that influence implementation and survival/termination of innovations. While innovation is encouraged in the public policy and administration literature and antecedents of innovation have been identified, they have not always been supported with research (Glor, 2021b). Nonetheless, some scholars have considered antecedents of public innovation in depth. Walker (1969), Collier and Messick (1975), Glor (1997), Colvin (2006), Lamothe and Lamothe (2015), for instance, identified antecedents of policy innovation; Mohr (1969), Glor (2002, 2018, 2021f); Walker (2014) identified public administrative antecedents; Bernier, Hafsi and Deschamps (2015) identified both. Bernier, Hafsi and Deschamps (2015) and Borins (2014) studied innovation awards, i.e. successful innovations, and some terminations.

The SLR focused on antecedents. A SLR is a “review of a clearly formulated question that uses systematic and explicit methods to identify, select and critically appraise relevant research, and to collect and analyze data from the studies that are included in the review” (Moher et al, 2009). Focusing on antecedents has advantages and disadvantages. An advantage is that looking for all antecedents identified in the literature through a SLR created a comprehensive list as identified in 87 public policy innovation publications. A disadvantage is that it found so many antecedents (594; an analysis found 508 were unique) that they had to be classified into smaller numbers of groupings to become comprehensible (Glor, 2021a: 9, Flow Diagram 1). Cinar, Trott and Simms (2019) conducted a SLR of 87 articles of empirical literature on one antecedent—barriers within public sector innovation processes. They studied barriers in terms of classification, interrelations, the innovation process and types of innovations. There is thus some literature on antecedents of implementation of innovation but there is limited literature on fate of public innovations.

The SLR of antecedents of policy innovations (Glor, 2001f) considered the question “What were the most important grouped antecedents of innovations identified in the literature for trailblazing and adoption and how do they compare?” *Grouped antecedents* are consolidations of related individual antecedents (Glor, 2021c). *Innovation* as all *adoptions* of any one innovation is the definition used in the Oslo Manual since 1992 by the OECD (2018) for private sector firm innovations.

This paper compares the most-mentioned antecedents from the previously-conducted SLR (Glor, 2021a-f) to antecedents identified in new research on a population of 183 innovations implemented by the GoS, 1971-82. GoS social democratic governments have a reputation for

innovativeness in the North American context (Lipset, 1950; Poel, 1976; Nader, 1992; Harding, 1995; Glor, 1997, 2002). By comparing a comprehensive analysis across the literature with all of one innovative government's innovations, different perspectives on antecedents are created—scholarly and practical, international and provincial. They illuminate major antecedents of public innovation, their similarities and differences.

The SLR found 594 antecedents of public policy innovations in 87 documents. They were analyzed into 508 unique antecedents, a large variety and diverse range, that were then classified into 28 grouped antecedents and, composed of grouped antecedents, 5 factors (context, drivers, obstacles, policy/process, people); and 3 innovation subject clusters (external, political, internal to government) (Glor, 2021b). Some policy innovation literature only distinguished two clusters—external and internal, and defined them differently: Berry and Berry (2007) defined external as outside the jurisdiction (the USA state), internal as within the jurisdiction. In this study, three clusters are identified as external, external to government; political, between external and internal and concerned with all matters political, including the legislature; and internal, the appointed public service bureaucracy. The SLR distinguished trailblazing (first three adoptions of an innovation in a government or a government's population/community) and adoption/dissemination/diffusion (all adoptions without consideration of order of adoption) in a government organization or government or a government's population.

Government populations and communities are at a logically higher level than governments. A population could be, e.g. all the governments like the one being studied, e.g., all USA states; all federal governments; all European/North American/Asian governments. The GoS's population is defined as the population of all USA federal/state and Canadian federal/provincial/territorial governments. A community could be a professional community, e.g., a professional association such as the International Institute of Administrative Sciences or a local community of stakeholders/people/organizations interested in the issue addressed by the innovation. Before developing its 1971 platform, e.g. the Saskatchewan New Democratic Party (NDP) held a dozen consultations across the province with party members and the public. The Cooperative Commonwealth Federation (CCF), the NDP's predecessor and the NDP had traditions of party members actively proposing policies, developed in local ridings and proposed at NDP conventions. In many cases they invented solutions to Saskatchewan problems, which is one of the reasons so many innovations are trailblazing. Communities are the groups outside individual governments with which governments and their public servants work, collaborate and compare themselves regarding the innovations. SLR studies looked at individual innovations and groups of innovations, while the GoS study considers the 183 individual innovations implemented 1971-82 by the Blakeney government by the SLR major antecedents.

The SLR pinpointed the major (most-mentioned) grouped antecedents (independent variables) identified in the public policy innovation literature (Glor, 2021f). Three of these major antecedents from each cluster, a total of nine, were examined in the GoS. The SLR considered antecedents several ways and concluded that *nine* major grouped antecedents were major for trailblazing (vs. adoption): external environment, external drivers/demands (external cluster);

political support, political culture, political drivers/demands, ideology, politics (political cluster); problem/creativity/ideas, and government structure¹ (internal cluster) (Glor, 2021f: Table 4b).

When major was defined differently, as big differences in the percentage of mentions of grouped antecedents in the SLR for trailblazing and adoption (separated here because GoS innovations were all trailblazing), eight major grouped antecedents were found. Four of the grouped antecedents were shared as of major importance for both trailblazing and adoption—citizen pressure, ideology, political culture, problem/creativity/ideas. Three grouped antecedents were only of major importance to trailblazing and not to adoption—external environment, political support and internal structure (Glor, 2021f: Table 4c) (see also Demircioglu, 2020 on internal antecedents of policy innovation). The eighth grouped antecedent, politics, did not exhibit big differences between trailblazing and adoption, suggesting politics was at work in both adoption and trailblazing.²

Data on GoS innovation demography (Glor, 2023a) and eleven influential factors (Glor, 2023b) were previously studied to analyze the GoS innovation population and its subsets and to characterize economic, financial, time, political (3), innovation sector, type, government priorities, information influences and interactions. This contributed to understanding in the GoS the three clusters of factors found in a systematic literature review (SLR),

The current study examines the major antecedents identified in the SLR (Glor, 2021f) in the 183-population of GoS innovations (Glor, 2023a), then the SLR and GoS results are compared. The SLR and GoS grouped antecedents are examined four ways, creating four models that examine whether the major grouped antecedents in the literature generally and for trailblazing in particular also influenced the innovative GoS' trailblazing innovation population. The GoS is considered innovative because it trailblazed (first, second, third in a population) 182 and adopted one innovation fourth (0.5%). No other innovations ranked fourth; since they form a cluster, the fourth one is also treated as trailblazing. The Blakeney GoS likely adopted other innovations than trailblazing innovations but they are not studied here.

The research questions explored in this paper are (1) How do the major antecedents of introduction of policy innovations identified in a SLR of 187 documents compare to those found in 183 GoS trailblazing innovations implemented 1971-82? and (2) Do the major antecedents identified in the policy innovation literature, much of it American, rank in importance the same or differently from the same antecedents in a innovative Canadian province?

To answer these questions, first, the SLR's major grouped antecedents are applied to all 183 GoS innovations. This identifies SLR contextual grouped antecedents that apply to all/almost all GoS trailblazing innovations plus individual antecedents that apply only to some of

¹ Government structure included 35 antecedents, such as structural context, structurally-loose, policies and structures to improve service quality; processes/operations; resources; capacity to fund; communication; pilots; management/top management support; and a healthy learning organization.

² e.g. the Saskatchewan Blakeney innovation of province-wide home care was retained by subsequent conservative governments and social democratic governments (Author, 2022). A relatively large proportion (12%) of the population was elderly (>65) and hence needed more health care. Home care reduced demands on the hospital system and provided longer-term care. Both types of government needed to care for and sought the vote of seniors.

the GoS trailblazing innovations. They are identified, distinguished, categorized, ranked and compared to the rankings (by number of mentions) of the GoS antecedents (Model 1). Second, the major antecedents of adoption and trailblazing identified in the SLR are compared to the same antecedents in the 183 GoS trailblazing innovations by subtracting the percentage of mentions from each other both within the SLR and with the GoS (Model 2). Third, the relevance of the SLR major antecedents is examined in the GoS (Model 3). Fourth, the highest and lowest ranked major grouped antecedents for GoS are identified and compared (% of counts) comparing them to their own mean (Model 4). Fifth, the results for the four models are compared. Finally, the meaning and significance of the comparisons are discussed.

Methodology

The major grouped antecedents found in the SLR are studied in the GoS innovations (28 grouped antecedents x 183 innovations = 5124 assessments). All but one of the GoS grouped antecedents are studied this way, rather than by assessing each of the 508 unique antecedents individually: this would have been impossible (508 antecedents x 183 innovations = 92,964 assessments) and 15 tests indicated it probably was not necessary because most of the antecedents were contextual. The only grouped antecedent shoes antecedents were judged to be individually applicable and therefore for which individual assessments were was the 50 antecedents included in the grouped antecedent problem/creativity/ideas.

All of the grouped antecedents and most of the individually applicable antecedents of the SLR are assessed for the 183 GoS trailblazing innovations. Most grouped antecedents the author considered potentially to be less contextual—all, as it turned out, from the internal cluster and from only one grouped antecedent—were assessed for each innovation to see whether and when they applied individually. Seventeen antecedents were assessed this way, two of which were found to be too specific to one innovation to be relevant elsewhere. Fifteen individual antecedents are therefore assessed (15 antecedents x 183 = 2745 assessments).³ This this is therefore a reasonable, (barely) doable approach. Twelve of the SLR's 21 trailblazing studies were of individual and grouped GoS innovations: none of them was about the full population of GoS trailblazing innovations studied here. At the same time, the GoS studies were part of the literature and the study would have been incomplete without them. This also reflects the lack of trailblazing studies in the literature.

Glor did both the SLR and GoS assessments, assuring consistency but also potential biases. The concentration of studies on one place demonstrates that more studies of innovation (especially policy, especially trailblazing) antecedents are needed. The new 183-innovation study reported here, that involves 3 papers, was not included in the SLR, only studies of smaller groups of GoS and Canadian innovations. The SLR consisted of 21 studies of trailblazing (24.1% of 87 studies), involving 131 antecedents, 24.1% of antecedents) and 66 studies of adoption (75.9% of studies, 463 antecedents, 77.9% of antecedents). The studies are balanced.

³ Author file named Assessment of 183 Particular Innovns for SLR Antecedents 1.docx

Comparing similar phenomena across types of activities, in this case antecedents across types of public innovations, has many advantages but also challenges, because there are some differences between the SLR and GoS studies. Table 1 juxtaposes them.

Table 1: Comparison of Phenomena and Measures of SLR and GoS Innovations

| <i>Measures:</i> | SLR Antecs of Policy Innovn | GoS Antecs of Policy & Admin Innovns Policy=169; Admin=14 innovns |
|----------------------------|--|--|
| <i>Authors' experience</i> | All public policy scholars except for authors of an exchange* on innovn, that included practitioners from public and private sectors. Glor indicated both scholarly and practitioner experience with innovations. | Scholars & practitioners. Glor worked for the GoS during the study period for eight years, in two central agencies and one line department. |
| <i>Antecedents</i> | Antec is the term used in the literature. Assessed in 87 peer-reviewed publications by many authors, mostly without reference to other authors' antecs*. 594 antecs found. The numbers of antecedents found in the grouped antecedents are dependent on the classification system developed for them (Glor, 2021c: 4). | Sources: Peer-reviewed books, articles, authors' knowledge of & judgment about antecs for each innovn, interviews & consultation with numerous well-informed others. GoS innovns were 92.3% substantive policy. Major antecs were identified in the SLR & reviewed in the GoS. Glor analyzed antecedents in both the SLR and the GoS, so the analysis is consistent. |
| <i>Populations</i> | 21 studies of TR, 66 of adopn of policy innovations. All described as "policy" innovn but few studies defined policy. Data international, 52 years. | 169 public policies, 14 public admin innovns, total 183 innovns. 182 TR innovns, 1 adopn. Data: new database of GoS innovations implemented 1971-82, tracked 1971-2021. |
| <i>What was Studied?</i> | Various aspects of policy innovn. Antecs identified in all studies. A number of asserted antecs without offering evidence. National, sub-national (state/provincial), local governments. Responsibilities somewhat different but not detailed in any studies. | Antecedents of innovns + other issues. References offered some of the evidence. GoS 1971-82, 11 years. Saskatchewan is subnational (a Canadian province). Canada is highly decentralized, so there is some overlap, esp. between USA federal and GoS responsibilities. |

Abbreviations: Admin=administrative; Adopn=adoption; antecs=antecedents; innovns=innovations; TR=trailblazing. * They were mostly public and private sector innovation professionals.

Validity of comparisons. While the peer-reviewed SLR documents indicated they were studying public policy innovation, policy was often not defined and the innovations were often not identified. Policy innovation could therefore have referred to both policy (includes programs) and administrative policies but the studies do not say so. GoS innovations were both substantive (economic, social) and administrative innovations. Administrative policy innovations were included in the category policy innovations, not in administrative innovations. Some authors do not distinguish policies and processes, possibly for these kinds of reasons. It cannot be said that the innovation topics in the two databases were different, but it cannot be said definitively that they were the same. The innovations in the SLR were a mix of adoption and trailblazing; in the GoS study, trailblazing only (one exception). Researchers are unlikely to ever be able to match studies exactly for type of innovation, so here it can be assumed the two studies are similar enough in subject matter, though not necessarily in content, to allow comparison of their antecedents' similarities and differences. Canada is one of the most decentralized countries in the

world, so there is more overlap of responsibilities with national governments than is immediately apparent.

Results

The major SLR grouped antecedents (Glor, 2021f) were compared to GoS grouped antecedents four ways. *Model 1* compares the highest grouped and individually-applicable antecedent percentages in the SLR to their percentages in GoS. *Model 2* ranks the percentages with the biggest differences for adoption and trailblazing in the SLR and compares adoption, trailblazing in the SLR and trailblazing in the GoS. (Glor, 2021d). *Model 3* assesses the relevance of the SLR major antecedents for GoS innovations and identifies the most relevant. *Model 4* compares the ranking of GoS major antecedents to their GoS mean, ranks the ones with the highest and lowest scores, and compares the results to their mean.

Model 1 examines and ranks SLR grouped antecedents that comprise the largest proportions among the 28 SLR grouped antecedents (Table 2, rank, columns 4, 8), three per cluster and compares their ranks to the same grouped antecedents assessed in the GoS. Based on number of mentions, the SLR ranked internal cluster as most important, external cluster as second and political cluster as third (least) important.

Table 2: The Three SLR Major (Most-Mentioned) Antecedents in Each of Three⁴ Clusters of Policy Innovation in the SLR—Counts, Percentages

| Clusters & Major Antec | No. Antec | T % of 594 | Rank | Clusters & Major Antec | No. Antec | % of 594 | Rank |
|-----------------------------------|------------|-------------|------|--------------------------|------------|-------------|------|
| External Cluster : | 171 | 28.8 | | Political Drivers | 6 | 1.0 | 9 |
| Ext Governance Environment/contxt | 32 | 5.4 | 4 | Internal Cluster: | 304 | 51.2 | |
| External Environment/contxt | 25 | 4.2 | 5 | Innovation Process | 70 | 11.8 | 1 |
| External Drivers/demands (push) | 13 | 2.2 | 7 | Problem/creativity/ideas | 50 | 8.4 | 2 |
| Political Cluster: | 119 | 20.0 | | Internal Structure | 42 | 7.1 | 3 |
| Ideology | 17 | 2.9 | 6 | Total | 163 | 27.4 | |
| Political Support | 10 | 1.7 | 8 | Grand Total | 594 | 100 | |

Source: Glor, 2021c: 10, Table 1. Abbreviations: Antec=antecedents, contxt=context, ext=external, no.=number, T=total, %=percent.

Contextual grouped antecedents. Top-ranking SLR major grouped antecedents we found to be (3 mentioned per cluster) innovation process (70 mentions), problem/creativity/ideas (50), internal structure (42) (internal cluster), governance environment/context (32), external demand/drivers/push (32) (external cluster), barriers/pull/obstacles (29) (internal cluster), political culture (28) (political cluster), external environment/context (25) (external cluster), politics (24) (political cluster).⁵ These nine SLR grouped antecedents accounted for 44.7% of the

⁴ Presented this way because dealing with counts would have focused the analysis only on internal cluster—so many more antecedents were identified in the literature in internal cluster. One of the reasons is that much of the literature, without saying so, focuses on innovations that can be implemented by public servants alone.

⁵ A list of all 28 grouped antecedents can be found in Glor (2021b: 14, Table 1), available at: <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

594 antecedents. The literature was more preoccupied with internal grouped antecedents (304) than external (171) or political (119) cluster ones.

Table 3: Model 1 - SLR and GoS Compared for Nine SLR Major Grouped Antecedents

| SLR 9 Major (Most-mentioned) Antecedents: Number and Rank | SLR: 9 Ranked Grouped Antec. | GoS Ranked by 9 SLR Grouped Antec. | Difference in Ranking (Col. 2-3) |
|---|------------------------------|------------------------------------|----------------------------------|
| Innovation Process - 70 | 1 | 4 | -3 |
| Problem/Creativity/Ideas - 50 | 2 | 3 | -1 |
| Internal Structure - 42 | 3 | 1 | +2 |
| Governance Environment-32 | 4 | 6 | -2 |
| External Environment/Context - 25 | 5 | 2 | +3 |
| Ideology - 17 | 6 | 6 | 0 |
| External Drivers/Demands (push) - 13 | 7 | 5 | +2 |
| Political Support - 10 | 8 | 4 | +4 |
| Political Drivers - 6 | 9 | 0* | - |

Abbreviations: Antec=antecedents, Col.=column. *=not mentioned.

Based on numbers of innovations introduced in GoS by sector, economic cluster (75 innovations) and social cluster (63) were more important than administrative innovations (45). They are ranked by SLR major antecedents in Table 3. In terms of proportion of mentions, internal cluster and the innovation process were considered much more important proportionately than external and political cluster in the SLR than in the GoS. Based on number and proportion of mentions, grouped antecedents of the substantive innovations was considered more important in GoS, the innovation process was considered more important in the SLR.

Individually-applicable (Non-contextual) Antecedents. Based on the hypothesis that some antecedents would vary in their applicability to GoS innovations, most of the suspected individually-applicable antecedents were considered. They are all from internal cluster. Seventeen of 29 internal antecedents were assessed for 183 innovations individually: 12 were not considered. Two of the 17 antecedents applied to all of the innovations (modern, a problem/rethinking a problem) and ten applied to most. Five were found to be too specific to apply broadly and/or that the information was not available across all innovations; e.g. following, negating (Table 4). Sixty percent of the antecedents initially thought to be individual were actually found to be contextual; 40 percent were specific (individually-applicable).

Some of the SLR individual antecedents did not apply—to a limited number of GoS innovations. Which ones to include in the category “does not apply” therefore had to be determined. Initially, the decision was taken that the difference between the percentages of innovations to which an antecedent applied and did not apply had to be less than (<) 10 percent of the innovations for it to be considered non-contextual. This was consistent with <10 percent being used as the dividing line for seven major grouped antecedents in the SLR. Seven antecedents applied to all but a very limited number of cases (<10%); e.g. vision; creativity etc.; creative capacity etc., free thinking. Five were too specific to ever apply to a large number of innovations; e.g. following, negating (Table 4). One antecedent, palpable dissatisfaction with the current system, was applicable in 89.7% of the innovations; the next lower antecedent percentage was applicable to 77.7% of innovations: Because of this large gap, the decision was therefore

taken to include palpable dissatisfaction with current system as a contextual antecedent, making the cut-off point 10.3%.

Table 4: Model 1 - 17 SLR Internal Antecedents from the Problem/Creativity/Ideas Grouped Antecedent Assessed for Whether They Applied Only to Specific Innovations (<89.7%) or to Most Innovations (>89.7%) of the GoS

| Grouped Antecedents | SLR Antecedents Ranked by Percent Applicable to Implementation of GoS Innovations | | | | | | | |
|--|---|---------------|-------------------|--------------|------------|-------------|-------------|--------------|
| | Not Applicable | | Applicable to GoS | | Don't Know | | Grand Total | |
| From Internal Cluster: | # | % | # | % of Innovns | # | % | # | % |
| Problem/Creativity/Ideas: | | | | | | | | |
| Applied to =>89.7%: | | | | | | | | |
| -A problem/Rethinking a problem | 0 | 0 | 183 | 100.0 | | | 183 | 100 |
| -Vision | 1 | 0.546 | 182 | 99.45 | | | 183 | 100 |
| -Thinking: | | | | | | | | |
| -Free thinking | 4 | 2.2 | 179 | 97.8 | | | 183 | 100 |
| -Resiliency | 8 | 4.4 | 175 | 95.7 | | | 183 | 100 |
| -Creative capacity/potency to produce novelty/intuition | 11 | 6.0 | 172 | 94.0 | | | 183 | 100 |
| -Idea(s)/Ideas for adaptation/A creative idea | 11 | 6.0 | 172 | 94.0 | | | 183 | 100 |
| -Creativity/Novelty/Enhanced creativity: group and individual. | 12 | 6.56 | 171 | 93.44 | | | 183 | 100 |
| -Complexity/Emergence | 15 | 8.2 | 168 | 91.8 | | | 183 | 100 |
| -Palpable dissatisfaction with current system | 19 | 10.4 | 164 | 89.6 | | | 183 | 100 |
| Total | 81 | 44.0 | 1566 | | | | 1647 | 60.0 |
| Applied to <89.7%: | | | | | | | | |
| -Acceptance of a new idea | 41 | 22.2 | 142 | 77.7 | | | 183 | 100 |
| -Problem-solving -No labeling | 44 | 24.9 | 139 | 76.1 | | | 183 | 100 |
| -Implemented early (early = 1971-76; late=1977-82) | 45 | 24.5 | 138 | 75.5 | | | 183 | 100 |
| -Active search for ideas/examples of innovn | 35 | 19.0 | 111 | 60.9 | 37 | 20.1 | 183 | 100 |
| -Idea & demonstration of better product/process | 96 | 52.2 | 87 | 47.8 | | | 183 | 100 |
| -Approach each innovn individually | 126 | 68.4 | 57 | 31.5 | | | 183 | 100 |
| -Following - too specific, not considered | | | | | | | | |
| -Negating - too specific, not considered | | | | | | | | |
| Total | 387 | | 674 | | 37 | | 1098 | 40.0 |
| Grand Total (17) | 468 | 17.049 | 2240 | 81.6 | 37 | 1.97 | 2745 | 100.0 |

Note: Capitalization is used within grouped antecedents because they were considered different antecedents in the literature.

Source: Appendix A

Some problem/creativity/ideas grouped antecedent antecedents varied considerably in terms of how applicable they were; i.e. they applied substantially differently across the innovations and therefore could be used to distinguish applicability to the innovations. These included problem-solving, no labelling (for both, 24.9% did not apply to the innovations, 75.5% did), acceptance of a new idea (22.2% did not apply, 77.8% did); idea and demonstration of a better product/process (52.2% did not, 47.8% did). One antecedent, “approach each innovation individually” was not applicable to 68.4% of the innovations. For the grouped antecedent “Problem/creativity/ideas: Idea and demonstration of a better product or process,” individual antecedents therefore had to be assessed for each innovation. These were the only individually-

applicable antecedents, from only one grouped antecedent, from internal cluster, that varied substantially among innovations. Individual antecedents that applied to more than 89.6% of the GoS innovations were identified as and moved to the contextual category. The moved group included nine antecedents, all of which were antecedents in the grouped antecedent problem/creativity/ideas (Appendix A, summarized in Table 4).

In **Model 2**, major SLR grouped antecedents are selected by identifying the highest percentage differences in number of mentions between trailblazing and adoption in the SLR, thus allowing a three-way comparison among SLR adoption, SLR trailblazing and GoS trailblazing (Table 5). For the SLR, numbers of mentions of grouped antecedents are calculated separately

Table 5: Model 2 - SLR and GoS Antecedents Compared for Eight Major Antecedents—Two Measures: Difference in Proportion of Mentions between SLR Adoption and Trailblazing and between Trailblazing in SLR and GoS

| Rank | SLR Major Antecedents, Adoption* Percentages Higher, Ranked | SLR Major Antecedents, Trailblazing* Percentages Higher, Ranked | GoS, Trailblazing Major Antecedents, Percent of Cluster, Ranked (Table 3) |
|------|---|---|---|
| 1 | political actors/people | political support | internal structure |
| 2 | governance environment | external environment/context | external environment |
| 3 | politics | political drivers/demands | problem/creativity/ideas |
| 4 | policy | external drivers/demands (push)/external support/good economy | innovation process political support (both same rank) |
| 5 | innovation process | internal structure | external drivers |
| 6 | | problem/creativity/ideas | governance environment ideology (both same rank) |
| 7 | | ideology & innovn process | |
| | N of studies=66 | N of studies=21 | N of innovations=183 |

Note: “&” indicates two grouped antecedents are being listed, because they had the same rank.

* Adoption 463 antecedents, trailblazing 131 antecedents.

for trailblazing and adoption, then the percentage for adoption is subtracted from the percentage for trailblazing. Differences of +/- =>10 percentage points are considered major and good measures of both trailblazing and adoption. Seven grouped antecedents are identified as major for trailblazing in the SLR and eight for trailblazing in the GoS (Appendix B, summarized in Table 5). Political support did not rank high in the SLR in Model 1 (Table 3) and political support was not high in adoptions, but it ranked first (most important) in SLR trailblazing. It only ranked fourth in GoS. For SLR trailblazing, two of the top three highest-ranked antecedents were political while the first major political antecedent for GoS trailblazing was in the second rung, below the GoS ranking—fourth of six ranks.

Model 3. Because the review of individual antecedents (Model 1) found some of them applied only to some of the GoS innovations, Model 3 assesses nine major (most-mentioned) SLR grouped antecedents (3 from each cluster) and the individually-applicable antecedents for their relevance to GoS (Appendix A, summarized in Table 6). Within the top seven grouped

antecedents, 83.9% applied to the GoS. In GoS political support was more major than ideology and political drivers were not mentioned. Ideology and political drivers were more major grouped antecedents in SLR trailblazing than in GoS trailblazing.

Table 6: Model 3 - Nine SLR Major Grouped Antecedents and Individual Antecedents Relevant/Not Relevant to 183 GoS Innovations (from Appendix B)

| Three Clusters with Nine SLR GAntecs: | Major SLR GAntecs Relevant to GoS | | | SLR GAntecs Not Relevant to GoS | | SLR GAntecs Not Applicable to GoS * | | Total GAntecs Applicable to GoS | |
|---|-----------------------------------|-------------|------|---------------------------------|-------------|-------------------------------------|------------|---------------------------------|--------------|
| | No. | %* | Rank | No. | % | No. | % | No. | % |
| External Cluster: | | | | | | | | | |
| Governance Environment | 4 | 2.2 | 6 | 0 | 0 | | | 4 | 100 |
| External Context | 13 (all) | 100 | 2 | 0 | 0 | | | 13 | 100 |
| External Drivers/Demands (push)/external support/ good economy) | 5 (all) | 100 | 5 | 0 | 0 | | | 5 | 100 |
| Political cluster: | | | | | | | | | |
| Political support | 6 | 75.0 | 4 | 1 | 12.5 | 1 | 12.5 | 8 | 100 |
| Ideology | 4 | 66.7 | 6 | 2 | 33.3 | | | 6 | 100 |
| Political Drivers/demands | 0 | 0 | - | 0 | 0 | | | 0 | 100 |
| Internal cluster: | | | | | | | | | |
| Innovation Process | 6 | 3.3 | 4 | 0 | 0 | | | 6 | 100 |
| Problem/creativity/ideas | 9 | 60 | 3 | 6 | 40 | | | 15 | 100 |
| Internal structure | 17 (all) | 100 | 1 | 0 | 0 | | | 17 | 100 |
| Total | 64 | 83.9 | | 9 | 14.5 | 1 | 1.6 | 74 | 100.0 |

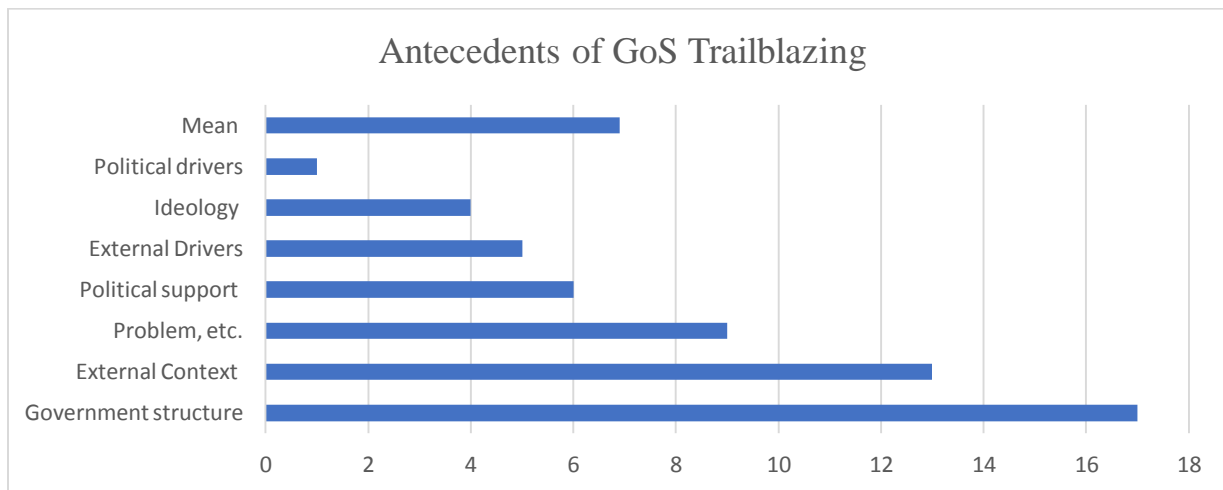
* Across. **Abbreviations:** GAntecs=grouped antecedents, No. = Number, TR=trailblazing *Because measured at the national, not the sub-national level (Saskatchewan is sub-national).

Table 7: SLR and GoS Grouped Antecedent Numbers of Mentions, Ranked

| Three Clusters and Nine SLR Grouped Antecedents: | SLR | SLR | GoS | GoS |
|---|---------------|------|---------------|------|
| | # of mentions | Rank | # of mentions | Rank |
| External Cluster: | | | | |
| Governance Environment | 32 | 4 | 4 | 6 |
| External Context | 25 | 5 | 13 (all) | 2 |
| External Drivers/Demands (push)/external support/ good economy) | 13 | 7 | 5 (all) | 5 |
| Political cluster: | | | | |
| Political support | 10 | 8 | 6 | 4 |
| Ideology | 17 | 6 | 4 | 6 |
| Political Drivers/demands | 6 | 9 | 0 | - |
| Internal cluster: | | | | |
| Innovation Process | 70 | 1 | 6 | 4 |
| Problem/creativity/ideas | 50 | 2 | 9 | 3 |
| Internal structure | 42 | 3 | 17 (all) | 1 |
| Total | 265 | | 64 | |

An assessment gauged the number and percentage of SLR grouped antecedents relevant to GoS innovations (Table 6)⁶. Some antecedents were relevant to all/nearly all innovations, others applied to only some of them. This analysis was done to determine whether and which SLR major grouped antecedents were shared/different in the GoS trailblazing population and how their rankings in importance compared (Table 7). The major grouped antecedents were the largest percentages within each cluster, on the basis that all three clusters were important. If the assessment had been only on the basis of number of mentions, the SLR would have been dominated by the internal cluster. Assessed on the basis of percentages, the highest-ranked grouped antecedents in GoS were government structure, external context and problem/creativity/ideas (Figure 1). Political cluster was not among the highest.

Figure 1: Bar Chart of Rank Order of SLR’s Major (Most-Mentioned) Antecedents, Applied to GoS Trailblazing



Source: Table 7. Vertical column = Number of mentions, horizontal grouped antecedents are ranked.

When the nine major grouped antecedents were compared directly for the SLR as a whole and the GoS, on the basis of differences in ranks, only two grouped antecedents had the same rank, defined as less than two rank differences. Ideology and problem/creativity/ideas ranked the same. The other seven had different ranks (Table 8).

Model 4 compares the ranks of percentage of mentions of the nine SLR major grouped antecedents (three per cluster) to the ranks of percentage of mentions of the same grouped antecedents in the GoS (Figure 1, Table 8). Of the nine SLR grouped antecedents, four were mentioned less proportionately in GoS than the GoS mean of 7.9 mentions: political support, external drivers, ideology and political drivers (listed from most to least mentioned of the below-average grouped antecedents). Three SLR grouped antecedents were mentioned proportionately more than the GoS mean—government structure, external context and problem/creativity/ ideas

⁶ File name Assessment of 183 Particular Innovations for SLR Antecedents 1.docx, summarized by decade in Summary Assessment of 183 Innovns for Major SLR Antecs 1.docx.

Table 8: Comparison of SLR and GoS Antecedent Ranks and Whether Same/Different

| Three Clusters and Nine SLR Grouped Antecedents: | SLR Rank | GoS Rank | Same/Different |
|---|----------|----------|----------------|
| Rank: | | | |
| External Cluster: | | | |
| Governance Environment | 4 | 6 | Dif |
| External Context | 5 | 2 | Dif |
| External Drivers/Demands (push)/external support/ good economy) | 7 | 5 | Dif |
| Political cluster: | | | |
| Political support | 8 | 4 | Dif |
| Ideology | 6 | 6 | Same |
| Political Drivers/demands | 9 | - | Dif |
| Internal cluster: | | | |
| Innovation Process | 1 | 4 | Dif |
| Problem/creativity/ideas | 2 | 3 | Same |
| Internal structure | 3 | 1 | Dif |
| Total | | | |

Dif=Different, defined as >1 rank different.

(listed from most to least mentioned) (Figure 1). These grouped antecedents come from only two of the three clusters (external and internal), dealing with contexts and administrative challenges. They are the very most important SLR antecedents for the GoS. The first three of the four below

Table 9: Comparison of Most Important Grouped Antecedents in Four Models

| SLR Rank | Model 1 | | Model 2 | | Model 3 | Model 4 |
|----------|---------------------------------------|----------|---|---|---|---|
| | SLR Major Grpd Antecs in Each Cluster | GoS Rank | SLR largest percentage differences, adoption higher | SLR largest percentage differences, trailblazing higher | 9 Major SLR Antecs Relevant to GoS* | Comparison GoS to its Own Mean** |
| 1 | Innovation process | 4 | Political actors/ people | Political support | Highest: Internal govt structure | Highest: Internal govt structure |
| 2 | Problem/creativity/ideas | 3 | Governance environment | External environment | External environment | External environment |
| 3 | Internal govt structure | 1 | Politics | Political drivers/demands | Problem/creativity/ideas | Problem/creativity/ideas. |
| 4 | Governance environment | 6 | Policy | External drivers | Political support & Innovn process | Lowest: Political support |
| 5 | External environment | 2 | Innovation process | Internal govt structure | Lowest: External drivers | External drivers |
| 6 | Ideology | 6 | | Problem/creativity/ideas | Ideology & Governance Environment | Ideology |
| 7 | External Drivers | 5 | | Ideology | | |
| 8 | Political support | 4 | | | | |
| 9 | Political drivers | 0 | | | | |

Abbreviations: Antec=antecedent, Adopn=adoption, Govt=government, Grpd=grouped. **Note:** SLR mostly studied adoptions, GoS 0.546% trailblazing. * 83.9 % of individual antecs within 7 SLR major grouped antecedents applied to GoS. ** GoS mean (7.9) of the seven SLR antecedents.

the mean are drivers of action for GoS. Political drivers, while major in the SLR, are not mentioned for the GoS. Notably, ideology ranked in the lowest half in the SLR and lowest in GoS, ranking sixth in both.

The major grouped antecedents are ranked in the four models and the SLR and GoS are compared in Table 9. The comparison of the SLR and GoS in Model 1 (columns 1, 2, 3) revealed they shared two of the top three antecedents. In the SLR, in Model 2, for adoption, political leaders were most important and structures were emphasized (column 4); for trailblazing in the SLR, political and external antecedents were particularly important (column 5). In the two GoS models (3, 4; columns 6, 7), the models shared the same antecedents, with Model 3 including two more antecedents.

When trailblazing in the SLR and the GoS were compared, the SLR had, in its top three most important grouped antecedents, two from political cluster and one from external cluster. Public servants have no influence on these antecedents—they are passive recipients of them. In GoS, the three most important antecedents were internal government structure, external environment and problem/creativity/ideas. Public servants are active in two (structure, problem etc.) of these three grouped antecedents. The grouped antecedents identified in the GoS offered public servants more involvement and required more active public servants.

Discussion

GoS did a surprisingly high number of demonstration/pilot projects before introducing innovations province-wide, on an ongoing basis,⁷ and many more than most governments; e.g. compared to the Canadian federal government.⁸ The GoS did not demonstrate them all, however, including one of its legislated policies, equal pay for equal work, that the government legislated but did not find a way to implement. Some GoS innovations had already been demonstrated by other governments in USA/Canada: e.g. British Columbia introduced workplace joint employer-employee safety committees in the 1960s, Manitoba a comprehensive province-wide home care program four years before Saskatchewan. For most (141⁹) of the 183 innovations, Saskatchewan was first and therefore demonstrated the innovation for other governments (Glor, 1997, 2002).

Since the literature offered limited evidence for the antecedents of policy innovation it identified, assessing them against 183 innovations adds to the evidence for and against them, for the GoS grouped antecedents and for antecedents of trailblazing. Although individual innovations have unique aspects, many grouped antecedents were repeatedly important, so much so that 18 antecedents were mentioned in =>89.7% of innovations (and were defined as best measures in the SLR (Glor, 2021f).

⁷ GoS demonstrated funding hospital and medical insurance during the 1920s or 1930s, before introducing them as province-wide programs. It demonstrated its broad approach (including environmental, economic and social issues) to public environmental inquiries several times before introducing its broad environmental assessment policy.

⁸ Although the federal government does little in the way of demonstration projects, it once funded non-profits to do innovative projects. During the 1990s, however, it deleted most of this funding during a major cut-back exercise.

⁹ Source: Appendix A5: Fate of 183 Saskatchewan Government Innovations Created 1971-82, until 2021, by Decade and Government (Premier/s) in Power at Time of Termination/Survival (EG personal file).

The major grouped antecedents identified in the SLR, that included mostly adoptions of public policy (Glor, 2021b) were tested for the GoS trailblazing innovations to determine whether the SLR grouped antecedents also applied to the population of innovations of this innovative government.¹⁰ The ones that applied most to GoS trailblazing innovations, ranked, were government structure, external context and problem/creativity/ideas. Less major but still major were external drivers, political support and ideology. Appendix A assesses the extent to which 7 major antecedents identified in the SLR applied to GoS. The most important grouped antecedent was structural. Antecedents are one logical level below grouped antecedents in the SLR classification system (Glor, 2021c).

Measurements. Four measurement models were used: The best approach depends on the purpose of the measurement. If the measure is meant to identify whether the organization is likely to produce innovations, the six antecedents that apply to all or almost all ($\Rightarrow 89.7\%$) of the innovations were the best measures (Model 1). If the measure is meant to distinguish antecedents that apply to some innovations but do not apply to a number of other innovations, antecedents that apply to innovations differently are better. Three approaches were considered in this category: all antecedents that applied to $<89.7\%$ of innovations, antecedents that applied to even fewer innovations (applying to between 31.5 and 77.7%¹¹ of the innovations) and the difference in ranking between major SLR and GoS grouped antecedents. Antecedents that applied sometimes and not others were ranked from applicable to the most innovations to applicable to the fewest. Six highly differentiated antecedents were thereby identified; e.g. acceptance of a new idea; no labeling; early adoption. They create more of a distinction. In Model 2, three indicators of differences between adoption and trailblazing in the SLR and between them and the trailblazing GoS were examined. Differences were found. Model 3 considered how applicable SLR major grouped antecedents were to the GoS. Most applied to all GoS innovations but in internal cluster, individually-applicable antecedents less. In Model 4, GoS scores were compared to GoS' own mean and the most applicable grouped antecedents were identified.

Subtracting the rankings from each other measured how different rankings were. When the nine ranks were thus compared for the SLR and the GoS, one grouped antecedent, ideology, had the same rank (6) in the SLR and GoS but the ideologies were different; problem/creativity/ideas were only different by one rank. Grouped antecedents that ranked >1 rank different included a difference of 4 ranks for political support; 3 ranks for innovation process and external environment; 2 ranks for internal structure, governance environment and external drivers (Table 3). These could potentially be measures for distinguishing adoption and trailblazing in other studies.

Scores in the top and bottom half of ranks were also compared for the SLR and GoS. Some SLR major antecedents scored in the top half of ranks (ranks 1-4) when those antecedents scored in the second rung for GoS ($>$ rank 3. GoS only had 6 ranks.) for the grouped antecedents innovation process, governance environment, conservative ideology and conservative political drivers. In the SLR, antecedents ranked from the top, in order, were innovation process, problem/creativity/ideas, internal structure, and governance environment. One GoS antecedent ranked in the top half when the SLR ranked it in its bottom half: external environment. While

¹⁰ It is called innovative because it implemented many innovations.

¹¹ No antecedents applied between 77.7 and 89.7% of the time.

some of the highest-ranking GoS major antecedents were inactive and internal structure could be considered that, given its name, the GoS actually actively reorganized its structures and managed itself (that is one of the reasons administrative innovations are included in the innovation list). The SLR ranked four constraining antecedents as follows: innovation process (1), internal structure (3), external environment (5), conservative ideology (6). The active grouped SLR antecedents were ranked lower (all in the lower half) than the GoS ones: GoS active antecedents were active ideology (0 in SLR), external environment (5), external drivers (7), political support (8). No active grouped antecedent was from internal cluster (Table 10).

Table 10: Measurement and Comparison of Active and Inactive Grouped Antecedent Ranks in SLR and GoS

| Inactive Grouped Antecedents | SLR Rank | GoS Rank | Dif Rank 2-3 | Active Grouped Antecedents | SLR Rank | GoS Rank | Dif Rank 2 - 3 |
|--------------------------------|----------|----------|--------------|-------------------------------|----------|----------|----------------|
| innovation process | 1 | 4 | -3 | external environment | 5 | 2 | +3 |
| problem/creativity/ideas | 2 | 3 | -1 | ideology of active government | 0 | 6 | +6 |
| internal structure | 3 | 1 | -2 | external drivers | 7 | 5 | +2 |
| governance environment | 4 | 6 | -2 | political support | 8 | 4 | +4 |
| conservative ideology | 6 | 0 | +6 | political drivers | | 0 | |
| conservative political drivers | 9 | 0 | +9 | | | | |

Dif=difference

Policy implications. The four models produced four types of SLR-GoS comparison. The shared, most major grouped antecedents identified were structural (internal structure, external context) and creative capacities (capacity to identify problems, be creative, develop new ideas). These occurred in only two contexts: external and internal clusters, not political, although the NDP had in place mechanisms for identifying and developing creative solutions.¹² Still major but not as major were external drivers, political support, ideology and political drivers. This should be read as indicating not that it is possible to be innovative despite the less major factors (external, political environments), but as indicating that innovation is possible when the most major antecedents (internal structure, external environment, people’s creative capacities) line up and interact in a positive way with the less major factors (external drivers, political support). Governments can contribute to these conditions, if they choose to do so (Table 11). This research thus has both policy and public administration implications.

¹² e.g. NDP constituency associations met to do so and the Premier, on his week-long annual bus tour, had a staff person identify, try to resolve and keep track of the resolution of issues raised with him by people who spoke to him and raised issues. Other ministers did the same. This helped Cabinet and staff become more aware of Saskatchewanians’ needs. Some of the solutions did not seem professional or even workable; nonetheless, some were tried; e.g. Farm Lab, a program for enhanced applied farm research, based on farmers’ ideas, their involvement, self-help principles and collaboration between farmers and university researchers, administered by the University of Saskatchewan. Farmers did the testing. It worked quite well, making research more relevant and of more interest to farmers.

While the same SLR major antecedents were revealed by the SLR and examined in the GoS, their importance rankings were not the same. Two important consequences were demonstrated earlier: First, political antecedents ranked higher and were therefore more important in trailblazing in the SLR than in the GoS. Second, the SLR focused more on antecedents that were constraints than the GoS, that focused more on active grouped antecedents—the SLR emphasized overcoming constraints, the GoS emphasized more proactive actions that could address issues and problems, the content of innovation. The SLR identified half of its seven major antecedents as political (two of them as constraints) but the GoS’ three political antecedents supported action (Table 10). With a large number of innovations (183), the GoS can be considered a good source of information on antecedents that aided trailblazing innovation, albeit in a different ideological context from today. These differences between the SLR and GoS matter: the SLR found scholars mostly addressed and studied adoption (imitation), publications on GoS focused on trailblazing.

Table 11: Policy Learning

| Major grouped antecedents | Context | Policy Implications |
|---|--------------------------------------|--|
| More major: | | |
| External environment | External environment | Requires civic action; NDP members active in setting policy |
| Internal structure | Internal to government | Requires cabinets’, elected & appointed officials’ action |
| Creative capacities (citizens’, political actors’ & appointed officials’ capacity to identify problems, be creative, develop new ideas) | External, political, internal people | Involves citizens, political actors, elected and appointed officials’ action |
| Less major: | | |
| External drivers | Challenges | Requires civic & political action |
| Political support | Political | Requires an active political party & political action. The political factors need to be encouraging/ permissive/not oppose action & innovation. |
| Ideology | External & political | In “less major” category, ranked less major, 6 th in both SLR & GoS. Not discussed in adoption literature, only in trailblazing literature. |

Although people were considered important in both the SLR and GoS, the GoS took some particularly proactive steps: it actively recruited civil servants beyond the province, nationally and internationally; Cabinet formally asked civil servants for suggestions for innovations (their suggestions were in areas about which they were highly knowledgeable), funds were budgeted for pilots and numerous pilots were implemented, especially during 1979-82; staff were respected and well paid. Valuing and empowering staff and providing new funding for innovations helped create a culture of innovation and set the stage for introduction of innovations on an ongoing basis, but only under active governments.

This comparison of an SLR and the GoS found trailblazing and policy-adopting governments accomplished their tasks in a context of similar antecedents but adopting governments paid more attention to limiting challenges and politics and innovating governments paid more attention to external context and political support: trailblazing governments were more active than adopting governments.

This research supports the idea that the liberal-dominant period in which the GoS innovations were implemented was less ideological than the neoliberal-dominant period that has followed and that the Blakeney GoS was less ideological than at least some of the governments that followed. The Blakeney government tried to serve a wider swath of the Saskatchewan population than neoliberal governments have tended to do. Importantly, most of the SLR articles were published after the 1970s, during the neoliberal period.

The GoS of 1971-82 faced some different antecedents than the ones that exist today: a more liberal- and social democratic-dominant ideology, a population and government more interested in addressing key problems through active government; three rather than two major political parties; an interest in innovating rather than an interest in terminating programs; an attempt to address a wide range of interests of a wider range of the population (e.g. large and small farmers, business and working people; conflicting needs) rather than just the party in power's political base. While some of the Blakeney innovations were social democratic (e.g. intervention in the economy), others were liberal (e.g. human rights) and still others were conservative; e.g. the pension change from a defined benefit to a defined contribution pension plan that covered most of the public sector—the public service, teachers, SaskPower, SaskTel, other crown corporations, WCB).

Conclusion

Major antecedents identified in a systematic literature review (SLR) of the implementation of public policy innovations (Glor, 2021a, b) were assessed in 183 trailblazing public innovations, of which 169 were policies implemented by the GoS 1971-82. The GoS's trailblazing innovations were not only trailblazing within the GoS but also trailblazing within its population, USA and Canadian governments. The innovations were thus trailblazing innovations of both a government and a population of governments.

The SLR identified 594 antecedents of implementation of public policy innovation in 87 peer-reviewed documents. They were analyzed into 508 unique antecedents, 28 grouped antecedents, 18 best (most frequently-mentioned) antecedents and 9 major (most-mentioned) antecedents. The major SLR grouped antecedents were analyzed in the GoS innovations and found to be of two types: (1) contextual grouped antecedents and individual antecedents that applied to nearly/all innovations; (2) individual antecedents that only applied to some GoS innovations. Fifty-two contextual antecedents and 9 individual antecedents were applicable to nearly/all GoS innovations and 6 individual antecedents were applicable only to some (were individually-applicable). Only antecedents of internal cluster did not apply broadly; external and political cluster antecedents did. Nonetheless, some internal cluster antecedents were contextual; e.g., the purpose of all the innovations was to have a problem/rethink a problem; solve problems

(antecedent problem/creativity/ideas), address an environment of palpable dissatisfaction with the current system. Only some internal antecedents applied to only some innovations.

The two research questions were (1) How do the major antecedents of introduction of policy innovations identified in a SLR of 187 documents compare to those found in 183 GoS trailblazing innovations implemented 1971-82? and (2) Do the major antecedents identified in the policy innovation literature, much of it American, rank in importance the same or differently from the same antecedents in an innovative Canadian province? The questions were answered through four analyses, composing four models.

In Model 1, major SLR antecedents were identified in the GoS innovations and their rankings were compared to those in the SLR, thus determining whether and to what extent they shared rankings. The SLR and GoS shared eight of the SLR's nine major antecedents but most ranked differently. The SLR ranked three internal-to-government antecedents as most important in the literature (innovation process, problem/creativity/ideas, internal structure) while in GoS, the most important antecedents were, in order, internal structure (internal cluster), external context (external cluster), and problem/creativity/ideas (internal cluster). They shared two of the three top-ranked grouped antecedents.

Model 2 distinguished SLR adoption of innovation (all adoptions) from trailblazing grouped antecedents, then compared (1) SLR adoption and trailblazing antecedents and (2) SLR trailblazing and GoS trailblazing antecedents. The model found some rankings were different; e.g. in the SLR, trailblazing political antecedents ranked higher than in SLR adoptions and in GoS trailblazing. While political support did not rank high in the SLR in Model 1 (Table 3) and its measurement was not high in adoptions, it ranked first in SLR trailblazing but only fourth in GoS. For SLR trailblazing, two of the top three highest-ranked antecedents were political while the first major political antecedent in GoS was in the lower half, ranking fourth.

Model 3 examined the relevance of SLR antecedents in the GoS and found that they ranked the same as in Model 1. The more relevant (most mentioned) SLR grouped antecedents in the GoS were internal structure, external context and problem/creativity/ideas.

Model 4 explored the differences among the GoS' antecedents by differentiating major higher-ranked and major lower-ranked grouped antecedents, determined by comparing them to their own GoS mean. The grouped antecedents that ranked in the upper half in GoS trailblazing innovations were, in order from highest, internal government structure, external environment and problem/creativity/ideas. The ones that ranked in the lower half, from highest to lowest, were political support, external drivers and ideology.

Of the nine major grouped antecedents of the SLR studied in the GoS, three ranked the same/similarly—one political grouped antecedent (ideology) of four in political cluster (ideology ranked sixth in both) and two internal grouped antecedents (structure; problem/creativity/ideas).

For the innovative GoS, five of eleven antecedents were active (ideology and political drivers were divided into active and conservative, adding two grouped antecedents). The SLR focused on six constraining major antecedents (Table 10).

Rankings of importance of grouped antecedents were different: In Model 1, the top three major antecedents in the SLR were innovation process, problem/creativity/ideas, and internal government structure; in GoS they were internal structure, external context and problem/creativity/ideas, in that order (2 of 3 were the same but in a different order). All three top-ranked antecedents for the SLR were from the internal cluster; two of three for GoS, none were political for either.

Several conclusions can therefore be drawn: (1) In the SLR, governments were more preoccupied with internal environments; in the GoS, with external and political environments. (2) In both the SLR and GoS, internal cluster was important to innovation. (3) Ideology had similar, low rankings in all four models. This may support the positions that the period in which the GoS innovations were implemented was less ideological than the period that followed and that the GoS was less ideological than governments that followed. (4) The GoS grouped antecedents were more active than those of the SLR as a whole.

The data and the analysis suggest the following antecedents positively influenced implementation of innovation: an external environment that supported innovation, external drivers/demands pushing for innovation, political support, a dominant proactive social democratic ideology, and internal public administration strength.

Future research should focus on assessing trailblazing and adoption in additional governments and additional ideological environments that could be compared to the research done here on major grouped and individual antecedents of a population of 183 public innovations and of a SLR of 87 peer-reviewed publications identifying 594 antecedents of public policy innovation. Other future research could plot the antecedents identified against the period of time in which they were active and the effects of ideological changes over time (in this case, from a predominantly more left-wing to more right-wing ideology).

About the Author:

Eleanor D. Glor is Editor-in-Chief and Founding Publisher of *The Innovation Journal: The Public Sector Innovation Journal* (TIJ) (www.innovation.cc) and Fellow, McLaughlin College, York University, Toronto, Canada. As a practitioner, she worked for the Government of Canada, two Canadian provincial governments, a regional municipality and a city. Eleanor has published about innovation in the areas of aging, rehabilitation, public health, aboriginal health, Saskatchewan and other Canadian innovations. She has published seven books, five chapters and 45 peer-reviewed articles on public sector innovation from an organizational, especially a public service perspective. Eleanor's latest book is *Antecedents Predict Introduction and Fate of Public Innovations and their Organizations: A Quantitative Analysis of Antecedents of Ten Income Security Innovations and Organizations, Saskatchewan, 1971-2021*, published in TIJ in 2022. Email address: glor@magma.ca

References:

- Bernier, Luc, Taïeb Hafsi & Carl Deschamps. 2015. Environmental Determinants of Public Sector Innovation: A Study of Innovation Awards in Canada. *Public Management Review*, 17(6): 834-56.
- Berry, Frances Stokes & William D. Berry. 2007. "Innovation and Diffusion Models in Policy Research." Pp. 169-200, Chapter 7 in Paul A. Sabatier (Ed.), *Theories of the Policy Process*. Boulder, CO: Westview Press.
- Borins, Sandford. 2014. *The Persistence of Innovation in Government*. Washington, D.C.: Brookings Institution Press.
- Cinar, Emre, Paul Trott & Christopher Simms. 2019. A systematic review of barriers to public sector innovation process. *Public Management Review*, 21(2): 264–290
<https://doi.org/10.1080/14719037.2018.1473477>
- Collier, David & Richard E. Messick. 1975. Prerequisites versus Diffusion: Testing Explanations of Social Security Adoption. *American Political Science Review*, 69(4): 1299-1315.
- Colvin, Roddrick A. 2006. Understanding Policy Adoption and Gay Rights: The role of the media and other factors, *The Innovation Journal: The Public Sector Innovation Journal*, 11(2), article 3.
- Demircioglu, Mehmet Akif. 2020. The effects of organizational and demographic context for innovation implementation in public organizations. *Public Management Review*, 22(12): 1852–1875. <https://doi.org/10.1080/14719037.2019.1668467>
- Glor, Eleanor D. (Ed.). 1997. *Policy Innovation in the Saskatchewan Public Sector, 1971-82*. Toronto, Canada: Captus Press.
- _____. (Ed.). 2002. *Is Innovation a Question of Will or Circumstance? An Exploration of the Innovation Process Through the Lens of the Blakeney Government in Saskatchewan, 1971-82*. 5(2), article 1. Ottawa, Canada: The Innovation Journal: The Public Sector Innovation Journal at <http://www.innovation.cc/books.htm>
- _____. 2018. Factors (Antecedents) Influencing Creation and Fate of Innovations and their Organizations – III. *The Innovation Journal: The Public Sector Innovation Journal*, 23(2), article 1. <https://www.innovation.cc/volumes-issues/vol23-no2.htm>
- _____. 2019. Factors and Factor Clusters Most Influential in Introduction and Global Fate of Innovations and their Organizations – IV. *The Innovation Journal: The Public Sector Innovation Journal*, 24(2), article 1. <https://www.innovation.cc/volumes-issues/vol23-no2.htm>

_____. 2021a. Can the PRISMA Protocol be Used to Guide a Systematic Literature Review of Antecedents of Policy Innovation Trailblazing and Adoption? – I. *The Innovation Journal: The Public Sector Innovation Journal*, 26(2), article 2. <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

_____. 2021b. Analysis of Antecedents of Trailblazing and Adoption of Public Policy Innovation Identified by a Systematic Literature Review– II,” 2021. *The Innovation Journal: The Public Sector Innovation Journal*, 26(2), article 3. <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

_____. 2021c. A Nomenclature and Classification System for Antecedents of Public Policy Innovation Trailblazing and Adoption Derived from a Systematic Literature Review – III, 2021. *The Innovation Journal: The Public Sector Innovation Journal*, 26(2), article 4. <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

_____. 2021d. Comparisons of Antecedents of Trailblazing/Adoption and Quantitative/Qualitative Studies of Public Policy Innovation Identified in a Systematic Literature Review – IV. *The Innovation Journal: The Public Sector Innovation Journal*, 26(2), article 5. <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

_____. 2021e. A Comparison of Antecedents of Different Types of Innovation – V. *The Innovation Journal: The Public Sector Innovation Journal*, 26(2), article 6. <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

_____. 2021f. Conclusion: Important Antecedents of Public Sector Innovation – VI. *The Innovation Journal: The Public Sector Innovation Journal*, 26(2), article 7. <https://www.innovation.cc/volumes-issues/vol26-no2.htm>

_____. 2023a. Antecedents of Implementation and Fate of a Public Innovation Population of 183 Government of Saskatchewan Innovations, 1971-2021. *The Innovation Journal: The Public Sector Innovation Journal*, 28(1), article 2.

Harding, Jim (Ed.). 1995. *Social Policy and Social Justice. The NDP Government in Saskatchewan during the Blakeney Years*. Waterloo, Canada: Wilfrid Laurier Press.

Lamothe, Meeyoung and Scott Lamothe. 2015. Exploring the Determinants of Local Service Termination. *Social Science Quarterly*, 96(5) (November): 1453-74. DOI: 10.1111/ssqu.12218

Lipset, Seymour Martin. 1950. *Agrarian Socialism The Cooperative Commonwealth Federation in Saskatchewan. A Study in Political Sociology*. Berkeley, CA: University of California Press. <https://doi.org/10.1525/9780520331136>

Moher, D., A. Liberati, J. Tetzlaff, D.G. Altman & PRISMA Group. 2009. Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement, *PLoS Medicine*, 6(7): e1000097. doi: 10.1371/journal.pmed.1000097.

Mohr, Lawrence B. 1969. Determinants of Innovation in Organizations. *The American Political Science Review*, 63(1): 111-26.

Nader, Ralph. 1992. *Canada Firsts*. Chino Valley, AZ: Country Roads Press.

Poel, Dale H. 1976. The Diffusion of Legislation among the Canadian Provinces: A Statistical Analysis. *Canadian Journal of Political Science*, 9(4): 605-626.

Rogers, Everett M. 1995. *Diffusion of innovations*, 4th ed. New York, NY: Free Press.

Walker, Jack L. 1969. The Diffusion of Innovations among the American States. *The American Political Science Review*, 63(3) (Sep.): 880-899.

Walker, Richard M. 2014. Internal and External Antecedents of Process Innovation: A review and extension. *Public Management Review*, 16(1): 21–44.

<http://dx.doi.org/10.1080/14719037.2013.771698>

Appendix A: Do Seven SLR Major Grouped Antecedents* Apply to 183 Trailblazing Innovations, GoS?

| Clusters/ 7 Major Grouped Antecedents | Component Antecedents, Antecedents Relevant to Trailblazing Identified in SLR of Antecedents of Policy Innovation | Contextual/Individually-Applicable? Relevant to GoS? Yes/No |
|--|---|---|
| External Cluster: | | |
| <i>External Environment/ Context/ External influence</i> | <ul style="list-style-type: none"> -Temporal (time) context -Previous crises -Societal conditions/Social context: <ul style="list-style-type: none"> -Total Population -Urbanization -Early modernization** -Regional influences (Collier & Messick, 1975, first social security adoptions) -Mean education -Literacy -Economy <ul style="list-style-type: none"> -State wealthy -A popular culture based in technology <p style="text-align: right;"><i>External Environment Trailblazing (TR) All Yes (Y) Total (T)=13 TR + Adoption (Adopn) T= 25</i></p> | <p style="text-align: center;">Yes Yes Yes Yes Yes – small population Yes Yes (political, economic)</p> <p style="text-align: center;">Yes Yes Yes Yes Yes (economy based on farming & resource extraction)</p> |
| <i>External Drivers/ Demands (push)</i> | <ul style="list-style-type: none"> -Good economy/economic development -Manage change -Harness technology and social innovation -Find solutions to dilemmas created by the uncritical pursuit of technological “quick-fixes” to problems and in crises, avoid habitual behaviour <p style="text-align: right;"><i>TR External Drivers, All Y=5 TR + Adopn External Drivers T=13</i></p> | <p style="text-align: center;">Yes Yes Yes Yes Yes</p> |
| Political Cluster: | | |
| <i>Political support</i> | <ul style="list-style-type: none"> -Govt elected with large majority -Support from: <ul style="list-style-type: none"> -Business -Small business -Labour -Social democratic party (NDP) government -Introduced before or same year by another social democratic government -State governor’s party -Sponsored by Minister <p style="text-align: right;"><i>TR Political Support Y=6, No (N)=1, T=6 TR + Adopn Political Support T=10</i></p> | <p style="text-align: center;">Yes Yes Yes Yes Yes No (only 1 innovation 1st elsewhere, in Manitoba) Not applicable Yes</p> |
| <i>Ideology</i> | <p><i>A framework of political thought/Hegemonic ideas, practices</i></p> <ul style="list-style-type: none"> -Coincidence & confluence of actors, perspectives -Liberal -Neoliberal ideology -Social democratic ideology/Party ideology: % of NDP years -State ideology <p style="text-align: right;"><i>TR Ideology Y=4, No=2, T=6 TR + Adopn Ideology T=17</i></p> | <p style="text-align: center;">Yes Yes No No Yes</p> |
| <i>Political Drivers</i> | <p>Example: Adoption of a sexual orientation non-discrimination law, 22 USA states</p> <ul style="list-style-type: none"> -State governor’s party <p><i>Example sex orientation</i></p> <p style="text-align: right;"><i>TR N/A=1 TR + Adopn T=6</i></p> | <p style="text-align: center;">Not applicable (same as above)</p> |
| Internal Cluster: | | |
| <i>Problem/ Creativity/ Ideas</i> | <p><i>Assessed:</i></p> <p>Problem/Creativity/Ideas: <i>Contextual (% Applicable, “Yes”):</i></p> | <p style="text-align: center;"><i>These results are from Table 4</i></p> |

| Clusters/ 7 Major Grouped Antecedents | Component Antecedents, Antecedents Relevant to Trailblazing Identified in SLR of Antecedents of Policy Innovation | Contextual/Individually-Applicable? Relevant to GoS? Yes/No |
|---------------------------------------|--|---|
| | <p>-A problem/Rethinking a problem -Vision -Thinking -Free thinking -Resiliency -Creative capacity/potency to produce novelty/intuition -Idea(s)/Ideas for adaptation/A creative idea -Creativity/novelty/enhanced creativity incl. group, individual -Complexity/Emergence -Palpable dissatisfaction with current system <i>Contextual T=9</i></p> <p><i>Not contextual ("No"):</i> -Acceptance of a new idea -Problem-solving -No labeling -Early [in government] -Active search for ideas/examples of innovation -Idea & demonstration of a better product/process -Approach each innovation individually <i>Not contextual T=5</i></p> <p><i>Too specific (not assessed):</i> -Following -Negating <i>Too specific, not assessed T=2</i></p> <p><i>Other (not assessed because information not available):</i> -Entrepreneurial thinking -Assignment of personnel -A process Goal, objective, purpose, ends -By public servants -Uncertainty -Information -Design <i>Other not assessed T=7</i></p> <p><i>Totals: TR Contextual Y=9 (89.7-100%), N=6, Not assessed=7, T=23 TR + Adopn Problem/Creativity/Ideas T=50</i></p> | <p>Contextual (100% "yes") Contextual (99.5%)</p> <p>Contextual (97.8%) Contextual (95.7%) Contextual (94.0%) Contextual (94.0%) Contextual (93.5) Contextual (91.8%) Contextual (89.7%)</p> <p>Not contextual (77.7%)</p> <p>Not contextual (76.1%) Not contextual (75.5%) Not contextual (60.9%) Not contextual (47.8%) Not contextual (31.5%)</p> |
| Structure | <p>Structure <i>Contextual:</i> -Structural context, structurally loose -Processes/Operations -IT, Future plans for use of ICT, e.g., use of ICT in student-centered learning, integration across the school curriculum -Resources -Capacity to fund -Slack -People (also see below) -Foster internally driven individuals -Staff released -Other resources -Space -Effective admin -Communication -Pilots -Decisions -Legislation -Implementation -Organizational climate for implementation: -Management/top management support -Fit between the innovn & the values of innovn users</p> | <p>Yes. Bureaucratic structure but simple Yes Yes, limited at the time</p> <p>Yes Yes Yes, limited</p> <p>Yes No, too specific Yes</p> <p>Yes Yes, personal Yes Yes Yes Yes Yes Yes Yes</p> |

| Clusters/ 7 Major Grouped Antecedents | Component Antecedents, Antecedents Relevant to Trailblazing Identified in SLR of Antecedents of Policy Innovation | Contextual/Individually-Applicable? Relevant to GoS? Yes/No |
|---------------------------------------|---|---|
| | -A healthy learning organization -Information Mainstream innovation -Rational, results-based <i>TR Contextual=17, Too specific=3, All Yes T=20</i> <i>TR+Adopn Structure T =42</i> | Ch a few I think yes Yes Yes Yes |
| | Grand Total 142 | |

Note: Totals are for the sum of the antecedents for both trailblazing and adoption from Glor, 2021d: Table 2.

* Identified in Glor, 2021f. ** Modernization is a measure of introduction of social security measures (5), measured by percent of workforce in agriculture (low) and industry (high), and real income per capita (Collier & Messick, 1975). Saskatchewan income per capita grew from \$893/capita in 1972 to \$1236/capita in 1982, a 38.4% increase in 11 years, 3.5%/year. There was high inflation during the late 1970s and very early 1980s. Disposable income grew substantially during this period. Workforce in agriculture declined. About 50% of workers were unionized.

Totals are for the sum of the antecedents for both trailblazing and adoption from Glor, 2021d: Table 2.

Appendix B: Major* Percentage Differences (=>10% points) between SLR Trailblazing and Adoption Grouped Antecedents by Cluster

| | SLR Trailblazing Cluster % | SLR Adoption Cluster % | Standardized: Difference* % |
|--|----------------------------|------------------------|-----------------------------|
| External Cluster: | | | |
| External Environment/Context % | 30.6 | 10.4 | +20.2 |
| Governance Environment % | 2.8 | 23.0 | -20.2 |
| Policy % | 0 | 12.6 | -12.6 |
| Drivers/Demands (push)/ external support/good economy) % | 19.4 | 4.4 | +15.0 |
| Total External Cluster No. | 36 | 135 | 171 |
| Total Cluster % | 100.0 | 100.1 | 100.0 |
| Cluster Vertical % | 27.5 | 29.2 | - |
| Cluster Horizontal % | 21.1 | 78.9 | 100.0 |
| Political Cluster: | | | |
| Ideology % | 21.1 | 11.1 | +10.0 |
| Politics % | 10.5 | 24.7 | -14.2 |
| Political Support % | 23.7 | 1.2 | +22.5 |
| Political Actors/People % | 0 | 27.2 | -27.2 |
| Drivers/demands % | 15.8 | 0 | +15.8 |
| Total Political Cluster No. | 38 | 81 | 119 |
| Total Cluster % | 100.1 | 100.0 | 100.0 |
| Cluster Vertical % | 29.0 | 17.5 | - |
| Cluster Horizontal % | 32.2 | 67.8 | 100.0 |
| Internal cluster: | | | |
| Problem/Creativity/Ideas % | 24.6 | 14.6 | +10.0 |
| Structure % | 22.8 | 11.7 | +11.1 |
| Innovation process % | 14.0 | 25.1 | -11.1 |
| Total Internal Cluster No. | 57 | 247 | -190 |
| Total Cluster % | 100.1 | | 99.9 |
| Vertical % | 43.5 | | 53.3 |
| Horizontal. % | 18.8 | 81.3 | 100.1 |
| Grand Total | 131 | 463 | 594 |
| Vertical % | 100.0 | 100.0 | 100.0 |
| Horizontal % | 22.1 | 77.9 | 100.0 |
| # of documents | 21 | 66 | 87 |
| % of documents | 24.1 | 75.9 | 100.0 |

Source: Glor, 2021d: Table 5. Used with permission. *Difference is calculated as column 2 minus column 3.