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Government sponsored competitive intelligence for regional and sectoral economic development: Canadian experiences

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ABSTRACT Can competitive intelligence (CI) be used to assist in regional and sectoral economic development? This article looks at intelligence initiatives (largely around training) sponsored by various government departments and agencies in Canada and their link to regional and sectoral economic development. The article provides examples of the kind of intelligence initiatives that have been used in Canada to support regional and sectoral (industrial) economic development. The article proposes a method for categorizing these regional and sectoral intelligence programs and suggests methods for assessing the impact of these programs on regional and sectoral economic development. The Canadian programs are divided into three broad categories 1) Government programs aimed at enhancing their own ability to develop competitive intelligence 2) Programs that are sponsored by the government for industry and others to develop competitive intelligence and 3) Programs sponsored by the government to help communities develop competitive intelligence for local economic development. Positive economic impacts were identified using program review documents, government officer reports and anecdotal evidence from program participant surveys. However, while the evidence does support positive impact a more comprehensive approach to evaluating these impacts should be considered in the future.

KEYWORDS competitive intelligence, economic development, economic intelligence, program impact, program review

1. INTRODUCTION AND OVERVIEW

Making better decisions based on a proper understanding of the competitive environment (present and future) is at the heart of competitive intelligence (CI). Competitive intelligence assists organizations in developing a proactive approach that identifies and responds to changes in the competitive environmental, helping organizations (companies, governments, universities, associations and others) thrive in turbulent times. This need for understanding the external environment and its impact on success has been echoed in the regional economic development planning literature.

External environmental changes (the focus of CI):

“have brought new opportunities to regional industries while simultaneously exposing them to increased competition both domestically and internationally” (Stinson 2006, p. 4).

It has also been identified as critical in designing economic policy and programs (Calof et al., 2015).

The objective of this paper is to look at how government competitive intelligence initiatives have been used in Canada to enhance economic development at both the regional and sectoral

level. The intent of presenting both programs and evidence of program impacts is to stimulate a global discussion on how regional and sectoral economic development can be enhanced through government competitive intelligence activities. It is hoped that researchers from other countries that read this article will be encouraged to develop similar articles and provide additional program examples that can be shared amongst the competitive intelligence and government program communities.

Governments in Canada both at the Federal and Provincial level have been involved in competitive intelligence initiatives largely since the mid 1990s. In this article, several of these programs will be described and discussed. This article uses, as its base for discussing these initiatives, a comprehensive review of competitive intelligence in Canada (Calof and Brouard, 2004) and programs that the author of this article has extensive knowledge about either through active involvement in them (e.g. training programs delivered by the author, organizational systems created by the author etc.) or because the author reviewed and/or studied them for academic purposes (for example, the National Research Council's competitive intelligence unit study as reported in Calof, 2014). While this could lead to possible biases in terms of the comprehensiveness of programs reviewed for this article, nevertheless in depth knowledge of the programs and the government officers responsible for the programs are required to properly analyze and classify them.

Over one hundred government programs and intelligence initiatives are examined in this article. These are divided into three broad categories that are discussed in more detail in Section 3 (including the rationale behind these categories):

1. Government programs aimed at enhancing their own ability to develop competitive intelligence. This includes training initiatives (e.g. sending government officers for competitive intelligence training) and creating intelligence units.
2. Programs that are sponsored by government for industry and others to develop competitive intelligence. This category includes providing or sponsoring training in competitive intelligence for Canadian companies (and associations) and joint intelligence

projects (both government and industry working together to develop competitive intelligence).

3. Programs sponsored by the government to help communities develop competitive intelligence or local economic development. This category involves programs sponsored by the government aimed at assisting small communities in developing competitive intelligence capabilities for local economic development

Programs and initiatives in these three categories are then examined for evidence of economic impact at the regional and/or sectoral (industry) level.

2. GOVERNMENT INVOLVEMENT IN COMPETITIVE INTELLIGENCE

Government involvement in competitive intelligence has been studied and written about for many years. Dedijer (1994) wrote about the French government's involvement in competitive intelligence. Much has been written about the French involvement in CI including the use of and development of CI for government economic policy purposes, French government CI assistance to companies and associations, as well as joint intelligence assistance involving chambers of commerce, industry association and companies (Dedijer 1994, Horne and Parks, 2004, Bisson, 2014). Similarly, Calof and Brouard (2004) looked at Canadian Federal and Provincial involvement in Canadian competitive intelligence and Julyeta et al. (2014) looked at examples of government involvement in competitive intelligence in Indonesia.

These and other authors have looked at the importance of these activities as a stimulus to regional and sectoral economic development. For example, Julyeta et al. wrote "It was then decided to use Competitive Intelligence not only to promote new economic and development conditions, but to move to local policy to promote in some key positions people which will have a Competitive Intelligence background and which will be able to facilitate a global move of the local stakeholders to new horizons." (2014, p. 38). Bisson (2014, p. 10), in looking at the work of Guesnier (2004), Momagri (2012) and Massmann and Quonnam (2010), wrote:

“[these authors have] pointed out the correlation between territorial governance and economic performance, and in this way CI activities should lead to better territorial economic results. A lack of information, for example, on price or technology lowers the price of farmers’ yields.”

Calof and Brouard (2004) looked at the Canadian experience with competitive intelligence between 1989 and 2004. In their research, they looked at competitive intelligence growth in terms of academic development (courses and research), corporate activity, associations, consulting and government activities. The authors noted that there had been significant development in the 1990s in terms of government involvement in competitive intelligence. For example, in the mid 1990s the Department of Foreign Affairs developed an intelligence program for producing competitive intelligence for Canadian companies and departmental officials. Agriculture Canada established market intelligence within their Market and Industry Services Branch for providing policy advice within the department. Industry Canada brought in a competitive intelligence training program to enhance their officers’ skills. The National Research Council established a technical intelligence unit in their organization to provide technical intelligence to departmental officers for decision making and policy development. Provincially, Alberta Economic Development brought in competitive intelligence training for their officers and also made it available to their industry clients. Alberta also set up a joint market intelligence committee, which had representation from various federal and provincial economic departments. In Saskatchewan, STEP (Saskatchewan Trade and Export Program) developed an intelligence department and established market intelligence as one of their offerings to Saskatchewan business. In Nova Scotia, Nova Scotia Business Inc. also brought in competitive intelligence training and established market intelligence as a product offered to Nova Scotia Business. In Quebec, each Quebec ministry had an officer responsible for competitive intelligence. This officer reported to a central government business intelligence committee.

It is within this context of significant growth in government led competitive intelligence activity that this article is set. This article

looks to provide readers with information on government competitive intelligence initiatives in Canada, in particular those geared towards regional and/or sectoral economic development and their economic impact. There are three caveats on the programs discussed in this article:

1. This article does not cover all Canadian programs that use intelligence for regional or sectoral economic development. It is not truly comprehensive. It includes only ones that the author has been involved with, either through studying them, running them or advising the organization in charge of them. This limitation is made to ensure that the author has sufficient information to discuss, assess and properly classify the programs.
2. Although this article covers programs between 1993 and 2015, the majority of the programs discussed occurred before 2006. This arose as from 2006-2015 significant budget cutting arose both at the federal and provincial levels, making the funding of the programs discussed in this article difficult.
3. This article only looks at competitive intelligence programs and initiatives associated with economic departments. It does not look at programs associated with national security and national intelligence agencies (for example Canadian Security and Intelligence Service – CSIS, Communications Security Establishment – CSE).

3. CANADIAN GOVERNMENT ACTIVITIES IN COMPETITIVE INTELLIGENCE

One of the contributions of this article is that it attempts to develop a classification scheme for government competitive intelligence initiatives. In reviewing past articles on government involvement in competitive intelligence (described in Section 2) the author notes that programs and initiatives tend to fall into one of two broad categories: 1) Programs designed to help the government develop competitive intelligence (for example development of in-house intelligence units, training in competitive intelligence for government officers). The intent of these programs is to ensure that the department has the ability to develop competitive intelligence

that can be used either to assist companies or help the department make decisions. 2) Programs designed to help companies develop their own competitive intelligence. The author notes several of the articles listed above written about the government providing competitive intelligence resources and training to local companies so that they can develop their own competitive intelligence (Calof and Brouard, 2004 and Dedijer 1994 in particular write extensively about this).

In spite of the limitations listed above, there have been a plethora of programs developed in Canada that are focused on developing intelligence to assist in both regional and sectoral (industry) economic development. These were reviewed for the writing of this article and examined to determine their focus (departmental intelligence development vs corporate intelligence development). In looking at the mandate of the programs, reviewing reports about them (where available) and talking to those familiar with the program, further enhancements to the classification scheme mentioned above were made. Table 1 provides a list of those departments and agencies and the type of programs they have had. This list is compiled from the authors' direct experience either in developing and delivering the program or knowledge of the program through academic research. As such it is not a comprehensive list but can be seen as a convenience sample that is being used to examine the ability to categorize and later assess programs. The programs listed are divided into the following categories:

3.1 Government programs aimed at enhancing their own ability to develop competitive intelligence

This category covers competitive intelligence training that the government (federal or provincial) had customized to their organizations' needs to help their personnel develop intelligence skills. Some are of the classic introduction to competitive intelligence variety, while others allow participants to run an intelligence application (project) as part of the training. The general intent of the training is to enable the government officers to develop or enhance their understanding of what competitive intelligence is and work on key intelligence skills such as planning intelligence projects, collecting information for intelligence, analysis and communication to assist in their job and either contribute to sectoral or regional economic development by using these skills to

provide Canadian organizations with intelligence that will make them more competitive or use the skills to develop policy and programs that will enhance the economic performance of the region or sector.

- a) *Personal/department*: Training geared around helping officers learn how to use intelligence to assist the department/agency. The agencies/departments mentioned in Table 1 have specific sectoral or regional development responsibilities. As a result, the focus for the training/skills development was on using these skills to help develop appropriate industry policy. Examples of this include Industry Canada receiving intelligence training to help in the development of sectoral assistance programs. NRCan (National Resources Canada) had a module on intelligence to help in selecting the appropriate research and development programs to focus on for industrial development. Agriculture Canada had a project related to intelligence training that was focused on identifying sectors of the agriculture industry for further development in a 2020 exercise.
- b) *Helping others*: Several government departments have used intelligence training to assist in developing skills that would enable them to better provide intelligence to Canadian companies. Examples include the Department of Foreign Affairs, which had provided intelligence training to most trade officers since 1993 to help them better serve Canadian exporters. Nova Scotia Business Inc. and STEP (Saskatchewan Trade and Export Partnership) have taken extensive skills training in intelligence as both these organizations have the provision of intelligence to local companies as part of their mandate.

The two categories (personal/department and helping others) are not mutually exclusive. For example, the National Research Council established a technical intelligence unit that helped the department develop industrial policy, helped officers make recommendations on technology investments and also helped Canadian technology companies directly. Also, although training is mentioned above, it is not

the only element of the programs: STEP and the NRC (mentioned above) have established infrastructure that includes specific

intelligence units while NSBI (Nova Scotia Business Inc.) included it within their mandate and developed materials around it.

Table 1 Canadian Federal and Provincial Government Department and Agencies Competitive Intelligence Programs by Program Category. X indicates that the program was run/sponsored by the department or agency identified. The programs and departments/agencies in this table are not a comprehensive list of all programs in competitive intelligence run in Canada, but they are the ones that the author of this paper is familiar with either through research done on Canadian intelligence programs (with Francois Brouard) or through involvement either in running the program or evaluating it for the department/agency. The programs are also limited to those that were run by departments with economic related mandates. This table is used to demonstrate the breadth of programs run in Canada and to provide a demonstration of the program categorization method proposed in this article.

Canadian Federal Government departments and agencies	<i>Enhancing their own (department's) ability to develop intelligence</i>		<i>Sponsored by the government for industry and others to develop intelligence</i>				<i>Programs to help communities develop intelligence</i>
	Personal/ department	Helping others	Intro. Skills	Joint projects	Company projects	Trade show intelligence	
Agriculture Canada	x	x				x	x
Atlantic Canada Opportunities Agency	x	x	x		x		
Canadian Food Inspection Agency	x	x					
Department of Foreign Affairs	x	x					
Environment Canada	x						
Export Development Corporation	x						
Industry Canada	x	x	x				
National Research Council	x	x	x				
Natural Resources Canada	x						
Office of the National Science Advisor			x				
The Alliance for Sector Councils			x	x			
Western Economic Diversification			x	x	x		x
Provincial Government departments and agencies							
Alberta Agriculture	x	x	x	x	x	x	
Alberta Economic Development	x	x	x	x	x	x	
Alberta Energy Research			x				
Alberta Innovation and Science			x		x		
Alberta Treasury Board and Finance					x		
Manitoba Agriculture, Food and Rural Development			x				
Ministry of Economic Development and Trade	x		x				
Ontario							
Newfoundland Advanced Technologies Industries			x		x		
Nova Scotia Agriculture						x	
Nova Scotia Business Inc.	x	x	x		x	x	
Ontario Cultural Heritage			x				
Saskatchewan Advanced Technology			x				
Saskatchewan Trade & Export Partnership			x				

3.2 Programs that are sponsored by the government for industry and others to develop competitive intelligence.

Federal and provincial governments throughout Canada have sponsored a myriad of programs across Canada designed to help Canadian organizations develop and enhance their competitive intelligence skills. Some of these have been geographically focused (offered in one or more regions to help develop and enhance the local economy) and some have been sectorally focused, providing training and intelligence assistance to companies in multiple regions but in a specific sector (for example training for agriculture companies or training for technology companies). While sponsored programs have been given to a broad number of sectors, the two most frequent sectors for sponsored programs have been agriculture and technology. In work that the author has done with other governments the same two sectors have also been the most frequent focus for sponsored intelligence programs.

- a) *Introduction to CI/skills development:* These types of programs introduce participants to the concept of competitive intelligence and the skills and organizational requirements to develop intelligence. These programs have ranged from one-hour keynote addresses as part of major government events (for example the Manitoba Department of Agriculture and Rural Development program and Ontario Economic Development had intelligence keynote talks as part of industry events) or as long as two day introductions to competitive intelligence programs such as some of those sponsored by Alberta Economic Development.
- b) *Joint government and industry projects:* Joint projects bring industry, association and government together to work together on intelligence project with results being shared amongst all participants. An example of this is Alberta Agriculture, Food and Rural development, which sponsored an intelligence program that brought together industry, association and government participants. The joint project was to develop intelligence on opportunities for the Alberta beef

industry in Japan. The program involved providing a basic introduction to intelligence (two-day program involving introduction to intelligence, how to collect information, planning for intelligence and analysis) to all participants who were then put in project teams (each team had industry, association and government representation) with each team developing intelligence on the Japanese imported beef market. The final intelligence product (the combination of each of the team's intelligence reports) was then shared with all participants.

- c) *Company projects:* Company projects are similar to the introduction to CI/Skills development training but also involve participants developing and running an intelligence application on behalf of their organization as part of the training. These programs start with one to two days training and then participants go back to their organization, develop an intelligence plan (which is discussed with the program trainer) and then have weekly mentoring sessions with the trainer as they work on their intelligence project. At the end of the program (normally one month) all participants gather again with the trainer to discuss their experiences. For some of these project sessions, participants have both the trainer and a government officer helping them on the project. An example of this type of program is the Atlantic Canada Opportunities Agency (ACOA) sponsored program that was focused sectorally on technology companies on the East Coast of Canada. ACOA and the trainer provide the training and project support to companies in Halifax (Nova Scotia), St. John's (Newfoundland) and Fredericton (New Brunswick).
- d) *Trade-show intelligence:* A cooperative trade show intelligence approach was developed which combined small and medium sized companies, appropriate associations, federal and/or provincial government officers in a training program focused on a specific trade show. All participants were given trade show intelligence training. The training involved two days of training both on

competitive intelligence and trade show intelligence. For the training, specific materials from the trade show they were attending were included in the training material. For example, in training for the bio-technology trade show, participants were given a list of exhibitors that were going to the show, a list of all seminars, workshops, presentations and also social events. As part of the training program, participants were asked to develop trade show intelligence plans for the trade show that all program participants were going to (for example Foodex in Japan, Fancy Food Show in San Francisco, Bio in Washington) and to send the plan to the program trainer. The trainer then provided feedback and additional guidance to participants. Government and association participants helped the companies execute their projects as well as running their own applications and the consultant/trainer also assisted. The approach was run at several trade shows and helped companies identify opportunities, assess markets, helped associations identify better ways to serve their members and government officers identify better programs and policies. One of the trade show programs from a technology trade show was written up in Calof and Fox, 2003 and provides details on the organization of the program. Several provincial and federal departments and agencies have sponsored trade show intelligence programs across a broad number of sectors. These include Nova Scotia Business Inc., Agriculture Canada, Alberta Economic Development, Western Economic Diversification and Alberta Agriculture. Trade show intelligence is an example of a program that can be regionally and sectorally focused. It is sectorally on the specific event and regionally in terms the regional authority sponsoring the training.

3.3 Programs sponsored by the government to help communities develop competitive intelligence for local economic development

This was a program developed to help small communities harness the knowledge within communities to develop their own economic development plan using intelligence. In the program, community leaders, local business owners, government officials and others were brought together in a facilitated program, taught about competitive intelligence and were then put in groups to develop the intelligence needed to support their region's competitive advantage. All of this was then used to develop a regional economic development plan designed by the program participants and then presented to the community at large. The program involved multiple training sessions and intelligence projects and was done over an extended period (nine months). The program was designed to help small communities develop a long term economic development plan based on identifying their competitive advantage(s) and the intelligence required to exploit it. Local community media have written extensively about the success of the program in their region (see Dalman 2005 for an example of the program in Humboldt, Saskatchewan). A more detailed description of the program can be found in Calof et al. (2010).

4. COMPETITIVE INTELLIGENCE PROGRAM IMPACT ON REGIONAL AND SECTORAL ECONOMIC DEVELOPMENT

Section 3 provided a method to categorize government competitive intelligence programs. Given that the programs mentioned above are designed to lead to regional or sectoral economic development, this section looks at documents generated by the program that would indicate that they had some sort of economic impact.

4.1 Community economic development programs

One of the community economic development programs (in Humboldt, Saskatchewan) was subjected to a full program review within a year of the program delivery. The purpose of the program was to transfer both skills that could be used to develop an economic development plan for the community that would lead to economic development and also

intelligence skills that could be used to help program participants in their organizations. The program review, done by Impact Research Consulting Ltd (Kehring 2006) asked several questions about knowledge gained and economic development. Amongst the question asked:

“Do you think that the process of creating the Action Humboldt Economic Development Plan has produced positive gains in community capacity building knowledge and skills (including facilitation, competitive business intelligence, and networking)?”

A total of 95.2% of program participants responded yes to the program reviewer.

“Do you think the creation of the Action Humboldt Economic Development Plan has contributed in positive, tangible ways to the economic development of the region?”

A total of 90% of program participants responded yes to this question.

“Were you able to increase your business or professional opportunities as a direct result of your involvement with the Action Humboldt Economic Development Plan?”

A total of 60% of program participants responded yes to this question

Participants were asked to list specific benefits attributable to the program. Those identified by participants included: New residents moving to the region, new businesses starting up, increased employment opportunities, employee retention and the development of regional partnerships.

The program review concluded with the following statement “The potential for economic development has been enhanced in the Humboldt region due to the creation and the implementation of the Economic Development Plan. There have been direct and significant results in the region due to the initiative.” (Kehring 2006, p. 23)

Collectively, the answers to the evaluation questions coupled with the evaluators overall conclusions and analysis provide support for positive regional economic benefits arising from the Humboldt community intelligence program that was sponsored by the government. Unfortunately, this was the only community economic development program

that was evaluated. There were other community economic development programs but no evaluations were done, therefore this section can only conclude that for the one program reviewed, a positive economic impact was found at the regional (local) level.

4.2 Sponsored programs for industry

Despite the large number of sponsored programs for industry in Canada there has not been a formal program review according to the organizations contacted for this article. Accordingly, the link between these sponsored programs and regional and sectoral economic development is based more on the post-training reports provided by the sponsoring organizations and the anecdotal evidence in these reports in the form of participant comments gathered as part of the program assessment.

One report written up in Alberta and published in Alberta Treasury Board and Finance documents (2006) assessed the project intelligence program success using their organization’s metrics for the program. The article noted that 88% of the companies that attended the competitive intelligence course did undertake an intelligence project (a measure of success for this government agency). Comments in the report included:

“One company noted that the process was valuable.... A second company confirmed that they had sought out additional information leading up to a conference and it had prepared them to more effectively discuss their needs with others that could provide them with information. A third noted that they had completed a process that led them to refocus their marketing efforts in a slightly different direction.

“All indicated that they found the process valuable. One company indicated that they would like three additional members of the team to take the training with another company saying ‘I was able to gain considerable information/intelligence...as a result of the training’ ... Finally, one company reported that the training session ‘led to discussion across divisions on how [company name] could advance its CI infrastructure.’” (p. 86)

In the case of one of the joint programs (in which government, industry and associations worked jointly on a specific intelligence

application) a post program review had industry participants estimate the value to them (industry) as being in the six figure range. Once again this provides support for economic value at both a regional (provincial) and sectoral level.

In terms of anecdotal evidence from officer reports on the program and participant evaluations, here are a few examples mainly from the trade show intelligence programs. They are from a review of an intelligence program event given on the East Coast of Canada. For the Houston Offshore Trade Show the following comments were included in the officers' report "The training, mentoring and support at the trade show enabled me to do three months of work in four days in Houston". The same review also looked at participant comments from another East Coast program focused on the plastics industry for the National Plastics Exhibition trade show (NPE). The following quotes were in the report "I was able to use CI techniques to optimize my info gathering exercise. A 'focused approach' was, I believe, the key to a productive two days... The show was huge and would have been overwhelming if not for the CI preparations."

A report on a trade show intelligence program that focused on SIAL (a food show in Paris) included the following quotes from program participants:

"I really enjoyed it. The process made me think carefully about what I was trying to find and what decisions needed to be made."

"It was valuable as a planning tool because nobody realized how big the Paris SIAL was."

"This is something that can be a value to nearly everybody. It should be required of those that go to large trade shows. It is applicable to both governments and the private sector....The training allowed me to do much more at Paris Sial (food trade show) than I could have done under normal circumstances. The process yielded more and *better* information."

Finally, a report out of Alberta after a trade show intelligence program for BIO (biotechnology trade show) included the following comments from the association that had jointly sponsored the training with the government "We all benefited from this process a lot...We will do this again." "The process assisted our

companies and the association itself in acquiring more reliable information in less time. It is something that we will use again and recommend to our members."

As a final measure of program impact, some of the government officers that were in charge of the programs (public servants) noted that the program had been the recipient of various recognition awards. These awards include department based awards (referred to as Minister's Awards) as well as provincial awards (referred to as Premier's Awards).

Readers are cautioned that while the results indicate positive economic impacts of these economic or sectoral intelligence programs, with the exception of the program review on the community economic development program and the valuation exercise for the joint intelligence exercise, all other results are either from officer reports or are anecdotal. There is no way to tell whether the comments in the reports and articles about the project intelligence and trade show intelligence are reflective of the majority of program participants and not just biased towards those that were most satisfied. Nevertheless, the following can be concluded:

1. For the small community economic development program, a positive regional economic development impact was shown through the program evaluation results provided in this article.
2. For the joint intelligence project in Alberta (beef industry) a positive economic impact both sectorally (beef) and regionally (Alberta) was indicated according to the reviewers' estimation of the value of the intelligence produced. For #1 and #2 these are a matter of public record from government conducted program reviews.
3. For all other sectoral and regional programs presented in this article that had anecdotal comments (and there were many) they (those that provided the anecdotal examples) indicated that they had received some sort of economic benefit.

5. CONCLUSIONS AND AREAS FOR FUTURE RESEARCH

This article has sought to classify government competitive intelligence programs and

initiatives used in Canada and also examine the impact of these programs on economic development. Three broad categories were identified along with several subcategories in each:

1. Government programs aimed at enhancing their own ability to develop competitive intelligence
2. Programs that are sponsored by the government for industry and others to develop competitive intelligence and
3. Programs sponsored by the government to help communities develop competitive intelligence for local economic development.

This article has sought to provide examples of intelligence programs and initiatives under each one of these categories. It is hoped that future research will look at other intelligence related regional and sectoral economic development programs to help develop a more comprehensive list and description of the kind of intelligence programs that have been used around the world to assist in sectoral and regional economic development. It is hoped that in the future, the categorization method described in this article will be improved by others applying it to programs in their countries. As well it is hoped that this kind of research will result in the development of a comprehensive list of the kinds of competitive intelligence initiatives that have been used around the world. This article only reports on Canadian initiatives.

Finally, this article has attempted to link these programs to regional and/or sectoral economic development. Economic impact was examined using program review documents but only in the case of one community economic development program. Other initiative had to be reviewed using government officer reports and anecdotal evidence from participant satisfaction surveys. However, while the evidence does support a positive impact a more comprehensive approach to reviewing these impacts should be considered in the future. Which intelligence programs and initiatives provide the best sectoral and regional economic development impact cannot be answered based on the way these programs were reviewed and this should be addressed in future studies.

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