Data Governance in Small Businesses – Why Small Business Framework should be Different

Chioma Nwabude, Carolyn Begg, and Graeme McRobbie
University of the West of Scotland

Abstract. The need for data governance has been addressed by previous researches and different data governance frameworks have been proposed to aid the implementation of data governance in businesses. However, the focus has always been large businesses and their needs. It is proposed that data governance frameworks be designed solely for small businesses instead of getting them to try and implement those designed for large businesses. The arguments why frameworks for large businesses might not be suitable for small businesses are presented based on the key differences between them and a review of existing frameworks. It is concluded that small businesses need frameworks that are designed specifically for them.

Keywords: Data Governance, Small Business, Small Business Data Governance

1. Introduction

Both large and small businesses need to make decisions about almost everything that relates to their business. These decisions are mostly based on the data available to them at a particular time. In the last few years, there has been an exponential increase in the amount of data businesses store and use as they become increasingly affordable. New technologies are collecting more data than before [1] and along with this increase come the associated risks, privacy and security issues as well as mismanagement and use of data. Data enters the business through various sources, some which are unverified, redundant, incomplete or dangerously out of date [2]. How can more information be retrieved out of these available data? How can a business make better use of its data? How can businesses trust the data they have? One of the answers lies in formal data governance.

There is a growing need for a formal data governance in businesses [3, 4] and recent report suggests that almost all but the smallest organizations recognize the need for Data Governance[5]. Not only can lack of governance impact the individuals directly associated with the business, it can destroy the business entity and wreak havoc on suppliers, customers, partners, competitors, and the community in which the business is based. With such widespread potential impact, few would argue that businesses have a responsibility to plan for and protect against crises wherever possible. Frameworks to implement data governance have been proposed and used in large businesses with reported success [6]. These frameworks are targeted at large businesses.

But the use of formal data governance by businesses is not necessarily a prerogative of large companies. Business drivers in small businesses are similar to those of large businesses[7]. They still need to make day to day business decisions using data available to them. Thus, data governance is as important to small businesses as their larger counterparts. It can assist small businesses ensure security, privacy, quality, usability, credibility and quality of their data as well as get the best use out of them.

This paper will highlight some of the characteristics of small businesses and discuss why these characteristics will make it difficult for them to implement data governance using existing frameworks.

* E-mail: chioma.iloghalu@uws.ac.uk
2. Small Businesses and their Characteristics

There are several definitions of a small business. It could depend on the country, number of employees, turnover and the sector of the business. According to the European Union Commission [8], a small business is a business with less than 50 employees with an annual turnover of less than €10 million or an annual balance sheet of less than €10 million[8]. The United States Small Business Administration (SBA) defines a small business as one that is independently owned and operated, is organized for profit, and is not dominant in its field. It goes on to define small businesses according to their sectors, number of employees and annual receipts[9]. Small business has also been defined as a business that is not big in scale, not part of a larger company, not listed on any stock market, and is owned and managed by its founders or their progeny[10].

Some researchers have challenged these definitions. Curran and Blackburn [11], argue that small businesses are numerous and varied in the way they do business. Also, what is small in one sector might be considered large in another sector and finally the measure that defines ‘small’ they argued.

The importance of small businesses cannot be overestimated. They make up the vast majority of businesses in most countries. In Europe, 98.7% of businesses are small businesses and they account for 49.2% of employments [12].

Although, no definition has been generally accepted, but the fact that small businesses differs greatly from large business is not disputed. The risk of failure is what fundamentally distinguishes a large business from small businesses [13]. Small businesses are more likely to fail than large businesses, so they are more focused on survival and a quick way to grow to avoid failure[13].

Unlike large businesses, many small businesses lack the resources, time, technology or expertise to research and develop new business initiatives and innovations[14]. They also have a totally different management structure than those found in large businesses and are usually owned and managed by the same individuals[13, 15] who spend most of their time in the business [15-17] while in large businesses, owners are generally private shareholders or financial institutions with management being handled by professionals[13].

Also, the internal organization of a small business differs from that of a large business in that owners can take decisions and ensures that they are implemented[13]. In making these decisions, personal abilities and motivations of the owners has an impact[18].

Large businesses can afford to invest heavily unlike small businesses that spend relatively less especially on things that cannot be easily converted to alternative uses in the event of change in demand[13, 14]. They have access to funds while small businesses struggle to obtain adequate and appropriate finance[14].

Thus, there exist some differences between large business and small businesses although not all have been discussed in this paper.

3. Data Governance

In the last few years, there has been an exponential increase in the amount of data businesses store and use as they become increasingly affordable. New technologies are collecting more data than before [1] and data analytics is helping companies get values out of their data. Along with this increase come the associated risks, privacy and security issues as well as mismanagement and use of data. Data enters the business through various sources, some which are unverified, redundant, incomplete or dangerously out of date [2]. Against this background, it becomes imperative that businesses need to govern their data and this can be achieved with formal data governance.

The main goals of data governance is to ensure data meets the needs of the business [6, 19], manage and resolve data related issues[19-21] lower the cost of managing data [6, 22], and develop data as a valued enterprise asset [23]. But data governance is just not all about data according to Griffin [24]. Its more about changing the way companies view their data and shifting the thoughts of data as a commodity to data as a company’s most valuable asset[24]. Data governance has also been described as who is in charge of and also accountable for an organizations’ data [21, 25, 26] and the procedures, policies and standards required to manage data[22, 27]. It consists of the people, processes and technology required for an entity to use and
manage data properly[28]. Begg and Caira[4] attributed this diverse definition to the fact that data governance is currently an industry led discipline and vendors tend to define it to promote their products and services.

Data governance has previously been merged with IT governance[27] but both academic researchers and practitioners are now viewing it as two separate needs. According to Khatri and Brown [19], data governance decisions should go hand in hand with IT governance decisions and in deciding who should be responsible for data governance, Cheong and Chang [3] concludes that it is the business’s responsibility rather than IT responsibility.

Data governance is not a one off thing as recognized by many researchers [2, 6, 20, 21, 23-25, 27]. It should be an evolutionary process which can be started with small and achievable steps which can be measured along the way.

Not only can lack of governance impact the individuals directly associated with the business, it can destroy the business entity and wreak havoc on suppliers, customers, partners, competitors, and the community in which the business is based. With such widespread potential impact, few would argue that businesses have a responsibility to plan for and protect against crises wherever possible.

3.1. Data Governance Framework for Small Businesses

Studies have revealed that before data governance can be in place, an organisation needs to determine a data governance structure[3, 26]. This according to Cheong and Chang [3] will be the basis for a transparent decision making process for accountability as lack of clear roles will affect the management of data quality. In order to organize how we think and communicate about ambiguous or complicated concepts, a framework is needed [19].

Data governance will be implemented differently in many businesses and this has been attributed to differing business objectives [2]. Some business might focus their data governance efforts on the areas previously identified while some will implement something that is more lightweight and tactical [2]. Regardless of the focus and aim, every business needs a framework to help the, implement data governance.

A data governance framework for small businesses should:

Be Easy to Implement: Complexity has been defined as the degree of difficulty associated with the understanding and learning to use an innovation [29] and previous researchers have found complexity to be consistently related to adoption and that it increases the risk in adoption decision [29-31]. Ordanini [32], noted that the perceived ease of use and implementation matters greatly in the decision to adopt a solution for small businesses as technology solutions decisions are usually handled by the owner, meaning that personal traits are significant in the decision to adopt. If the owner perceives the benefits to outweigh the risks, then the business is more likely to adopt a solution [33]. So, if a framework is perceived to be difficult and complex to implement, they are more likely to be rejected by small businesses. Therefore, a data governance framework for small businesses should be simple and easy to implement and should not be complex. The level of effort required to implement it should be minimal.

Be Low Cost: Cost includes the cost of implementation, cost of maintenance and cost of training. The less expensive an innovation is, the more likely it will be quickly implemented and adopted [30, 31]. And costs have also been noted as a major factor in adopting new solutions [13, 29-31]. Also, the resource advantage of large businesses is most evident in terms of finance as small businesses are reliant on internal sources of funding such as owners savings while large businesses have a large pool of available source of internal and external funding [13]. Therefore, a data governance framework for small businesses should be such that little resources are needed for its implementation.

Consider the Management and Internal Structure of Small Businesses: Small businesses have a totally different management structure from large businesses. There is usually no board of directors or shareholders [13]. Most decisions are made and implemented by owners as opposed to large businesses where there are top managers and middle managers who can make decisions [13]. Hence, decisions are implemented quickly in small businesses [34]. Therefore, the management style and structure of small businesses should be considered in designing a data governance framework for them. The framework should
take into account the fact that there is no board of directors or many executives. The management structure is limited. Also Decisions can be made and communicated quicker without the need for board meetings, committees and several other roles which can be found in current frameworks.

**Have Fewer Roles:** As can be seen earlier in the definitions, small businesses have fewer employees than large businesses. In large businesses, there are ‘internal’ uncertainties which is characterized by key issues such as the need to make sure that the decisions made at the top of the organization are communicated effectively across the whole organization which is not a problem for small businesses as the owners/managers are closer to their employees and therefore best placed to deliver information personally and consistently[35]. As mentioned earlier, decision making is faster and can be communicated almost immediately without needs for many roles. Feedbacks are received immediately, progress can be closely monitored and the likelihood of success can be accessed [13, 35]. Therefore, data governance frameworks for small businesses should have few roles.

**Require No IT Staff/Expertise:** It has long been identified that most small businesses have limited IT knowledge and technical skills [34] and recent research shows that this is still the case [36, 37]. In a study conducted by Begg and Caira [4] where small businesses were asked to explain the terms used in the framework by Khatri and Brown [21], none of those interviewed knew what Meta data is an just one understood the concept of data cycle. A data governance framework for small businesses should not include roles or processes that involve an IT staff for its implementation and technical IT language should be avoided. The framework must be simple enough to be understood by a non IT staff.

Small businesses are significantly different from large businesses and the concept of data governance in small business needs to be reviewed. A data governance framework for small businesses should focus on them and their needs instead of a version of their activities derived from those of large companies. They peculiarity of small businesses needs to be considered when designing a data governance framework for them.

### 3.2. A Review of Existing Frameworks

This review outlines findings from 20 studies that proposed and designed data governance frameworks. One of finding was that there is no data governance designed specifically for small businesses. The review was conducted to provide a comprehensive overview of evidence on current data governance frameworks inability to meet the needs of small businesses.

#### 3.2.1. Methodology

The review aimed to examine all available current frameworks on data governance using these characteristics to determine if they can be implemented in small businesses. It employed systematic review methodology and examined studies from 1990 to January, 2014. The review focused on academic research but did not put limits on practitioners work. Some studies reviewed were only frameworks without implementation guidelines, but this was taken into consideration based on their flexibility and simplicity. Electronic databases from the fields computing, information technology as well as business were used in the search. Also Google Scholar was used in the search. Citation chasing was also carried out. A comprehensive search strategy was developed, tested and used for the search.

A total of 2,678 citations were identified following initial searching, and after screening and quality appraisal 20 studies were included. Data were extracted from each of these to inform a narrative synthesis organised around five main headings: Ease of implementation which focuses on complexity, Cost of implementation, Target users, Management structure, Details and documentations provided, and IT requirements.

#### 3.2.2. Results

Almost all the frameworks reviewed were complex. The frameworks which were easy to understand included processes and tasks that are redundant to small businesses. It could be argued that a small business can ignore irrelevant details but those details come across as the backbone of the framework which without them not much progress can be made.
All the frameworks would be an expensive project for small businesses. Some would require them hiring more staff just to tackle ongoing data governance requirements. All the frameworks were designed to meet the needs of large businesses. Although, some of the authors suggest that their framework can be scaled down to suit various business, this would however be almost impossible given that main part of the frameworks are designed around large businesses and their needs.

All the frameworks reviewed presented a large business management and internal structure. Numerous roles were identified. Also, various bodies, stakeholders, committees as well as departmental units needed for effective data governance were identified and discussed in all the frameworks. There are functions and responsibilities spanning across many business units and accountabilities span across these business units.

Majority of the framework is designed as a way for IT departments to interact with other departments to better govern their data. There is a general assumption that every business wanting to implement data governance has an IT department with IT governance in place. Most of the framework advocates IT governance going hand in hand with data governance suggesting that IT governance is a must before a business can implement data governance. All the frameworks reviewed contained technical languages and some of the identified roles in the frameworks requires IT knowledge and expertise.

The review had a number of strengths and limitations. Strengths include the diversity of the frameworks reviewed, the diversity of the researchers and owners, the different types of frameworks and the consistency of the findings across studies. The main limitation was that because data governance is yet to be researched thoroughly within the academic community, only few of the frameworks reviewed were from academics. Individual studies in the review were also limited by elements of study design. For example, some of the frameworks were designed for hospitals and government. In addition a number of types of literature were not covered by the review including data quality frameworks and information governance frameworks.

Despite these limitations there was consistency in study findings regarding implementation in small businesses. This consistency of evidence can provide confidence about the observed disregard of the peculiarities of small businesses. If and when designed, existing evidence suggests that data governance would be of benefit to small businesses as large businesses has benefitted from it.

3.3. Implementing Existing Frameworks in Small Businesses

Given the diverse and complex nature of the existing frameworks and the characteristics of small businesses described above, we examined existing frameworks as a potential framework for addressing the data governance needs of small businesses. All the frameworks with their suites of components were considered unsuitable for small businesses in two important ways. First, they are all targeted toward large businesses which have a large number of staff. We recognized that though important for successful implementation, small business cannot afford to employ more staff for the purposes of data governance and most of the roles identified are not needed by small businesses. Also, in small businesses, access to funds is limited and they might not be able to employ experts needed to interpret the requirements. Second, whereas existing frameworks can meet the needs of a large business, they do not provide a comprehensive framework within which a small business can implement data governance in a coordinated way that can be communicated to all actors so that they can see where they fit into the framework.

Some of the existing frameworks provide a diverse normative guidance as to what should occur for there to be good data governance, but still does not provide the governance framework that we perceive as being required to address the data governance needs of small businesses. We argue that the characteristics of small businesses should be considered and incorporated in a framework to make it suitable for small businesses. Components should be simplified and independent with options to go from basics to complex rather than being dependent on another process or existing technology. This is what the proposed framework attempts to provide as it simplifies existing frameworks to make it easy for small businesses to embrace data governance.

4. Conclusion

Two key findings arise from this brief review of literature, each of which is of particular note for those working in data governance fields. First, small businesses differ greatly from large businesses especially in access to funds and employee size as well as management structure. In this respect, existing frameworks
whose success and benefits lay in a many roles and communications between different boards, groups and committees are not suitable for small businesses. This raises the important issue of small businesses implementing data governance using frameworks designed for large businesses. If a framework identifies the need for many roles, and communications across diverse groups which are not the makeup of small businesses, then implementation within small businesses will be very low and the competitive advantage and benefits of data governance implementation will be zero. If a small business attempts to implement data governance using available frameworks, then it faces the challenge of bringing in an expert and taking in more employees to fill the roles and required tasks. A small business wanting to implement data governance will demand less organizational and technical complexity from its data governance efforts unlike large businesses which requires a higher level of coordination and formal processes. The second issue raised concerns the existence of frameworks that might be adapted by small businesses to suit their needs. In this case, no evidence of implementation within a small business has been presented. Many researchers have concluded that factors which have been known to affect previous innovation adoptions also had an influence on the adoption of a new innovation. Not surprising then has it been identified that IT governance frameworks for large businesses cannot be implemented by small businesses. Given that, data governance frameworks for large businesses cannot be implemented by small businesses. The need for a data governance framework for small businesses seems obvious, and this research represents an attempt to create an explicit conceptual framework for small businesses to implement formal data governance.

5. Reference


