

The Effect of Institutional Changes on Statisticians' Excellence at a Government Organization in Abu Dhabi

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Abstract

Statistics Center Abu Dhabi (SCAD) produces official statistics for Abu Dhabi Emirate, the capital of the federation of seven emirates forming the United Arab Emirates. SCAD has undergone some recent structural changes, which have led to the empowerment of statisticians and increased efficiency throughout the organisation. Prior to this structural change, statisticians were responsible for all stages of the GSBPM process, from specifying needs, designing, building, collecting, processing, analysing, disseminating to archiving. In addition, one statistician would be both the project manager and technical specialist in charge of the entire process. Since introducing these structural changes, which involve the methodology team, data sector, and field team among other teams playing larger roles within the projects, the statistician can focus more on processing, analysing and disseminating the indicators. There is additional time spent on improving and developing statistical products and innovation. There has been more widespread use of automation. A descriptive analysis of the effects of these changes on excellence within the organisation was conducted, particularly that of statisticians. A survey of statisticians as well as supporting roles to statisticians was conducted, including methodologists, data specialists, and field specialists in order to gauge the effectiveness of these structural changes to excellence. We primarily observed aspects such as statistical output quality, innovation, teamwork and collaboration, communication, specialisation and adaptability to change as measures of excellence.

Keywords

Abu Dhabi, adaptability, collaboration, communication, specialisation, innovation, UAE.

1. Introduction

Statistics Centre Abu Dhabi (SCAD), the main source of official statistics for Abu Dhabi Emirate, has undergone significant structural changes recently. Previously, SCAD's organizational structure was split into four main sectors: statistics, data, corporate support and strategy and excellence. The new structure is split into five sectors: statistics, data, foresights and communications, corporate support and strategy and planning. The methodology section shifted from the data sector to the statistics sector, while dissemination became a part of the foresights and communications sector, which also includes external dissemination. Furthermore, the data sector developed to include not only field surveys but also data analysis and engineering, data architecture and governance, and data strategy and intelligence. The new strategy and planning sector includes stakeholder management and portfolio planning; statistical output quality; corporate strategy and excellence and project management. The corporate support sector comprises human resources; information technology and the support services departments.

Instead of each statistician collecting the data individually and storing it in a shared folder accessible by only a few people as before, the data sector handles all requests for external data, making sure to catalogue and store the data. This not only greatly reduces the burden on the statistician but also eliminates repeated data requests from the same entity by different teams within SCAD, particularly for administrative data. Access to data is strictly controlled as before, with the main difference being that data is now centralized instead of collected in silos.

The data sector also encompasses the field team, which is responsible for collecting survey data such as the Quarterly Economic Survey, the Household Income and Expenditure Survey (HIES) and the

annual Foreign Investment Survey among others. The data team is entirely responsible for the collection of external data, with the statisticians responsible for training the enumerators whenever applicable. This contrasts with the previous structure where statisticians would collect the entirety of the administrative data themselves in addition to some survey data; due to frequent low response, the collection period would often extend into the processing period, shortening the time available for processing and analysis. After the changes, the data is now received in a timely manner, particularly the survey data, which ensures the timely production of high-quality statistical outputs.

2. Methodology

A small survey was conducted with a sample size of 53 technical specialists, with 31 being statisticians and the remainder split between methodologists, field specialists, advisors, experts and other supporting roles to statisticians. For the purpose of clarity, this paper will discuss statisticians vs overall employees within SCAD including statisticians. The survey was split into the following categories: statistical output quality, innovation, specialisation, adaptability to change, teamwork and collaboration as well as communication. A series of statements were presented and respondents were asked to select their degree of agreement, from “strongly agree” to “strongly disagree.”

As SCAD has gone through a structural change, there has been a significant increase in the workforce, particularly amongst the youth. Among overall respondents, 47% were below the age of 35 compared to 39% of statisticians. In addition, 26% of statisticians and 30% of overall respondents had less than six years of experience in their role, while 61% of statisticians had 10 or more years of experience in their role, compared to 53% overall.

2. Statistical Output Quality

Among statisticians, 97% agreed or strongly agreed with the statement that they trust the quality of statistical outputs to improve as a result of organisational changes within SCAD. The rate was similar for overall employees at 96%.

Additionally, 90% of statisticians and 88% of overall employees agreed or strongly agreed with the statement that after the structural changes, they have open and transparent discussions with other teams within SCAD about statistical quality issues, with 93% and 92% agreeing or strongly agreeing that they trust that the quality of data received from other teams within SCAD will improve over time.

3. Innovation

Rogers (1998) defined innovation as the application of new ideas to products and firm processes or activities; it is the process of extracting value from ideas. One of the types of innovation as defined by Schumpeter is the “introduction of a new product or a qualitative change in an existing product” (OECD, 1997); this is one of the primary aspects of innovation which we will observe in this study. Gianitsis and Kager (2009) added that it is insufficient to observe innovation without considering how this new knowledge and technical change are integrated into production of outputs and observing the results. Odumeru (2013) advised that it is imperative for organisations to innovate to achieve their organisational goals; he also stressed that innovation strongly influences productivity. It is imperative that both the public and private sectors improve their performance. Innovation is one of the primary factors for organisational success and improved organizational performance (Alosani et. Al, 2020). With regards to the study, over 70% of both statisticians and overall employees agreed or strongly agreed with the statement that they were innovating more than ever before, with more than 86% of both agreeing or strongly agreeing that they were finding new and more efficient ways of achieving their objectives.

Over 86% of both statisticians and overall respondents agreed or strongly agreed with the statement that they were making suggestions for improvements in their projects as well as overall

within the organisation. Additionally, 80% of both statisticians and overall employees agreed or strongly agreed with the statement that their innovative solutions are improving the accuracy of official statistics for decision-makers.

Roughly 80% of both statisticians and overall employees agreed or strongly agreed with the statement that their team is starting to use new data sources for additional insights, such as web scraping, scanner data, other big data etc.

Over 70% of both statisticians and overall employees agreed or strongly agreed with the statements that they are now learning to use new technologies and systems (eg. machine learning, data science, big data analytics), and that they have begun automating their project. In addition, 67% of both statisticians and overall employees agree or strongly agree that automation has made their processing and/or analysis easier, with the remainder largely being neutral at approximately 30%. The large percentages of neutral answers in some of these questions could be attributed to the significant number of new recruits, particularly in the statistics sector; 16% of statisticians had less than 3 years of experience overall with many of them fresh graduates, compared to 23% of the overall respondents, with 26% of statisticians and 36% of the overall respondents having less than 3 years of experience at SCAD.

4. Specialisation

Prior to the structural changes mentioned, statisticians were simultaneously the project manager and the technical specialist in charge of the entire project from all aspects of the Generic Statistical Business Process Model (GSBPM), from specifying needs, designing, building, collecting, processing, analysing, disseminating to archiving the indicators. After the structural change, many statisticians were able to primarily focus on processing, analysis and dissemination; each team is able to focus on their own work and developing their capabilities within a certain field. Sharing knowledge and resources can improve specialisation with a view to excellence, potentially preventing excessive specialisation and attempting to excel at everything (OECD, 2013).

More than 80% of both statisticians and overall employees agreed or strongly agreed that working with other teams within SCAD greatly improved their understanding of the project, they are more specialised within their own project, they have a deeper understanding of processing and analysis and that they are learning more from other teams within SCAD than before the structural change within the organisation.

5. Adaptability to change

This is a crucial component to the long-term health of any organisation. Among respondents, 87% of both statisticians and overall respondents agreed or strongly agreed with the statement that SCAD helped them adapt by providing enough information about the structural changes, though workshops, emails etc, with 77% both agreeing or strongly agreeing that the changes happened over a suitable amount of time.

Over 80% of both statisticians and overall respondents agreed or strongly agreed they were happy with the structural changes as it had improved their experience, with a similar percentage agreeing or highly agreeing that it was easy for them to adapt to the shift in company structure and their responsibilities. Over 90% of both statisticians and overall respondents agreed or strongly agreed with the statement that they were excited to learn how to use new technologies and systems.

6. Teamwork and collaboration

Teamwork increases efficiency within an organization by challenging different minds to find solutions for the same problem. A collaborative effort from a strong team can produce much greater results than can be accomplished alone. Mutual support within teams is rewarded with a collective

sense of accomplishment (Apoorva, 2019). A cohesive team unit is essential to accomplishing challenging objectives and pushing the team forward together to achieve better outputs for the organization (Abbas & Abuzid, 2017). Collaboration is important not just within one's own team, but across the organization as a whole, which is one collective team comprised of smaller teams. The greater good of the organization should always be kept at the forefront.

Among statisticians and overall respondents, over 83% of both agreed or highly agreed that they were working with teams they had never worked with before.

Regarding the statement that they had a deeper understanding of the different stages of the project after collaborating with the specialist teams, 74% of statisticians agreed or strongly agreed with 23% remaining neutral. Among overall respondents, 81% agreed or strongly agreed with the statement with 17% remaining neutral.

Over 62% of both statisticians and overall respondents agreed or highly agreed that they spent less time collecting survey data, with approximately 30% remaining neutral.

7. Communication

Effective communication in the workplace is the most critical contributing factor to the success or failure of an organization (Kegeyan, 2016). One of the biggest impediments to organizational effectiveness is the absence of effective communication. Every function within the organization involves some form of communication; it is critical to establish quality working relationships within organisations (Lutgen-Sandvik, 2010; Adu-Oppong & Agyin-Birikorang, 2009). SCAD recently moved to a new office with an open-floor layout; in the previous site, offices were in silos with little opportunity to see new faces outside of one's department and to have face-to-face communication with other teams within SCAD. Open-floor layouts have been shown to minimise costs and increase flexibility, collaboration and teamwork within the organisation (United Nations, 2021).

Among statisticians and overall respondents, 81% of both agreed or highly agreed with the statement that their communication within other teams at SCAD has increased. Among statisticians, 74% agreed or highly agreed with the statement that their publication skills have improved (either through powerpoint, PDF or excel) compared to 75% of overall respondents with approximately 20% remaining neutral. This is likely in part due to there being few publications outside of the statistics sector.

Regarding communication skills themselves, over 81% of both statisticians and overall respondents agree or highly agree that their communication skills have improved and that their communication with other teams within SCAD has increased. Additionally, 81% of both statisticians and overall respondents agree or highly agree with the statement that they now receive more constructive feedback from team members and managers.

8. Conclusion

The structural changes within SCAD have enhanced many aspects of working life, particularly enhancing statistical output quality, communication, innovation, teamwork and collaboration, specialisation and adaptability to change. Sentiment was largely similar between statisticians and the overall respondents, with mostly positive feelings regarding the impact of the structural change on these variables.

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