

Investigating the Role of Business Intelligence in Small and Medium Enterprises (SMEs) in Oman

Kiran Kumar¹, Abullah Khalid Said Al Hosni¹, Suad Al Qassabi¹ and Vikas Rao Naidu^{1#}

¹Middle East College, Muscat, Oman

#Advisor

ABSTRACT

Small and Medium Enterprises (SMEs) are one of the most important economic departments in Oman. Although they help the government to face current problems of employment by offering more jobs for Jobseekers. They collaborate a lot in economic growth. Business intelligence (BI) is a technology-driven approach that provides valuable insights into business operations, enabling SMEs to make informed decisions and improve their competitiveness in the market.

This research aims to investigate the role of business intelligence in SMEs in Oman and its impact on their performance by using a comprehensive literature review and a case study analysis of SMEs in Oman that have implemented BI solutions. The literature review will examine the existing literature on the use of business intelligence in SMEs, including the benefits, challenges, and limitations of this approach. The case study analysis will involve the examination of SMEs in Oman that have implemented BI solutions to identify best practices and challenges faced during implementation.

The findings of this research will contribute to a better understanding of the role of business intelligence in SMEs in Oman and provide insights into the potential benefits and challenges of its implementation. The results of this research will provide benefits in interest to policymakers, industry leaders, and researchers who are interested in the application of technology in SMEs to support the development goals of the country.

Introduction

Small and medium enterprises (SMEs) are one of the most important economic departments in the world. It is defined as businesses that contain a number of employees below a certain threshold. These businesses are working to have revenue and get assets. SMEs have different constitute definitions from one country to another, each country can define small and medium enterprises by their own definition role. The SMEs are set through the different guidelines across industries by the government of different countries and Certain size criteria must be met. All countries governments try frequently to provide more benefits such as lower tax rates and better access to loans for their small and medium enterprises. The main reason for that is that they play an important role in Economic Growth by creating wealth and increasing the GDP of a country, SMEs also help significantly in Employment Generation and lower the unemployment rates by providing opportunities to people who may not have formal education or training. In Oman, Small and medium enterprises SMEs will play a significant role in the next country Vision of 2040, the number of SMEs in Oman has seen an increase by 46.8 percent to reach 81,460 at the end of July 2022 compared to 55,491 during the same period in 2021 according to National Centre for Statistics and Information NCSI (ONA, 2022). This is because of the government's good support for SME company owners. Every technology used to collect, analyze, and transform data into actionable insights that can support business decision-making is called Business Intelligence (BI). This technology uses various internal and external sources to provide the best decision-makers (Marilex Re Llave, 2021). Also, it has the ability to use third-party data to execute the process. Business intelligence technology will be so useful for small and medium enterprises. It will offer many features such as helping organizations to identify trends and patterns, monitoring customer behavior, and tracking key performance indicators (KPIs). Therefore, all

new SMEs and the old ones started involving the most updated BI technology in their own business. This paper shall investigate the role that BI technologies plays while using it in SMEs in Oman, what is the cause of using such intelligence for small and medium enterprises and the how it will affect the accuracy of decision making.

Literature Review

Role of SMEs in Oman: Perspectives of Future Employment and Protection Policy Response

This research is founded to be discussing main roles of small and medium enterprises in Oman and what age of who create more jobs. As mentioning in the research, One of the main roles of SMEs in entrepreneurs the Sultanate it to offer More employment and jobs for citizens and Omanis, the current average number of employees in SME's For the year 2019 is 12.1 which is higher than the expected number of employee in the next 5 years ("Role of SMEs in Oman: Perspectives of future employment and protection policy response," n.d.).Also, The study discussed how young entrepreneurs effecting positively in raising the percentage of the job creation by SMEs in Oman. The main topics of the research was familiar to me, I couldn't manage to find some information I was looking for like How SMEs is effecting the wealth of people and what is the role of SMEs in inventing more creative idea and supporting creativity.

Business Intelligence: Concepts, Components, Techniques and Benefits

This paper is exploring several definitions for business intelligence BI, BI is the process of collecting huge amount of data from data sources and analysing it, Bi is helping entrepreneurs to have better decision making and more predictable analysis for their businesses (JAYANTHI RANJAN, 2009). I founded this paper to be discussing more then the definition of BI, the business intelligence BI is having several components such as Online analytical processing OLAP, Advanced Analytics, Data Warehouse and data marts, and Data Sources.All of this components is considered the functional role of BI. In the future, the capability of BI will increase as for the fast technology improvements everyday. Also, the BI will play an important role for every Business companies in the world. Business intelligence BI will offer lots of benefits for the business, It can eliminate a lot of the guesswork within an organization, enhancing the communication between different departments, and enabling companies to response fastely to any financial condition. There is no mention founded about the role of BI in the department of small and medium enterprises.

Business Intelligence Solutions for SME's

The Small and medium enterprises are mentioned to be more eligible for business condition changes than the larger companies in this paper. The paper is discussing some definitions of BI as literature revieing, the first mention of business intelligence was in the 1958 by Hans Peter Luhn in an article published in the IBM Journal compared to the 1999 definition of BI by the (Berson et.al, 2002; Curt Hall, 1999). The main objective of using BI is to provide fast and accurate information for decision making process. BI are technically including different etl-tools such as Online Analytical Processing OLAP, Data warehousing, Data mining, Implementation of reports, and ETL process extracting (Swadhin Mondal et al., 2021). For Small and medium enterprises, the adaptation of some ICT solutions and BI is a necessity that is recognised by all entrepreneurs considering some aspects, , human and financial resources; generally, potential budget in one hand, and on the other hand the existence of human resources. Usage of computer networks; sharing hardware and software in order for increasing resource efficiency, the build of private networks, and the use of Internet benefits. The results shows that the BI solutions of any company can be viewed on two levels, depending to the specific internal factor, the size, and the type of activity. On one hand, the orientation of SME's to use solutions developed internally. The other hand would be the use of specialised outsourced services. Also, the BI solutions can include open source and commercial categories. Open source BI solutions is referred to the use of open sources code

available for the public like LINUX and MySQL database, this solutions is helping to reduce to reduce the license costs for companies and having similar features compared to commercial solutions. The commercial solutions of BI like MICROSOFT, IBM, ORACLE, and SAP will offer easy data analysis, a faster dashboards, and the cloud features to get more access of data with reduced internal storage.

Entrepreneurship in Oman: Paving the Way for a Sustainable Future

(Mark P. McCoy & Hesham A. E. Magd, 2014) Mentions that the sultanate of Oman policy makers is turning their attention to the country's overreliance on Oil revenue and the lack of employment opportunities, while the increased consequences of people getting higher education level but cannot find wealthy jobs that absorbs their grades. The potential solution the government is working on is to promote entrepreneurs which helps directly to grow the private sector, this sector is playing important role in providing employment. SMEs is the private sector that is drive the force of innovation in an economy (Potter and Proto, 2007). Small & Medium Enterprises SME are contributing to the GDP of nation, the formation and growth of SMEs in an economy will have a positive impact on the GDP according to number of studies (Beck et al, 2005; Mocnik, 2010). Every SME has different performance from each other, the success and the failure of a small and medium enterprises is measured by the growth of organisation, the competitive, and the financial Profitability. Smolarski and Kut (2011) is using annual sales growth rate and annual turnover as proxies for SME performance. The SMEs main Potential challenges are increasing, one of the challenges for an SME is the financial access, securing the fund for starting a business is becoming harder than before, therefore investors and financial institutions have become more cautious when they want to make direct investments. Other challenges faced by SMEs is to build a reputation and firm, to bypass this problem newly established business try harder to develop their reputation among customers and build good care for their customers. The paper has discussed also another challenge facing SMEs, the Availability of Skilled Labour Force, securing the right people for the right positions is an important matter for any business.

Methods

My research is discussing the Role of business intelligence for a small and medium enterprise SME, for approaching this kind of research problem and gain more understanding a qualitative type of data needs to be collected. Rather than using quantitative data which was not reaching the aims of my paper, A bunch of qualitative data was collected from Secondary resources. This includes how SMEs is playing an important role for raising the economy and creating more employment opportunities in Oman ("Role of SMEs in Oman: Perspectives of future employment and protection policy response," n.d.). The different definitions and components type of Business intelligence (JAYANTHI RANJAN, 2009). Main tools of Business intelligence and what is the effect of using them for small and medium enterprises (Swadhin Mondal et al., 2021). What is the future of entrepreneurship in Oman (Mark P. McCoy & Hesham A. E. Magd, 2014). The data was understood and collected to match all objectives, then has been simplified in the research paper.



Figure 1. Some useful features of Business Intelligence in Insurance Domain

How Business Intelligence Is Game Changer in The Insurance, By Maheshwari, Beyond Key,

(<https://www.beyondkey.com/blog/how-business-intelligence-is-game-changer-in-the-insurance-sector/>).

As shown in figure 1, the business intelligence makes bunch of useful features which can help Omani entrepreneurs of SMEs companies to better understand their business, risks, and their own customers (Maheshwari, 2023). Some features such as Virtualization are used for insightful virtualization, this allows users to draw actionable visions and better watch for market trends, resulting in better decision making. Data Governance is ensuring that the process of collecting, storing, analyzing, and utilizing data is accurate and complete.

Conclusion

The involvement of the technologies of Business intelligence BI in small and medium enterprises SMEs in term of the accuracy of data analysis is significantly helpful for these organization, having recognized the important role BI plays, it is clear that most of new SMEs In Oman are heading to involve and use the technology of business intelligence BI in their organizations where such Data analysis capabilities and enhanced operational efficiency offered by the technology. It is clear that the present SMEs in Oman is also making benefit of using such technology and they can also depend on the BI strategies offered for big enterprises. The study recall that all new and existing entrepreneurs can get benefits of Using BI in their organizations, no matter if it was big organizations or an SMEs one.

References

Jayanthi Ranjan. (2009). *Business intelligence: concepts, components, techniques and benefits*.

<https://www.academia.edu/download/33997956/9Vol9No1.pdf>.

Maheshwari, H. (2023, April 25). *How business intelligence is game changer in the insurance*. Beyond Key

<https://www.beyondkey.com/blog/how-business-intelligence-is-game-changer-in-the-insurance-sector/>.

Marilex Rea Llave. (2021, January 1). *A review of business intelligence and analytics in small and medium-sized enterprises*. IGI Global.

<https://www.igi-global.com/chapter/a-review-of-business-intelligence-and-analytics-in-small-and-medium-sized-enterprises/286082>

Mark P. McCoy, & Hesham A. E. Magd. (2014). *Entrepreneurship in Oman: Paving the Way for a Sustainable Future*.

<https://www.sciencedirect.com/science/article/pii/S2212567114006340>

ONA. (2022, August 27). *Number of SMEs registered in Oman rises by 46.8% to 81,460*. Times of Oman. <https://timesofoman.com/article/120516-number-of-smes-registered-in-oman-rises-by-468-to-81460>

Role of SMEs in Oman: Perspectives of future employment and protection policy response. (n.d.). SHS Web of Conferences. https://www.shs-conferences.org/articles/shsconf/abs/2021/35/shsconf_icmesh2020_11002/shsconf_icmesh2020_11002.html

Swadhin Mondal, Abdullah Al-Shukaili, Norizan Mohd Kassim, & Mohd Zain. (2021). *Role of SMEs in Oman: Perspectives of future Employment and Protection Policy Response*. SHS Web Conf.

<https://www.sciencedirect.com/science/article/pii/S2212567112002420>

Curt Hall. (1999) 'Data Warehousing for Business Intelligence'. Retrieved 20 March 1999, from <http://www.cutter.com/itreports/RP68E>.