

## **Analysing People Perception and Attitude towards the Significance of BA or Business Analytics in Fostering Agility and Performance of Organizations**

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### **ABSTRACT**

Business Analytics (BA) is becoming increasingly popular as a means of improving a company's performance. BA has the potential to influence performance in a variety of ways. It examines how business agility is affected by the quality of the company's knowledge and its capacity to come up with new ideas. In addition, environment turbulence, both technical and market-related, is studied for its moderating effect. Data from almost 30 companies and almost 180 employees at managerial level, was used to test the proposed methodology. Our findings show that a firm's agility can be improved by enhancing the superiority of its data and its measurements to come up with new ideas, which further enhances business performance. Market and technological upheaval both decrease the impact of enterprises' adaptability on their performance, as well, as we point out in our paper.

### **1. INTRODUCTION**

Business analytics (BA) are changing how companies collect and use data (Ramanathan, Philpott, Duan, & Cao, 2017). Because of their operational and strategic possibilities across a broad variety of industries—from financial services to retail to healthcare—and their capacity to enhance millions of lives, more scholars and practitioners are focused on them. (2016) Business analytics (BA) is a technique for organising, processing, and analysing data to help firms predict market changes and respond quickly. BA systems acquire, analyse, and interpret data (Santiago Rivera & Shanks, 2015). Professional and academic studies relate BA to organisational success. BA's effect on performance isn't clear. The question of whether and to what extent market and technical upheaval moderates the relationship between business agility and performance when BA is enabled is an intriguing one.

### **2. Literature review**

Ji-fan Ren et al. (2017) discovered that system and information quality improve business value and firm performance. According to their research, BA tools provide business value and data quality links big data to corporate success. Big data skills and business success are linked, with process-oriented dynamic skills mediating. Tores, Sidorrova, and Jonnes (2018) suggest using BA capabilities to boost firm performance. In addition, according to Sherehiy, Karwowski, & Layer (2007), a company's agility is not a goal but a tool for achieving an edge in a changing market. To understand how agility and company success are connected, we must consider technical and market volatility (Jaworski & Kohli, 1993).

Furthermore, Popovi et al. (2014) identified a link between BI tool maturity and data quality. Talon and Pinsonneault (2011) discovered that agility boosted firm performance in a volatile setting. Delen and Demirkan devised BA taxonomy (2013). They stated BA helps decision-makers gain business knowledge and take more

effective decisions. Işk et al. (2013) say that firms depend heavily on BA to uncover new possibilities and make entrepreneurial choices.

On a similar note, researchers have observed that knowledge improves performance (Gupta & George, 2016), however they haven't examined how. While there is considerable evidence supporting the benefit of business analytics, further research is required to determine how this value is achieved (Sharma, Mithas&Kankanhalli, 2014). In recent years, strategic alignment has been used to moderate this problem.

Enterprises gather and analyse data to provide insights to decision-makers (Sahay & Ranjan, 2008). IT and BA give high-quality data for quick choices (DeGroot & Marx, 2013). According to Gustavsson and Jonsson, using IT in the workplace enhances information quality (2008). BA systems accomplish their goal by providing managers with relevant, easy-to-use data (Elbashir, Collier, & Davern, 2008). Environmental information retrieval is critical for recognising new business opportunities and evolving/innovating. The use of acquired data may uncover new business opportunities. Because of this, BA is used to help businesses innovate. BA assists firms in obtaining fresh information and insights. BA systems give a comprehensive perspective of an organization's internal and external environments (Chung & Tseng, 2012). Given what has been discussed, we think that agility is a company's ability to adjust rapidly to unexpected changes (Roberts & Grover, 2012). Innovation aids in adapting to changing environmental conditions. Gaining and retaining market share requires innovation.

Based on the above discussion, it is explored that very few studies have been conducted on analysing people perception towards the use business analytics in fostering agility and performance of organizations The study's goal is to learn more about how BA skills affect a company's agility and performance in turbulent environments.

**Objectives of the study:**

- To evaluate on the effect of business analytics on business's performance
- To investigate the impact of business analytics on firm's agility
- To identify the link among business's agility and performance

**3. Hypothesis development**

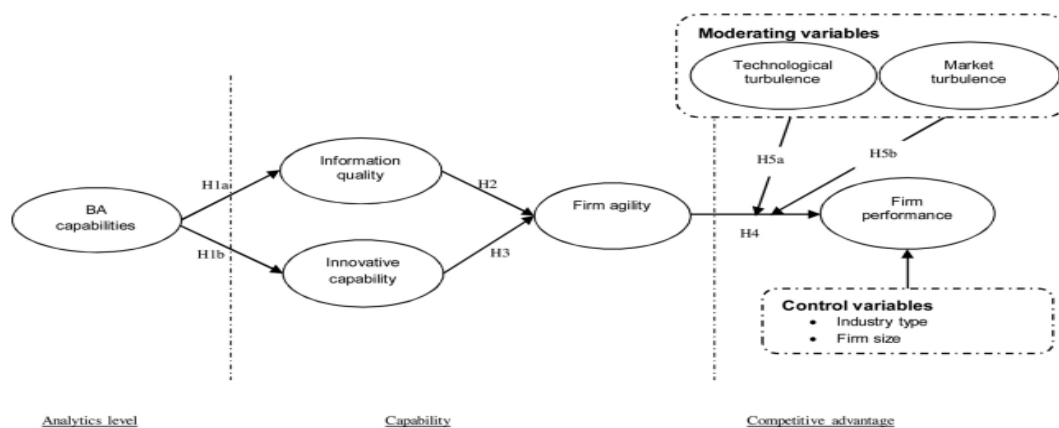
H1: Business analytics improves data quality.

H2: Business analytics boosts innovation.

H3: Information quality improves organisational agility.

H4: Innovation capability improves company agility.

H5: Market turmoil improves performance and agility.



**Figure 1: Hypothesis model**

#### 4. Research Methodology

##### 4.1 Instrument

Study was done over a 1 month period to collect the data from 180 respondents. Cronbach's alpha for the test-retest reliability approach was 0.84 (above the threshold level of 0.70), which was achieved by doing the study over one month.

##### 4.2 Data sampling

It's customary to question companies about firm components while doing research. Using a survey to analyse models and hypotheses based on real-world data fits the current research. This study was driven by past research showing that effective transitions in the context of financial and business performance are typically tied to smart corporate practices.

##### Data Measuring tools

We used a modified version of LaValle et al five-item.'s scale to gauge BAs' abilities. Various metrics have been used in the past to assess the performance of companies. Rate of return, share price, increased sales, and overall profitability are some of the metrics used to evaluate an organization's performance.

#### 5. Data analysis and result

##### Firms demographics

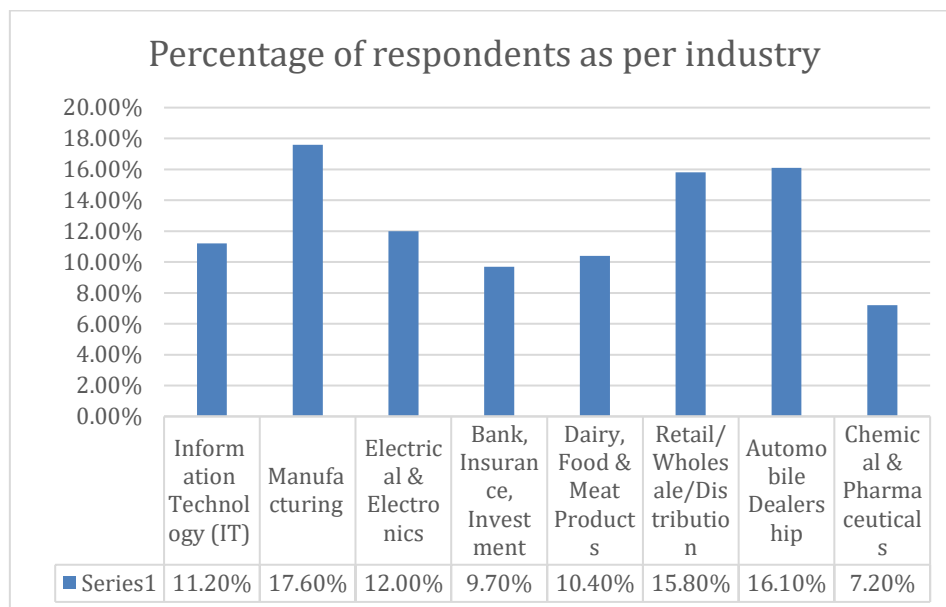


Figure1

The above figure shows that respondents belonged to 8 industries. Most of the respondents almost 18 percent are from manufacturing companies and almost 16 percent are from retailer/ wholesaler distribution and automobile dealership companies each.

##### Revenue of the firms

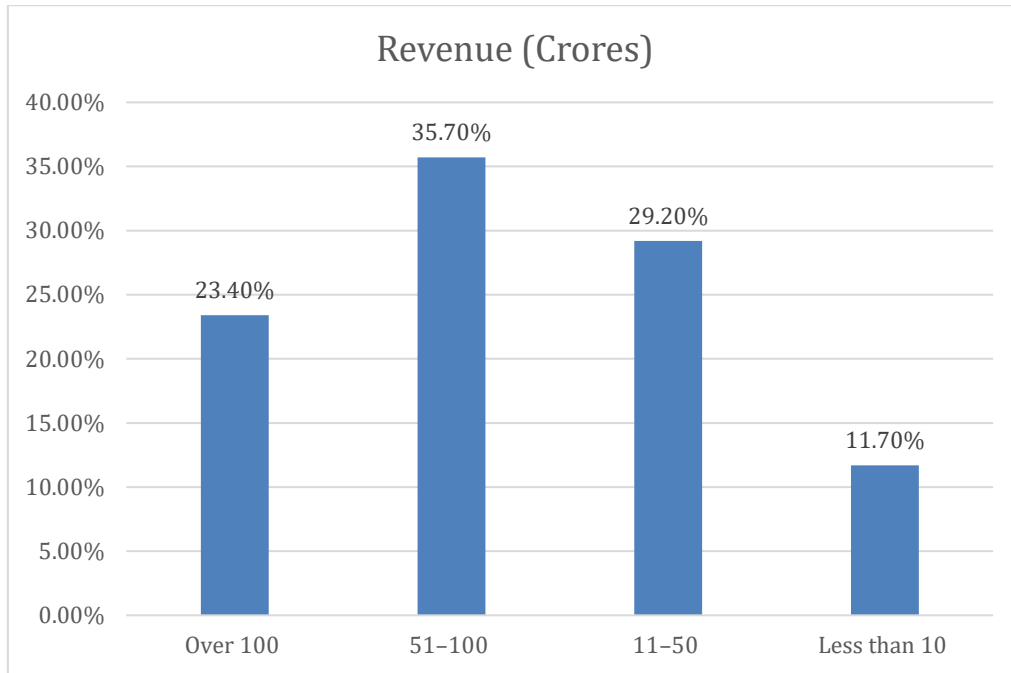


Figure: 2

From the above figure it is explored that almost 35.70 percent companies are having annual revenue of 51-100 crores and 29. In addition, 20 percent companies generate revenues from 11 crores to 50 crores. Furthermore, almost 23 percent companies generate revenue of more than 100 crores. Very few companies involved in the survey generates revenue of less than 10 crores.

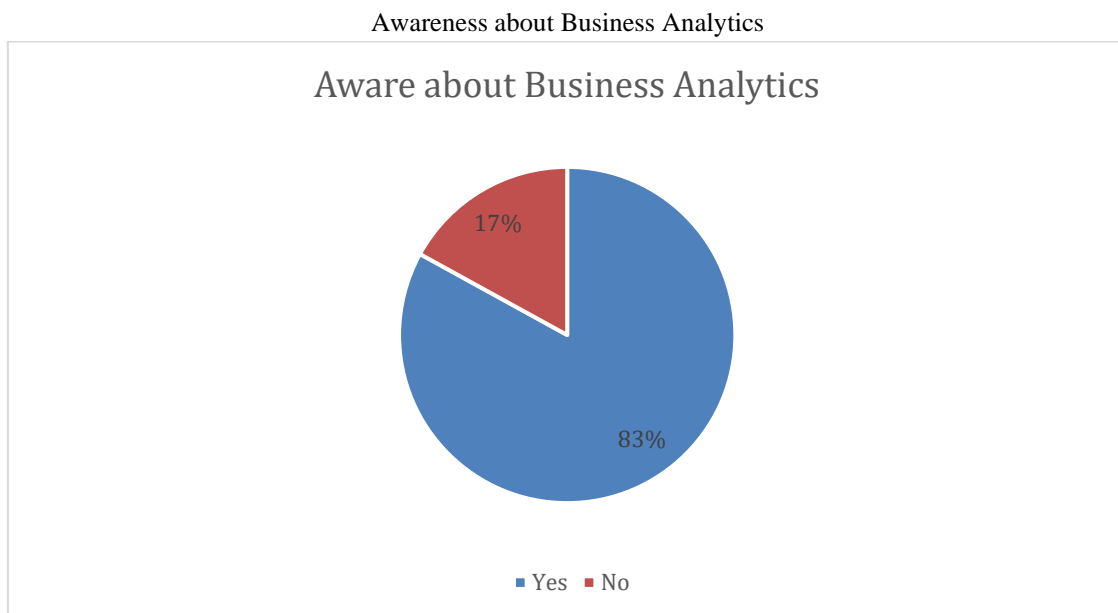


Figure 3

When asked about the awareness about the Business Analytics, it is explored that most of managers are aware about Business Analytics. 83 percent managers are familiar with the terms and just 17 percent respondents are not familiar with the terminology.

Does your company use Business Analytics

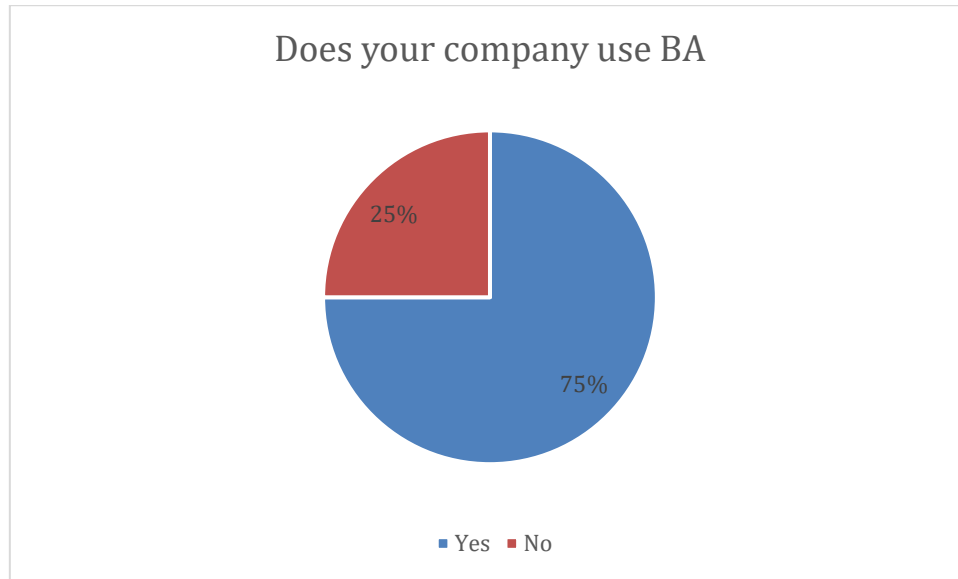


Figure 4

When the respondents were asked if their company uses Business Analytics, it is revealed that almost 75 percent of the respondents said yes and 25 percent said no.

**Summary of Results and Hypothesis Testing**

Dependent variable	Independent/control variable	Hypothesis	Path coefficient	t-value	P-value	Result	R <sup>2</sup>	Q <sup>2</sup>	GoF
Information quality	BA capabilities	H1a	0.35***	8.31	0.000	Supported	0.29	0.27	0.44
Innovative capability	BA capabilities	H1b	0.47***	9.14	0.000	Supported	0.36	0.34	0.48
Firm agility	Information quality	H2	0.17***	4.78	0.000	Supported	0.44	0.41	0.54
	Innovative capability	H3	0.22***	5.41	0.000	Supported			
Firm performance	Firm agility	H4	0.45***	9.72	0.000	Supported	0.54	0.47	0.57
	Technological turbulence × Firm agility	H5a	0.23**	3.15	0.002	Supported			
	Market turbulence × Firm agility	H5b	0.16*	2.56	0.011	Supported			
	Industry type	Control variable 1	0.02	0.45	0.653	Not supported			
	Firm size	Control variable 2	0.04	0.56	0.576	Not supported			

Note: \*\*\* Significant at  $p < 0.001$  or  $t\text{-value} > 3.27$ ; \*\* Significant at  $p < 0.01$  or  $t\text{-value} > 2.57$ ; \* Significant at  $p < 0.05$  or  $t\text{-value} > 1.96$

Table 1

The above tables shows that almost all the hypotheses are accepted. It is statistically proved that BA capabilities help in fostering agility in businesses which further leads to improving firms performance. The same is proved by various authors as well. Agile organisations, according to (Van Oosterhout, Waarts, and Van Hillegersberg 2006), react to changes quickly and creatively. Using IT systems, according to (Tan and colleagues 2017), promotes the potential of ongoing innovation and develops organisational adaptability. We agree with (Sherrehiy et al. 2007) that increasing outcomes via business agility is a means to an end, not an end in itself. Organizational agility boosts performance. Due to turbulent markets, organisations in these areas must adapt quickly to client needs. Slow-adapting companies may lose chances or fall behind competition, according to Bhat, Emddad, Roberrts, and Groverr (2010) Due to more unpredictability, organisations functioning amid turbulence must digest information more rapidly. In a dynamic environment, adaptability may be a competitive advantage.

## Conclusion

BA systems provide a complete view of a company's internal and external environment while MBMs help businesses get new information and insights. According to Tan and colleagues, using IT systems increases the possibility for continuous innovation and fosters organisational agility. BA skills help businesses recognise and respond to market changes by enhancing information quality and building pioneering capabilities. According to our research, robust agility only boosts performance during difficult moments. Firms facing market and technology challenges are more likely to suffer from this. We discovered that technological advancements and market instability weaken the link between agility and productivity

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