

## THE IMPACT OF POWER BUSINESS INTELLIGENCE ON THE PUBLIC RELATIONS SECTOR OF INDIA

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### Abstract

Data is typically understood to relate to the fact that preexisting information has been encoded or represented in a sort of form that can be utilized for processing and usage more effectively. A caked data warehouse serves as the site for data collection and utilization. Within this location, the data is summarize and structured in accordance with how it will be utilized in the future. In order to display the data via pictures, graphics, and other tools for analysis, the data must first be examined, gathered, and published. A number of different tools and approaches are utilized to get useful information from data and arrive at appropriate conclusions. Executives are presented with the results in order to facilitate the decision-making process. A public relations firm must have accurate data for any decision-making process. Business analytics, user interface, data warehousing, performance, and strategic planning are all rolled into one with Power BI. With the assistance of this research, an effort is made to verify the usage of Power BI and determine how it influences public relations and reputation management in India. The relation between PR and Power BI in India may be determined based on the results.

**Keywords:** *Power BI, public relations, public relations in India, Digitization in public relations.*

### Introduction

The field of public relations is an applied science that is all-encompassing and interdisciplinary. In principle, it encompasses a wide range of subjects, including but not limited to management science, marketing, and mass communication, among others. In practice, it is used by every social organization. Many scholars have weighed in with their perspectives and come up with definitions of public relations. The following are examples of some of them:

According to Cutlip, Center, and Broom (1999), “public relations is the management function that establishes and maintains mutually beneficial relationships between an organization and the public on whom an organization’s success or failure depends.”

During a conference in August of 1978, the World Public Relations Association proposed the definition of public relations that is considered the most authoritative and representative of the

field. This definition said that public relations are both an art and sociology. In the field of public relations, “to implement” anything is “to analyze the tendencies, observe the consequences, provide advice to the organizations’ leaders, and carry out a series of planned activities to serve the organizations and the public’s benefits.” (Dong Newsom, Alan Scott, & Judy V. Turk, 1993).

There are a variety of strategic advantages available to PR firms who use Power BI for their businesses. Power BI helps PR firms remove the element of guessing from their job, improving communication between the firms and the general public. It makes it easier for public relations firms to reply quickly while managing their day-to-day operations and responsibilities. The use of Power BI contributes to an increase in the overall performance of a PR firm. The company’s most valuable resource is a public relations firm’s ability to take in information and base its judgments on that information. Therefore, the only way to increase a company’s performance is to conduct effective analysis and gather accurate and timely information. Power BI plays a significant part as a result of the fact that it facilitates the process of decision-making.

The capability provided by Power BI to react effectively to priorities and concerns relating to consumers is another way in which the overall quality of the experience for the customer is improved. In today’s world, when everything revolves around the consumer, managers often find themselves inundated with information while attempting to gain insight and knowledge from the data. One of the options involves the implementation of a Power Business Intelligence (PBI) model. Due to this, many firms are moving extremely slowly toward adopting Power BI due to its ineffectiveness in non-public relations.

## Review of Literature

Lennerholt et al. (2018) researched the challenges encountered while attempting to implement the Self-Service Power Business intelligence. The primary emphasis of their study was a literature review. With the assistance of Self-Service Business Intelligence, the users can become less dependent on Power BI users and more independent of themselves (SSBI). The SSBI strategy has greater potential than the traditional business intelligence (BI) tools; however, many organizations have been unable to implement SSBI successfully. After that, in their research report, they explored four challenges associated with “Self-reliant users” and six challenges associated with “Access and use of data.” All of these challenges helped the practitioners clear of potential pitfalls throughout the implementation of SSBI and provided direction to the researchers for their ongoing and future research.

In a research carried out by Gowthami and Pavan Kumar (2017), a comparison was performed between the corporate dashboard building capabilities of many of the most well-known Power Business Intelligence (BI) tools, including Jaspersoft, SoragoBI, QlikSense, Tableau, and Power BI. Every tool that was evaluated was an SSBI tool. The foundation was supported in terms of training, beginning costs that were kept to a minimum, and usability. Consequently, they constructed a simple dashboard by using one of the Power BI tools to demonstrate the

viability of the same kind of business data visualization.

According to Negash and Grey (2008), the Power BI system is crucial to both the activities and the ideas involved in strategic planning. Meanwhile, Ziamba (2004) and Chaudhary (2004) both said that the significance of BI systems to an organization is the creation of new markets, the establishment of a new rule set, the making of choices, and the acquisition of new consumers, among other things. All of these facets come in useful while working in public relations.

Some scholars used public relations to carry out the marketing plans they had developed. Harris (1991) referred to it as “marketing public relations” at the time. He claimed that public relations are practically universal in the expansion of businesses. The marketing team for products was given members of the public relations firm’s staff to assist them in making the most out of the debut of a new product. This was done to engage public relations firms. Therefore, throughout the product’s life cycle, the brand continues to be noticeable and serves to protect the products.

McCarthy (1975) also put out the idea that the primary responsibility of public relations in marketing is to integrate all of its constituent parts into a marketing program to ease the market exchange process. This concept is now often referred to as the marketing mix: the site, the goods, the pricing, and the promotion.

### **Power BI Techniques**

Businesses can acquire an overarching picture of their operations, both in the past and present, with the assistance of the Power BI tools. According to Wixom and Watson (2010), the following presents a variety of Power BI techniques along with an explanation of their significance:

- Data analysis is all about finding hidden patterns in data and processing them to create desired models.
- “It is a predictive technique used to analyze the change in behavior over time of different elements of a business,” is the definition of the method known as “Time Series Analysis.”
- Online Analytical Processing (OLAP) gives users the ability to retrieve and analyze data from a variety of various sources.
- Statistical Analysis = “This method is the utilization of mathematical formulae to qualify how significant or reliable the observed.” Statistical analysis is a technique that uses mathematical formulae.
- Data Visualizations = “It makes data easier to interpret and can be employed in such situations.” For example, the use of graphs and charts, which are more typically referred to as “Data Visualization.”
- Reporting is “The final document of the necessary information in a presentable form presenting

the Power BI statistics and sent to a predefined distribution list.”

Power BI’s ability to deliver reports effectively is one of the primary benefits offered by Power BI. It is necessary to do an in-depth investigation to comprehend the company.

### **Power Bi Tools**

Gathering information, determining what information is required by the company, disseminating that information, processing it along with its analysis, using that information in decision making, and providing back feedback are all components of the Power BI process. “The tools used in Power BI are as follows

- Sisense
- Actuate Power Business Intelligence and Reporting Tools (BIRT)
- icCube
- Domo
- Board Management Intelligence Toolkit
- Clear Analytics
- Ducen
- GoodData
- Oracle BI
- Oracle Enterprise BI Server
- Oracle Hyperion System
- Palo OLAP Server
- Pentaho
- Profit base
- QlikView
- Rapid insight
- SAP Power Business Intelligence
- SAP Business Objects
- SAP Net Weaver BW

- SAS BI
- Silvon
- Solver
- Spago BI
- SQL Server Analysis Services
- Style Intelligence
- Syntell solutions
- Targit
- Vismatica
- WebFOCUS
- Yellowfin BI”

The tools may have distinct interfaces and features, but their basic purpose is to present data and enable users to base strategic decisions on those statistics.

If there is a significant quantity of heterogeneous data, it is necessary to investigate the data in-depth. PR firms may get new insights and help make decisions with the assistance of Power BI because of its capability of providing data patterns and apparent logic, which can provide fresh perspectives and aid in making decisions. Some of these firms are included below, now that they understand the significance of the role that Power BI operations play in their success:

- Several problems relating to PR have been handled thanks to the utilization of special Power BI tools.
- When using PBI tools, it is much simpler to identify a customer who is the most lucrative and why they are loyal, as well as identify the customers who have the potential to become profitable.
- Through an investigation of the customer base’s profitability and the expansion that is theoretically possible
- By precise scoring of the clientele’s precise financial credit to decrease the danger
- Determining the time frame in which the customer is most likely to make a purchase, as well as the specific services and goods that will be included in that transaction.
- The identification of fraudulent activity as well as its prevention

### **How Public Relations Function**

Examining the evolution of public relations as a profession will reveal the changes that have taken place in its primary function throughout its existence. The public relations function as a whole has grown significantly throughout the years. At this point, firms have shown an extremely high interest in public relations.

It was suggested by Cutlip, Center, and Broom (1999) that the following specializations and activities are included in public relations: relationship with investors and its development, publicity, lobbying, advertising, issues management, and press agency.

Hutton (1996) proposed that the key functions of public relations include counseling, research, early warning, image-making, management, communication, and interpretation.

Although each of the researchers has their unique core of view about the function of public relations, the fundamental idea is the same in all of them. That which is served and addressed by public relations in people, society, and the social organization at large ought to be the primary function of public relations.

The researcher performed a theoretical analysis of the two primary functions of public relations because of the tight connection that exists between brand strategy and the communication and image-building that is associated with it.

**Table 1. Functions of Public Relations used in a Brand Strategy**

<b>Brand Strategy Stage</b>	<b>Functions of Public Relations</b>
<b>Brand Planning</b>	<p>To better understand the public’s willingness, it is important to collect information such as the public’s judgment of the enterprise’s images, social environment, policy, customers, competitors, trends, and economics.</p> <p>Win the support and understanding of the general public via the dissemination of information to the outside world. This raises the enterprise’s profile and enhances its level of popularity.</p> <p>To fully mobilize the creativity and excitement of the staff, the belonging consciousness of the staff should be increased. This, in turn, will create an ideal environment for the brand’s execution and planning.</p>
<b>Brand Positioning</b>	<p>Obtaining information from market research by using various techniques, such as questionnaires, and enquiring to evaluate whether or not the brand provides market competitiveness or whether or not customer needs to suit it.</p> <p>A wide variety of activities, including exhibitions, learning communications, and so on, are utilized to understand customers’ views in timely communication and provide advice on generating products and making them more suitable for consumers.</p>

<p><b>Brand Propagation and Popularization</b></p>	<p>Addressing the shortcoming in the commercials, in which the brand propagation is presented in an insufficiently detailed manner The propagation of investments and services provided by the business in favour of activities that support social commonwealth generates a favorable public image for the business in which they are seen returning and caring for the community. Enhancing the marketing occupancy of the business by more successfully drawing the attention of the effective public</p>
<p><b>Brand Management</b></p>	<p>Using the establishment of customer relationship management and other means to cultivate brand loyalists from within the customer base. Influencing the general public’s sentiment by influencing the media’s opinion.</p>

**Need of Power BI**

Anything that can be tracked in an organization is a potential data source for Power BI. The power of data pertaining to enterprises is more than sufficient, allowing for evaluating turnover sales volumes, revenues, return on investment, profits, and other associated metrics.

With Power BI’s assistance, managers can see outlines, patterns, and trends, making it possible for them to prepare for the subsequent move in the company’s strategic progression. The following considerations are essential to understanding the need for Power BI:

- A. **Take Action:** To improve the company’s public relations (PR), the company’s managers take action. With the help of the information provided by Power BI, the managers can choose a marketing plan that would yield the finest reputation. Additionally, it offers assistance in correctly targeting the clients who need to be targeted. In addition to estimating future sales and modifying goals accordingly, there is room for improvement in logistics and operational efficiency.
- B. **The Beginning of the Transformation Process:** In reassessment, the overall thinking pattern change where changes are made according to operations of Power Business Intelligence also marks the beginning of managers starting to take action regarding insights. This marks the beginning of the transformation process.
- C. **Get Ahead:** Only when one takes action based on reliable data and applies proper analysis will opportunities present themselves where they can overcome the competitors. Using this, one may witness the transformation that has taken place in the business world. It is essential to discover one’s weaknesses and devise a plan to overcome them; BL assists in discovering one’s weaknesses. To stay ahead of the competition, you need a glimpse into the future; here is where the visualization tools in Power BI may provide you an edge.

When implementing Power BI solutions, an organization must be aware of important





indications associated with success. According to the study, this prevents all firms from achieving success using Power BI solutions. Not to mention that one is required to overcome the risks associated with the deployment of the BI project (Rasoul and Mohammad (2016).

### Research Methodology

In order to investigate the use of Power BI in the Public Relations field and determine whether or not there is a need for it, a sample was taken from both big and medium-sized businesses. The researcher conducted an in-depth survey of one hundred respondents from various Public Relations firms and received aid in assessing the respondents. The research is meant to be exploratory as well as descriptive in character.

The data collection process involved going out into the field and using the internet. A questionnaire that had been piloted and organized in advance was distributed to the respondents who had been chosen. In addition, a pilot research was conducted to examine the questionnaire's internal consistency and level of detail. A test-retest method was carried out to assess the consistency and reliability of the results. This involved again giving the questionnaire to the same responder, but this time without making any adjustments to the settings.

### Results and Discussion

In order to analyze the extent of Power BI's influence, it is very important to gather information on the demographics of the respondents that participated in the study.

"Every organization deals with a lot of data, information, and knowledge," said Turban et al. (2010). "Handling all the aspects of BI in the organization requires basic leadership and the ability to make quick capabilities on the part of the designed manager."

According to the research carried out by Elbashir et al. (2013), the level of interest in Power BI systems is highest among top executives and data managers.

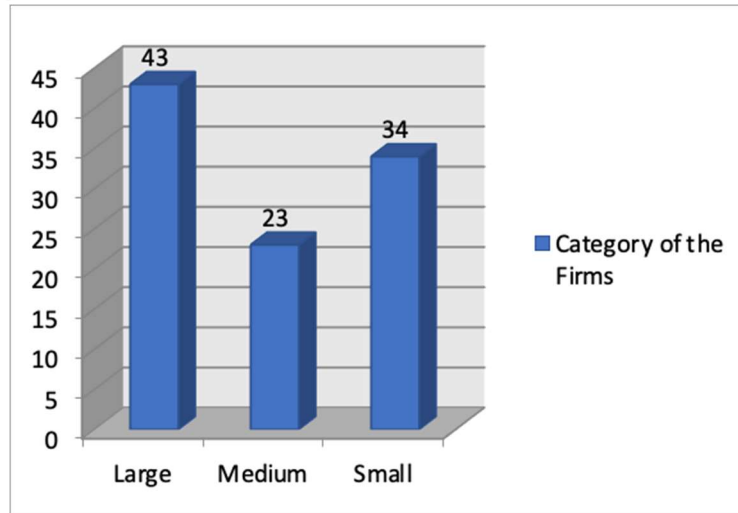
According to Isik et al. (2013), the level of an individual's analytical capabilities and the quantity of training they have received served as the foundation for the Power BI categorization. This will be beneficial to public relations firms in the long term. In Power BI, structured data serves as the foundation for all operations. The data in numerical form is of primary importance to managers.

**Table 2: Category of Firms**

Category of the Firms	Number
Large	43
Medium	23
Small	34

(Source: Researcher)





**Graph 1: Category of Firms**

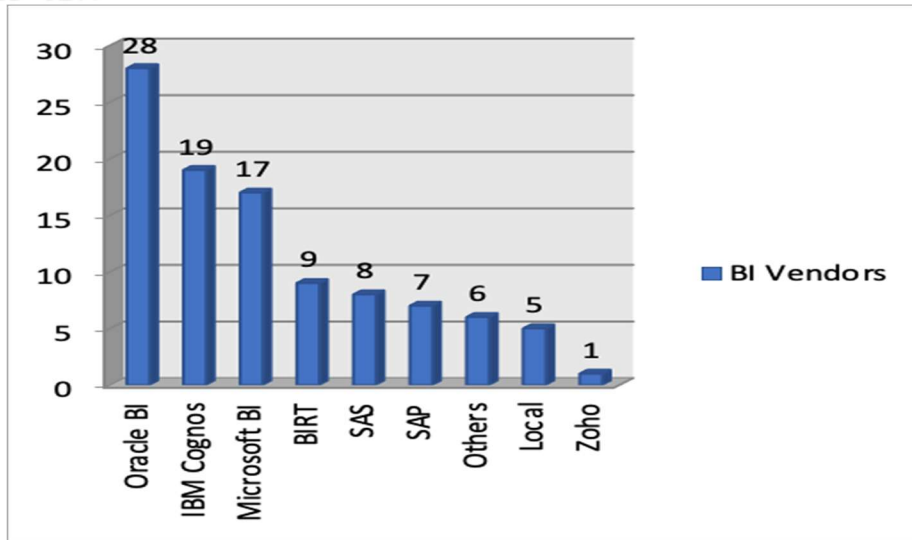
Regarding the size of the firms that the respondents worked for, table 2 reveals that 43 of the respondents were employed by significant businesses. Twenty-two respondents were from firms that were considered to be medium in size, while the remaining 35 respondents came from firms that were considered small in size.

According to Katzor (2014), every organization stores a large amount of data, which continues to grow over time. Because of this, it is clear that businesses require Power BI of all sizes to comprehend the markets, monitor real-time market conditions, make decisions, and assess key performance indicators.

**Table 3. Power BI Vendors**

S. No	Power BI Vendors	Number
1	Oracle BI	28
2	IBM Cognos	19
3	Microsoft BI	17
4	BIRT	9
5	SAS	8
6	SAP	7
7	Others	6
8	Local	5
9	Zoho	1

(Source: Researcher)



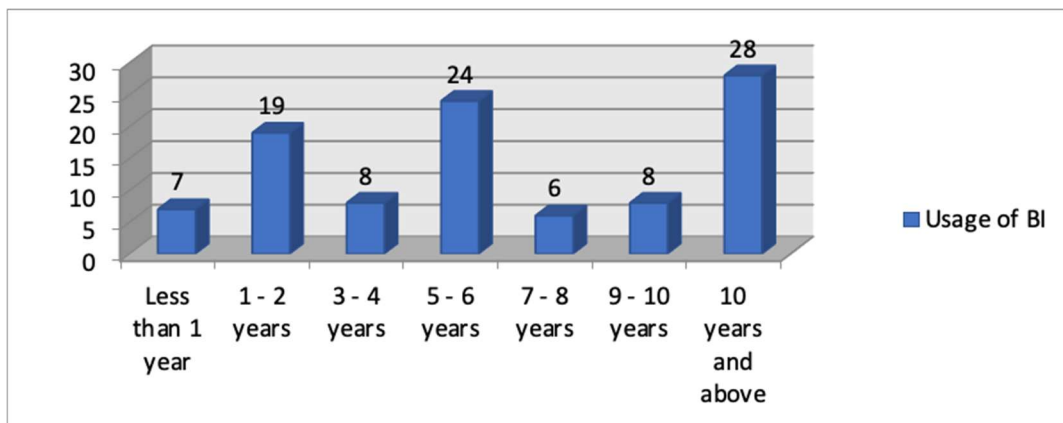
**Graph 2: Power BI Vendors**

In terms of the services provided by a variety of vendors in connection with this study, it is shown in Table 3 that most companies use Oracle BI (28 percent). In second place is IBM Congos, which is used by 19 percent of the companies, and in third place is Microsoft BI, which has a usage rate of 17 percent. The other vendors had a significantly lower percentage of business than the top three.

**Table 4. Usage of Power BI (in years)**

S. No	Usage of Power BI	Number
1	Less than 1 year	7
2	1 - 2 years	19
3	3 - 4 years	8
4	5 - 6 years	24
5	7 - 8 years	6
6	9 - 10 years	8
7	10 years and above	28

(Source: Researcher)



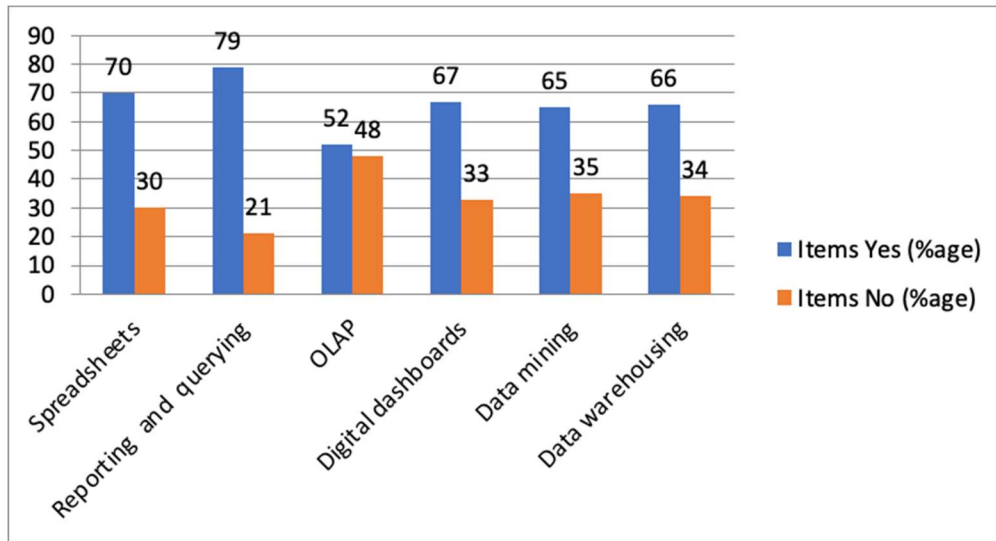
**Graph 3.Usage of Power BI (in years)**

Table 4 reveals that 28 percent of the companies have used Power BI tools for at least ten years, while 24 percent have used the software for between 5 and 6 years. This information comes from the Power BI tools that various firms are utilizing. This suggests that the majority of companies started using Power BI about ten years ago.

**Table 5.Type of Software used as Power BI**

Items	Yes (%age)	No (%age)
Spreadsheets	70	30
Reporting and querying software: tools that extract, sort, summarize, and present selected data	79	21
OLAP	52	48
Digital dashboards	67	33
Data mining	65	35
Data warehousing	66	34

(Source: Researcher)



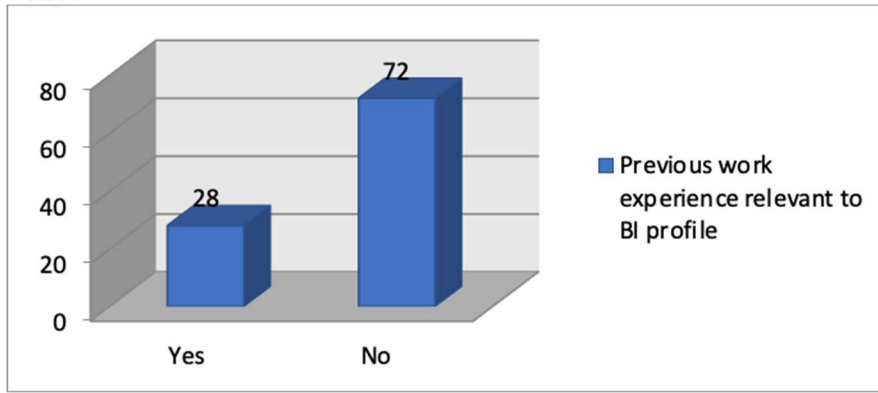
**Graph 4.Type of Software used as Power BI**

According to the comments, it can be shown in table 5 that OLAP has been utilized the least, and everyone spits down their noses at others despite the fact that reporting and querying together with spreadsheets are the most preferred methods.

**Table 6: Previous Work Experience on PR Relevant to Power BI Profile**

S. No	Previous Work Experience on PR Relevant to Power BI Profile	Number
1	Yes	28
2	No	72

(Source: Researcher)



**Graph 5. Previous Work Experience on PR Relevant to Power BI Profile**

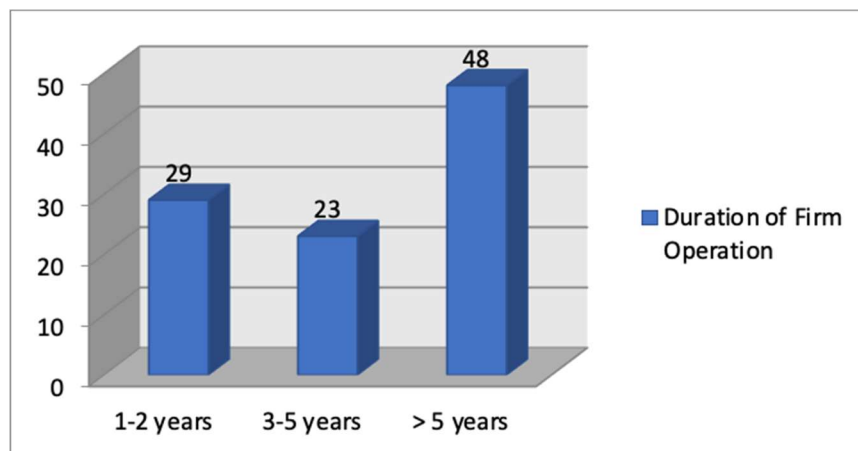
Table 6 demonstrates that the vast experience of respondents, or 72 percent, did not have any prior work experience before starting this job profile. This is relevant to the Power BI profile, which is why it is included in the table. This indicates that companies are responsible for providing their personnel training before they may be deployed on Power BI operations.

By doing an analysis using Power BI tools, public relations firms may eliminate the work of guesswork from their processes. According to Colavito, this may be achieved by assisting in quantifying solutions to situations that are complicated rather than depending on the information that is not untrustworthy (2017). While we are on the subject of this assistance, Richardson (2018) observed that increased use of Power BI contributes to a faster return rate on investments.

**Table 7: Duration of PR Business**

S. No	Duration of Firm Operation	Number
1	1-2 years	29
2	3-5 years	23
3	>5 years	48

(Source: Researcher)



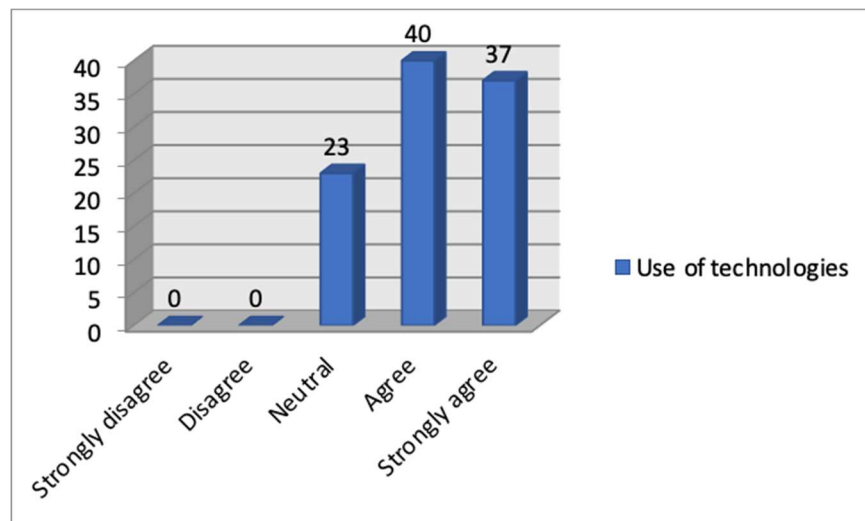
**Graph 6. Duration of Business**

The number of years that the company has been in business is shown in Table 7. According to the replies of the survey participants, the vast majority of businesses surveyed are public relations firms, with 48 percent operating in operation for more than five years. While 23% of respondents belonged to a business that had been operating for 3-5 years, and 29% of respondents claimed that their business had been operating for 1-2 years, the remaining 7% did not own a business.

**Table 8: Power BI is used in Work**

S. No.	Use of Power BI Technologies	Number
1	Strongly disagree	0
2	Disagree	0
3	Neutral	23
4	Agree	40
5	Strongly agree	37

(Source: Researcher)



**Graph 7: Power BI being used in work**

Table 8 shows that most respondents either strongly agree or agree with Power BI technologies, even though none disagree with BI technologies. This can be observed from the results. It is clear that a sufficient number of firms are making use of Power BI.

### Conclusion

In conclusion, we can state that Power BI serves a significant role in aiding PR firms since it supports the decision-making process. This is the main takeaway from our discussion. PBI uses a wide range of technologies, such as time series analysis, online analytical processing (OLAP), and many more. Oracle Business Intelligence, Sisense, IcCube, and Demo are some tools that may be used. At this point in the process, the researcher surveyed a number of firms and came to the survey that project leaders relied on Power BI more than any other workforce member.

When examining how various firms utilize Power BI, we may conclude that bigger firms have employed PBI on a more extensive scale than smaller and larger firms. This is in contrast to how small and medium-sized companies use Power BI. Compared to other software, the reporting and querying software is used by most companies. According to the majority of respondents, the usage and implementation of PBI in PR firms are sufficient.

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