
**Market Research Design**

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AD 856 A2: Market and Economic Research and Analysis

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**Managerial Decision Problem:** What are the differences between EETech and its selected competitors that need to be identified through a gap analysis?

**Managerial Research Problem:** What are the trends in the data transformation services in the semiconductor business, EETech's present performance and services, and which rival company in this sector should be included in the gap analysis?

## Executive Summary

This report presents the findings of a comprehensive gap analysis conducted to address the differences between EETech and its selected competitors that need to be identified within the industry. The analysis was carried out by adapting a combination of primary and secondary research with both quantitative and qualitative methods, including a survey. By involving survey results and secondary research, we explore and analyze the essential components through descriptive methods with bar and pie charts, as well as implementing hypotheses with Chi-square testing that shows the data representativeness through significance level. The goal of the analysis is to identify the trends within the digital transformation services in the technology industry and lead a direction to conclude the possible gap between EETech and the rival businesses provided by Mr. Martin Chatterton. The report concludes that EETech's diverse product offering and global market position are strengths, while its potential weakness lies in maintaining competitiveness. The survey results show that customers prioritize service quality, price, and data security in digital transformation services. Specialized expertise and faster implementation are valued for achieving desired outcomes from a customer perspective and could be focused when offering services. The report also recommends that EETech focus on data security, interactive interface design, and efficient communication partnerships with customers to gain a competitive edge.

## Process of Data Preparation and Graphical Representation

"At least 40% of all businesses will die in the next 10 years… if they don't figure out how to change their entire company to accommodate new technologies." (2013, Chambers J.)

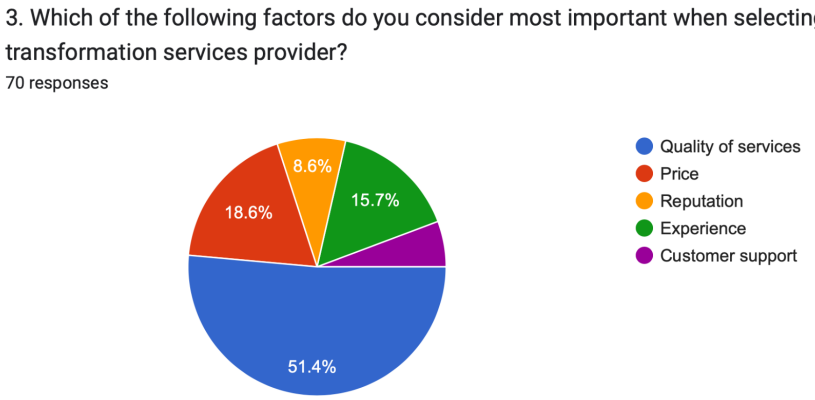
Businesses can benefit from digital transformation by gathering, storing, and analyzing data from a variety of sources to help them make viable, data-driven decisions. Businesses can improve their performance by optimizing their decision-making processes and incorporating digital transformation into daily operations. Businesses may also become more agile and flexible, improve customer experiences, increase operational efficiency, and stay competitive. They can unlock new opportunities and achieve success in today's digital landscape.

The culture, business processes, and financial performance of an organization can all be significantly impacted by digital transformation. It calls for a change in perspective, as well as a readiness to accept danger and change. Additionally, a strategic approach is necessary, with a distinct vision and strategy for how technology will be leveraged to accomplish business objectives.

During the data collection, we received 70 responses. We chose to collect data by asking respondents to choose the answer(s) they felt was/ were most accurate to the questions we proposed to them and this was done using Google form. The chosen respondents belonged to the age of 16 and above and we received maximum responses from the 22-27 age group. 48.6% of respondents were somewhat familiar with what digital transformation is and how it plays a key role in enhancing businesses and a good 21.4% were very familiar with it. The rest either had a restricted idea of what it meant or were not at all aware. While analyzing the results we found that respondents highly recommend that businesses integrate digital transformation into their everyday operations.

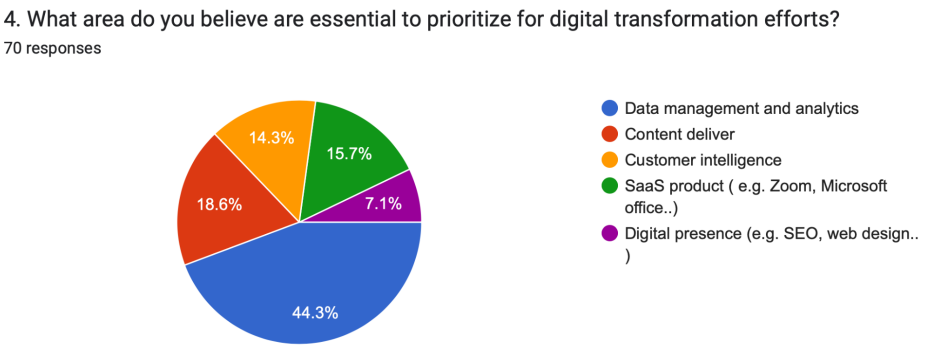
Graphical Representation of Data received by respondents:

**Figure 1:**




While trying to understand what the respondents felt about the importance of selecting a digital transformation service provider, we noticed that maximum respondents believed that quality of service ranked the highest followed by the price at which it was provided, the experience and its reputation . Quality of service and price definitely are key factors while choosing a digital transformation service provider as digital transformations are highly data driven and require its service to be top notch. Not only this but being able to find affordable service providers helps to promote digital transformation in the business sector.

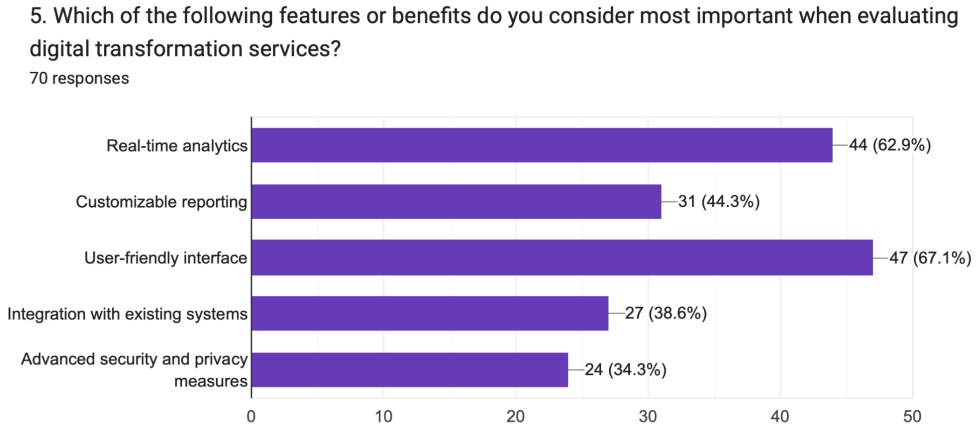
**Figure 2:**




Data management and analytics ranked the highest in essentials to prioritize digital transformation, followed by content delivery. The most successful businesses of today

employ digital transformation to translate their data into insights that their business processes. Organizations may better predict and foresee what may happen in the future by having access to the appropriate data and managing and evaluating their performances. Data management and analytics also enable firms to make data-driven decisions, enhance customer experience, increase operational efficiency, and spur creativity, which contributes to the success of the digital transformation embedded in the organization.

**Figure 3:**




The graph above represents what the respondents think are the benefits or features to consider the most important when evaluating digital transformation services. According to secondary research, user friendly interface, security and privacy measures tops while evaluating. Consumers expect a friendly UI which is easy to navigate. Also being able to extract real time analytics is an important feature which is considered while evaluating a digital transformation service. Maximum respondents also believe that investing in the right technology and infrastructure is an important step for a business to successfully implement digital transformation. This agrees with the secondary research, as the right technology will help to improve the businesses operation efficiency in turn enhancing customer experience and enabling data driven decision making.

According to the survey results, presented in *Appendix 1*, respondents emphasized the importance of reputation and track record (52.9%) and breadth of expertise and services offered (54.3%) in terms of factors influencing the decision to work with a professional firm to provide digital transformation services. The quality of services provided (78.6%) was also considered an important factor, highlighting the need for professional firms to provide reliable and high-quality services. In terms of benefits, implementing digital transformation was seen as providing greater competitiveness, adaptability, efficient decision-making processes with data-driven insights, an enhanced brand image and improved operational efficiency. Notably, 72.9% of respondents acknowledged the importance of data-driven insights for effective decision-making.

When it comes to the services that professional technology partner firms can offer to help companies with digital transformation, the survey revealed that consulting and strategy development, technology implementation and integration, staff training and skills enhancement, and data analysis and insights were among the top services offered. Specifically, 77.1 percent of respondents identified technology implementation and integration as a key service offered by technology partners. In addition, the benefits of working with a professional technology partner company for digital transformation were cited as access to expertise and resources, faster implementation and time to market, and reduced risk through increased return on investment (ROI). Some respondents also cited an enhanced customer experience as a benefit.

The majority of respondents admitted to encountering challenges when undergoing digital transformation. These challenges include employee resistance to change, lack of understanding of technology, budget constraints, data security issues, and lack of necessary skills and talent. As shown in *Appendix 2*, 55.7% of respondents specifically cited budget

constraints as a major challenge. These challenges underscore the importance of addressing issues related to people, processes and resources in digital transformation initiatives.

Finally, the role of innovation is seen as critical to the success of digital transformation efforts. According to the results presented in *Appendix 3*, respondents view innovation as enabling organizations to stay ahead of their competitors (27.5%), driving creativity and encouraging out-of-the-box thinking (31.9%), helping to identify and exploit new opportunities (21.7%), facilitating experimentation and iteration (7.2%), and encouraging continuous improvement (11.6%).

Overall, according to the survey results, partnering with a professional technology partner firm for digital transformation can provide organizations with expertise, resources and services to help them address challenges and realize the benefits of digital transformation. These findings provide valuable insights for companies considering digital transformation and underscore the importance of building strategic partnerships with technology experts to drive successful digital transformation initiatives. Innovation also plays a critical role in the success of digital transformation efforts by fostering creativity, agility and adaptability in a rapidly evolving digital environment.

## Statistical Analysis and Reflection

Based on the MRP and MDP, we aim to find the possible trend within the digital transformation industry as a necessary part of finding the differences between EETech and its selected competitors that need to be identified through a gap analysis, including the important influential decision factors and benefits of partnering with related companies. This is achieved by conducting Chi-square testing and cross tabulation analysis to specifically determine whether there is a relationship between familiarity and participants' preferences for both decision factors and partnership benefits. Our steps in identifying trends within this industry involves establishing two sets of hypotheses and testing the significance of survey data through the hypotheses to ensure confidence in the generated information.

**Figure 4 :**

*The cross tabulation analysis with the frequence of familiarity vs the benefits wish to gain*

| Benefits / Familiarity | Not familiar at all | Not very familiar | Somewhat familiar | Very familiar |
|---|---|---|---|---|
| Access to specialized expertise and resource | 4 | 2 | 14 | 4 |
| Enhanced Customer experience | 1 | 2 | 2 | 2 |
| Faster implementation and time-to-market | 0 | 3 | 14 | 9 |
| Reduced risk and increased ROI | 2 | 8 | 5 | 1 |
| All the above | 0 | 0 | 1 | 0 |

**Figure 5:**

*Chi-square testing results between Familiarity and the benefits people wish to gain*

```
> chisq.test(respond$FAM,respond$Quality)

        Pearson's Chi-squared test

data:  respond$FAM and respond$Quality
X-squared = 21.432, df = 12, p-value = 0.04441
```

Our first set of hypotheses aims to determine the relationship between the familiarity of the industry (*refers to Appendix 4*) and the benefits that participants wish to gain from partnering with a digital transformation company based on the data collected from the survey (*refers to Appendix 5*). The first null hypothesis ($H_0$) states that the proportion of familiarity is independent of the selection of benefits of partnering, and the alternative hypothesis ($H_1$) indicates the proportion of familiarity does affect the selection of benefits of partnering. We summarized the data into a cross tabulation table in *Figure 5* (*code generated in Appendix 6*) and we observed that there were varied responses depending on the level of familiarity. Thus, we conducted Chi-square tests. The result that we found indicates it is statistically significant that the benefits of partnering are affected by familiarity. The reason behind the result is that the null hypothesis has been rejected as the p-value of the data set (0.04441) is smaller than 0.05 (95% confidence interval) showing in Figure 5, meaning participants' familiarity with this industry does affect their preference for certain partnership benefits in the industry.

Now, we are able to summarize the data based on the Chi-square test and the cross tabulation table. We found that the option ‘access to specialized expertise and resources’ and ‘faster implementation and time-to-market’ are chosen the most by people who are relatively familiar with the industry. Also at the same time, they are the most popular options among all above showing its importance in the industry and should be included in gap analysis as the company may consider forces on when offering services.

**Figure 6:**

*Chi-square testing results between familiarity vs the key selection factor*

```
> chisq.test(respond$FAM,respond$Factor)

        Pearson's Chi-squared test

data:  respond$FAM and respond$Factor
X-squared = 16.612, df = 12, p-value = 0.1648
```

Our second hypothesis focuses on whether familiarity has an effect on participants' preferences for factors that they consider important when selecting a digital transformation service provider. The null hypothesis ($H_0$) states there is no relationship between participants' familiarity level with the industry and their preference for influential decision factors whereas the alternative hypothesis ($H_1$) there is a relationship between these two variables. We summarized the data into a cross tabulation table (*Appendix 7*) by adopting the same steps above with Chi-square analysis in order to determine whether the data could be used to project the needed information within the confidence interval. However, the result indicated in Figure 7 shows that the p-value is 0.1648 which is outside the confidence interval. Therefore, the analysis did not provide enough evidence to reject the null hypothesis or to support that there is not a relationship between industry familiarity and the valuing factor when choosing a company that focuses on digital transformation. In other words, the results are not statistically significant. There may be potential issues causing the insignificance of data such as small sample size. Nevertheless, the survey result may still be used to provide qualitative insights and reference that the quality of service could be an element that people believe is essential.

In conducting a comparison between EETech and its competitors SupplyFrame, Octopart, and SiliconExpert, we can analyze their strengths and weaknesses along several key dimensions. Due to the lack of specific data on rival companies, this analysis aims to highlight areas where EETech can improve or leverage its unique strengths. It is divided into the following 4 key dimensions:

| Dimension | EETech | SupplyFrame | Octopart | SiliconExpert |
|---|---|---|---|---|
| **Product & Service Scope** | Design tools, consulting services, online training | Supply chain solutions | Part search and comparison services | Electronic component data and supply chain services, excluding design and training services |

| | | | | |
|---|---|---|---|---|
| **Customer Base** | Start-ups, SMEs, large enterprises | Electronics manufacturers and supply chain-related businesses | Businesses and individual users (needing to search and compare electronic components) | Electronics manufacturers and supply chain-related businesses |
| **Market Positioning** | Global scope, covering multiple regions and industries | Specific markets and industries, focusing on electronics manufacturing and supply chain | Global scope, serving businesses and individual users | Specific markets and industries, focusing on electronics manufacturing and supply chain |
| **Technological Innovation** | Regularly launching new design tools and training courses, keeping up with industry trends | No specific data | No specific data | No specific data |

For the table listed above, we conducted a SWOT analysis of EETech to identify its strengths, weaknesses, opportunities and threats in terms of competition and industry trends.

- Strengths: EETech has a diverse range of products and services, customer base, and market positioning, which allows it to attract more potential customers and expand its business globally.
- Weaknesses: Compared to competitors focused on specific domains, EETech may need to maintain competitiveness in various aspects while meeting the needs of different customers and competing against rivals in specific markets and industries.
- Opportunities: EETech can enhance its competitiveness by pursuing market segmentation, focused innovation, and strategic partnerships to better address customer needs and preferences.
- Threats: EETech faces challenges from specialized competitors, rapidly changing industry trends, and shifting customer preferences, which may impact its market share and competitiveness.

Thus, EETech's diverse product offering, customer base and global market positioning are its strengths, while its potential weaknesses lie in how it maintains competitiveness in all aspects and meets the different needs of its customers in the face of specialized competitors.

# Conclusion and Recommendation

## Discussion

According to the survey results, respondents tend to pay more attention to the service quality and price of digital transformation service providers, and these respondents usually prefer to obtain high-quality and low-cost services. Among them, the service content that the respondents value most is the friendliness of the application interface and security and privacy measures. Meanwhile, data management and analysis are important considerations in digital transformation. Respondents believe that the right technology and strong infrastructure can improve the efficiency of enterprise operations and create a better user experience. In the process of cooperating with digital transformation service providers, the respondents value the provider's reputation and professional capabilities. Good reputation and convincing professional knowledge mean that the service provider has satisfactory service quality.

However, when implementing digital transformation, enterprises face challenges to some extent. Lack of understanding of technology, budget constraints, data security risks and other influencing factors will lead to the failure of digital transformation of enterprises, and digital transformation service providers can help enterprises cope with challenges.

## Conclusion

Generally, digital transformation service providers can help enterprises achieve digital transformation and bring higher value to enterprises. As a digital transformation service provider, EETech may need to focus on improving its own differentiation when providing digital transformation services for enterprises, so as to gain more competitive advantages in the fierce industry competition. The study identifies differences between EETech and selected competitors through gap analysis and explores competitive trends in digital transformation

services. Those service providers who can provide customers with high-quality professional services, guarantee customer data security and have a good reputation are usually preferred by enterprises. In addition, enterprises' familiarity with the industry will also have a significant impact on the effect of digital transformation cooperation and positive influence.

**Recommendations**

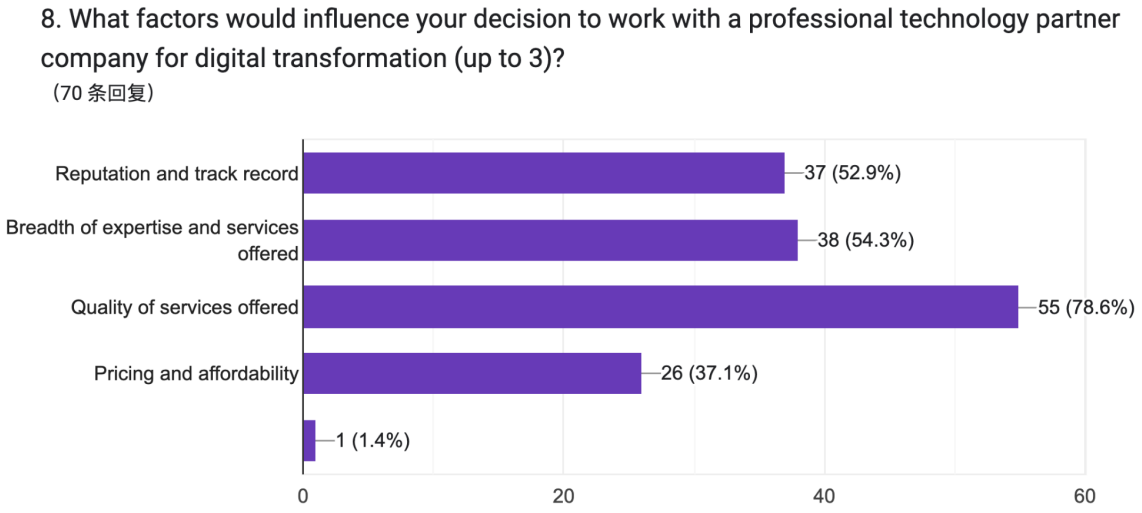
The quality of service is the most important factor for customers. First of all, EETech should be committed to improving the quality of its own services, so as to gain customers' recognition of its professional services. In order to improve the quality of service, EETech first needs to form a professional technical team. EETech not only needs to recruit technical experts from the outside, but also establish a sound training system within the organization to continuously improve the professional capabilities of internal personnel, so as to ensure that customers can be provided with amazing service and be satisfied with high quality service.

In addition, when choosing a digital transformation service provider, cost budget is also an important consideration for enterprises. In the process of realizing digital transformation goals, budget constraints are one of the biggest challenges. EETech may consider providing affordable services that satisfy different costumes’ needs. At the same time, EETech may consider improving efficiency through process automation, such as launching self-service after-sales management systems. Customers can solve problems in a timely manner through online channels, and EETech can reduce after-sales costs. Reduce the cost of dispatching labor, thereby reducing the overall service cost and providing customers with low service prices. Nevertheless, we found in our research that people familiar with the industry value the benefits provided by the company mainly on the accessibility of gaining resources and expertise help as well as having faster implementation with the digital transformation tools. Focusing on these aspects may enhance the customer's experience with acceptable prices.

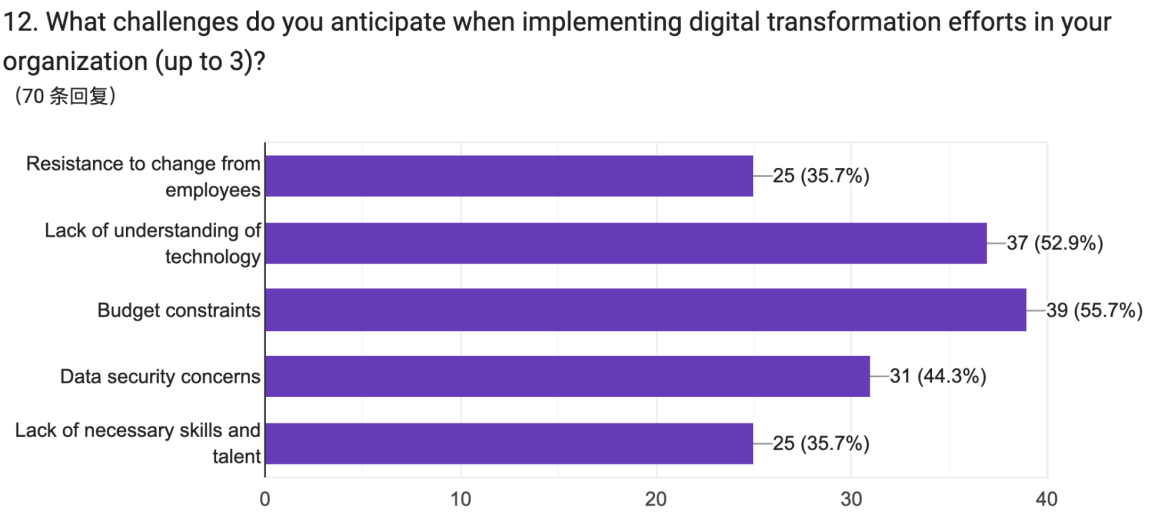
Furthermore, enterprises attach importance to data security issues in digital transformation. EETech should help companies avoid the risks of data leakage and abuse, such as providing customers with data activity monitoring services, capturing data flows in real time, and timely warning of abnormal situations, effectively helping companies avoid various data security risks, so as to better satisfy customers demand and gain a good competitive advantage.

# Appendix

Appendix 1: survey result

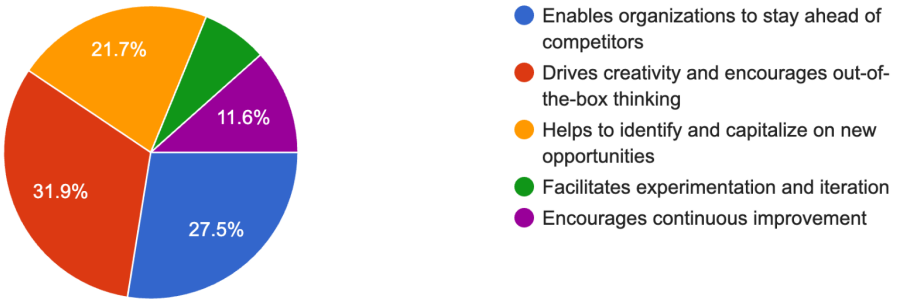



Appendix 2: survey result



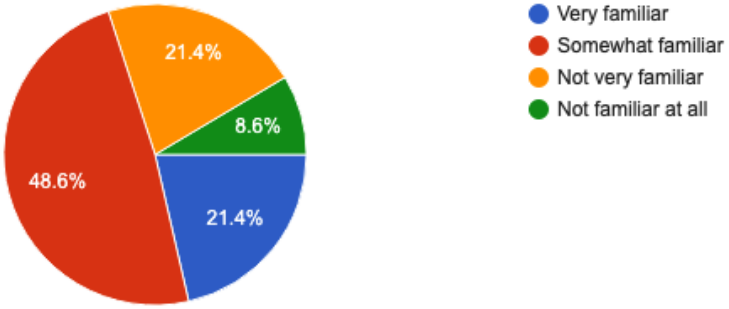
Appendix 3: survey result

13. What role do you think innovation plays in the success of digital transformation efforts?
（69 条回复）



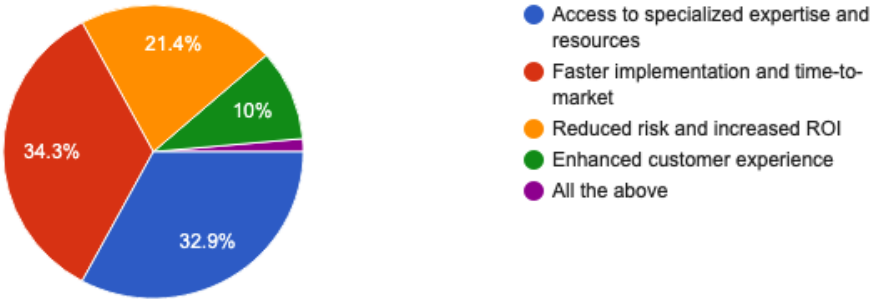

Appendix 4: survey result

2. How familiar are you with the different types of digital transformation services available in the technology industry?
（70 条回复）




Appendix 5: survey result

11. What do you think are the benefits of partnering with a professional technology partner company to transform your business digitally?
（70 条回复）



Appendix 6:

```
> table(respond$FAM,respond$Quality)

                   Access to specialized expertise and resources All the above  Enhanced customer experience
  Not familiar at all                                          4             0                          1
  Not very familiar                                            2             0                          2
  Somewhat familiar                                           14             1                          2
  Very familiar                                                4             0                          2

                   Faster implementation and time-to-market Reduced risk and increased ROI
  Not familiar at all                                    0                             2
  Not very familiar                                      3                             8
  Somewhat familiar                                     14                             5
  Very familiar                                          9                             1
```

Appendix 7 :

*The cross tabulation analysis with familiarity vs the key selection factor generated by R*

```
> table(respond$FAM,respond$Factor)

                   Customer support Experience Price Quality of services Reputation
  Not familiar at all                1          1     4                  1          0
  Not very familiar                  0          4     3                  8          0
  Somewhat familiar                  3          3     8                 18          4
  Very familiar                      0          3     1                 10          2
>
```

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