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Measurement and Evaluation Indicators of the Efficiency of the Digital Transformation Process in Vietnam

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A B S T R A C T

The paper presents the indicators used to measure the effectiveness of the digital transformation process in Vietnam. In the era of digitalization, the process of digital transformation is becoming a crucial factor for sustainable business development. The paper introduces various KPI indicators applied in different fields related to digital transformation in Vietnam. Based on the recommendations and proposed solutions in the paper, businesses and organizations can apply these measurement indicators and evaluation methods to make accurate business decisions. This can improve the digital transformation process and ensure sustainable development in the future.

Keywords: Key performance indicators, digital transformation process, digital systems

1. INTRODUCTION

The current situation of digital transformation in Vietnam

Currently, Vietnam is facing a great opportunity for development through digital transformation. Businesses, government agencies, and individuals are making every effort to leverage the advantages of digital technology to create new, more efficient, and cost-saving products, services, and work processes.

The Ministry of Information and Communications has reported that in the field of digital economy, more than 318,000 small and medium-sized enterprises have participated in the SMEdx digital transformation program in the first six months of 2022, representing a growth of 760% compared to 2021. Many large banks in Vietnam have also implemented electronic banking services to help customers conduct transactions conveniently and safely. In addition, the use of mobile applications for shopping, booking, and payment is also becoming increasingly popular in Vietnam.

Role of digital transformation in the development of Vietnamese businesses

Digital transformation plays a crucial role in the development of Vietnamese businesses. By applying digital technology to their operations, businesses can increase productivity, improve the quality of their products and services, enhance the customer experience, reduce production costs and time, optimize supply chains, and make decisions based on accurate and timely data.

Moreover, digital transformation is also a way for businesses to enhance their competitiveness in the market. The market is becoming increasingly competitive, and customers are getting smarter and more demanding, so businesses need to constantly adapt and innovate in order to not fall behind and lose market share.

Therefore, digital transformation has become an unstoppable trend in the modern economy, and its contribution to the development of Vietnamese businesses is becoming more important and necessary than ever before.

2. MEASUREMENT AND EVALUATION INDICATORS OF THE EFFECTIVENESS OF THE DIGITAL TRANSFORMATION PROCESS IN VIETNAM

During the digital transformation process, measuring and evaluating the effectiveness of activities is crucial. Key performance indicators (KPIs) help assess the ability to achieve objectives, measure progress, guide actions, and provide feedback on results.

These indicators must be established to be appropriate for the specific objectives of the enterprise, ensuring integrity, reliability, and ease of measurement. With new technologies such as AI, IoT, and blockchain, measuring and evaluating effectiveness has become more complex than ever. However, if applied correctly and effectively, KPIs will help Vietnamese businesses achieve progress in the digital transformation process.

Each industry and each business in Vietnam needs to set KPIs to evaluate the effectiveness of the digital transformation process. However, some commonly used KPIs in the digital transformation process include:

Online sales growth rate: This measures the growth rate of revenue generated from online business activities over a certain period of time. This index is often calculated by comparing the revenue of a certain period to the revenue of the previous period or the same period of the previous year and can be expressed as a percentage or a monetary value. It is an important index to measure the effectiveness of online business strategies and evaluate the development of businesses in the digital market.

The formula for calculating the online sales growth rate index is:

KPI1 = [(OSCP-OSPP)/OSPP].100

Where:

OSCP is the online sales revenue of the sales channel in the current period (usually a month or a quarter).

OSPP is the online sales revenue of the sales channel in the previous period (usually a month or a quarter).

The result is calculated as a percentage, showing the growth rate of online sales revenue over the current period compared to the previous period.

Conversion rate from online to offline customers: evaluating the effectiveness of online marketing and business campaigns. This is the ratio between the number of customers who purchase a product or use a service from the business through the online channel and then go to the physical store to receive the product or service. The conversion rate from online to offline customers is usually calculated by dividing the number of customers who have made purchases or used services at the physical store by the number of customers who have accessed the website or application of the business. This conversion rate will help businesses understand the effectiveness of their marketing campaigns and improve their online business actions.

The formula for calculating the online-to-offline customer conversion rate is:

KPI2 = (Npurchase /Nvisit).100

where:

Npurchase is the number of customers who purchase products or services at the physical store.

Nvisit is the number of customers who visit the website or application of the business.

Example: If in a month, 1000 customers have accessed the website of a business and 50 customers have made purchases or used services at the physical store, then the conversion rate from online to offline customers will be:

KPI2 = (50/1000).100 = 5%

Reliability of digital systems: measures the level at which a system can operate consistently and accurately over an extended period of time. This includes the ability to handle user requests, data security and protection, system latency, and the ability to recover from technical incidents. The reliability of a digital system is an important indicator for evaluating the effectiveness of the digital transformation process and ensuring the trust of customers and business partners.

Some factors commonly used to measure the reliability of digital systems include:

Uptime ratio: the ratio of the amount of time the system is operating without interruption to the total operating time of the system.

Mean time to resolution: the time it takes to resolve technical issues with the system from the moment of detection to the moment when the system is fully restored to its normal state.

Error rate: the ratio of the number of errors that occur in the system to the total number of system operations during that time period.

Success rate: the ratio of the number of successful operations in the system to the total number of system operations during that time period.

Depending on the intended use, one or more of the above factors can be used to calculate the reliability index of a digital system.

The speed of response and customer service on digital platforms: This index is usually measured by the response time of businesses on various communication channels, including email, messaging, online chat, and social media. If a business can respond quickly and promptly to customer requests on digital channels, it will quickly build a loyal customer base and enhance customer trust in its brand. The formula for calculating the index of speed of response and customer service on digital platforms is as follows:

KPI4 = TGPH / SLYC

Where:

TGPH is the total response time on digital channels;

SLYC is the number of customer requests on digital channels.

For example: Company A has various communication channels with customers, including email, messaging, live chat, and social media. Last month, the company received a total of 100 requests from customers on these channels. The response time of the company on each channel is recorded as follows: Email: average of 6 hours. Messaging: average of 2 hours. Live chat: average of 15 minutes. Social media: average of 1 hour.

In this case, the total response time on all communication channels for Company A is: 6 hours + 2 hours + 0.25 hours + 1 hour = 9.25 hours.

Therefore, the speed of response and customer service on digital platforms of Company A is: KPI4 = 9.25 hours / 100 requests = 0.0925 hours/request.

The result shows that, on average, each customer request of Company A is responded to within a time frame of 0.0925 hours, or about 5.55 minutes, on different communication channels.

The number of new and loyal customers: Attracting new customers through digital channels such as websites, social media, email marketing, online advertising, etc. can demonstrate the influence and attractiveness of a business in the market. At the same time, the number of loyal customers is also an important indicator, especially in the retail and service industries. Strengthening the customer experience and meeting their needs through digital channels will help increase customer loyalty to the business.

Number of new customers: The number of new customers who have registered or purchased from the business through digital channels within a certain period of time.

Number of loyal customers: The number of customers who have purchased from the business through digital channels and continue to use the service or purchase from the business for a long period of time.

Example: In Q1/2023, Business X attracted 5000 new customers and had 20,000 loyal customers (meaning they had made purchases in 2022 and continued to purchase in Q1/2023).

The costs of operating a digital system, include:

Initial investment costs: This is the cost of deploying a new digital system. If this cost is too high, it can affect the profitability of the business.

Maintenance costs: This is the cost of maintaining the system to make it operate reliably. Maintenance costs usually include the cost of repairing and replacing components when necessary.

Upgrade costs: This is the cost of upgrading the digital system to meet the increasing demands of the business and customers.

Customer service costs: This refers to the costs of providing support and services to customers through digital platforms. This cost can affect customer satisfaction and business revenue. The cost of customer service on digital platforms may include maintaining a professional website and supporting customers through online communication channels such as email, messaging, live chat, and social media. This cost includes server rental fees, website maintenance and updates, creating and managing online communication channels, and hiring online customer support staff. If customer service costs are too high, it can lead to reduced profits or decreased customer satisfaction as they may switch to using products or services from competitors with lower customer service costs.

The cost-to-profit ratio: This is a metric that measures the cost-effectiveness of a digital system. If this ratio is too high, the business will struggle to generate significant profits from its operations. The formula for calculating the cost-to-profit ratio is:

KPI8 = (CP / LN).100

In which:

CP is the total cost of operating the digital system, including the initial investment, maintenance, and upgrade costs of the digital system plus customer service costs.

LN is the net profit, which is the amount a business earns after deducting all costs related to its business operations.

If the cost-to-profit ratio is too high, the digital system is costing more than the profits the business is earning, and the business needs to take measures to reduce costs or increase profits.

Example: A business invests $10,000 to deploy a new digital system, which brings in $50,000 in the first year. In that year, maintenance and upgrade costs for the system are $5,000, and customer service costs are $2,000. The cost-to-profit ratio of this business is:

KPI8 = [(10,000 + 5,000 + 2,000) / 50,000].100 = 34%

This ratio shows that the business has spent about 34% of its profits on operating the digital system.

The proportion of staff trained in digital skills: This metric ensures that employees have the necessary abilities and knowledge to adapt to new technologies and apply them to their work, thereby increasing the efficiency and productivity of the workforce while reducing errors due to insufficient digital skills or knowledge.

The metric for the proportion of staff trained in digital skills can be calculated as the percentage ratio of the number of employees trained in digital skills to the total number of employees in the company, using the following formula:

KPI9 = (NVĐT / NV) . 100

For example, if a business has a total of 100 employees and 50 of them have been trained in digital skills, the Digital Skills Trained Workforce Ratio will be:

KPI9 = (50/100) x 100 = 50%

The customer satisfaction: To measure customer satisfaction, businesses can use methods such as evaluation surveys, feedback from customers, and regular assessments of product and service quality. Customer satisfaction helps evaluate the level of acceptance and effectiveness of digital solutions being implemented and is also an important factor in building brands and expanding market share. The customer satisfaction index can be calculated using the following formula:

KPI10 = (SNHL / SNKS) . 100

Where:

SNHL is the number of people who responded "very satisfied" or "satisfied."

SNKS is the total number of survey participants.

For example, if a survey has a total of 500 participants and 350 people responded as very satisfied or satisfied, then the Customer Satisfaction Index will be calculated as follows: KPI10 = (350 / 500).100 = 70%

Note that the exact formula depends on various factors of the evaluation method. In summary, each business in Vietnam can refer to the 10 KPI indexes listed in Table to evaluate the effectiveness of the digital transformation process.

Table. Commonly used KPIs for measuring and evaluating the effectiveness of digital transformation processes in Vietnam

ORDER	KPI INDEX	DESCRIPTION
1	Online sales growth rate	KPI1 = [(OSCP -OSPP)/OSPP].100
2	Conversion rate from online to offline customers	KPI2 = (Npurchase /Nvisit).100
3	Reliability of digital systems	- Uptime ratio - Mean time to resolution - Error rate - Success rate
4	The speed of response and customer service on digital platforms (hours/request)	KPI4 = TGPH / SLYC
5	The number of new and loyal customers	- Number of new customers - Number of loyal customers
6	The costs of operating a digital system	- Initial investment costs - Maintenance costs - Upgrade costs
7	Customer service costs	Costs of renting servers, website maintenance and updates, creating and managing online communication channels, and hiring online customer support staff
8	The cost-to-profit ratio	KPI8 = (CP / LN).100
9	The proportion of staff trained in digital skills	KPI9 = (NVĐT / NV) . 100
10	The customer satisfaction	KPI10 = (SNHL / SNKS) . 100

3. CONCLUSION

The paper emphasizes the importance of measuring and evaluating the effectiveness of the digital transformation process in Vietnam. This helps Vietnamese businesses evaluate and improve their digital transformation process, thereby optimizing strategies and increasing competitiveness in the market. The article lists important KPI indicators used to evaluate the effectiveness of the digital transformation process in Vietnam, including growth rate of online sales, conversion rate of customers from online to offline, reliability of digital systems, speed of response and customer service on digital platforms, number of new customers and loyal customers, digital system operating costs, staff trained in digital skills, and customer satisfaction.

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