



STRATEGY TO BUILD A SUSTAINABLE BUSINESS ECOSYSTEM BY OPTIMIZING USAGE QR CODES IN SUDIRMAN STREET FOOD BANDUNG, WEST JAVA

Lavinia Jennifer, Budi Setiawan

Pradita University

Email: laviniajennifer@student.pradita.ac.id, budi.setiawan@pradita.ac.id

ABSTRACT

This strategy to build a sustainable business ecosystem using QR Codes at Sudirman Street Food Bandung can increase the public's attraction to Sudirman Street Food Bandung. QR Code ordering can minimize errors in the food ordering system, QR Code itself also has features such as monitoring income and expenses because QR Code can be a means of payment. The QR Code in Sudirman Street Food Bandung is also used for the payment system and is also used for the ordering system. In this research, the strategy for building a sustainable business ecosystem using QR Codes at Sudirman Street Food Bandung uses qualitative methods with a case study approach, and carries out sampling techniques using the Slovin's formula while data collection techniques use observation and interview techniques. The data analysis used is a qualitative descriptive analysis technique to identify challenges and opportunities in using QR codes in the food and beverage business at Sudirman Street Food Bandung. The analysis method used is factor analysis and SWOT analysis. Based on an analysis of the problems found at the Sudirman Street Food Bandung location, it was found that the use of QR Codes for ordering at Sudirman Street Food Bandung was no longer used for various reasons in terms of sellers and visitors at Sudirman Street Food Bandung, therefore various innovations were found that could optimize and revive a sustainable business ecosystem by using QR Codes as an ordering method at Sudirman Street Food Bandung, so that a sustainable business ecosystem can be implemented at Sudirman Street Food Bandung.

Keywords : Strategy, Sustainable Business Ecosystem, QR Code

INTRODUCTION

The digital era is currently developing rapidly and influences almost all aspects of life, including the food and beverage business (Weber et al., 2006). One technology that is being used to simplify the transaction process and increase business efficiency is QR Code (Nguyen, 2022). QR Code or Quick Response Code is a two-dimensional matrix code that can be read by a smartphone camera and directed to a website page or application (Bhargava, 2015). According to Xiong, Li, and Li (Hamdani et al., 2021) QR Code is a form of technology that allows users to read information encoded in the form of a two-dimensional matrix code. QR Codes are very popular because of their ability to store large amounts of information and be easily read by smartphones (Tiwari, 2016).

Sudirman Street Food Bandung is one of the popular culinary areas in Bandung City, West Java (Hermawanti, 2023). This area has various types of food and drinks served by street vendors (Al Mamun et al., 2013). However, there are still many challenges faced by traders in developing their business, one of which is facing increasingly fierce competition and increasingly rapid technological advances (Hobday, 2023). Traders have also started to adapt to new existing technology (Yoo et al., 2023). According to interviews with several tenants out of 70 tenants, 30 tenants said that QR Code service providers did not provide an understanding of the use of QR Codes as a business opportunity that could attract visitors.

Use of QR Codes in the food and beverage business, can be a solution to increase operational efficiency and time efficiency (Suhartanto et al., 2020). However, there are many traders who have not utilized this QR Code technology optimally, so there is still potential to improve business performance by optimizing the use of QR Code (Vilas-Boas et al., 2023). The QR Code itself can also provide convenience for traders because traders do not need to give change because buyers will pay according to the nominal value and can also minimize fraud and can manage income and expenses easily.

Sudirman Street Food itself has many tenants with different methods, the payment method using a QR code can help each tenant to maintain seller hygiene. According to Indrawan, Sujaya (2022) said that paper money can be a means of transferring bacteria and germs which can cause various kinds of diseases.

The traders at Sudirman Street Food themselves vary from young people to the elder, therefore using this QR Code payment method can help traders to maintain food hygiene and also the health of traders (Turner, 2017).

Using QR Codes is not only for payments, but using QR Codes can also be an alternative for ordering food, this can create a new unique feature for Sudirman Street Food and can also increase effectiveness for both traders and visitors. Apart from that, using a QR Code can also minimize crowds in one of the tenants because it can cause misunderstandings, using a QR Code can also reduce paper usage (Van Hoof et al., 2011).

According to the results of observations and interviews, it was found that the use of QR Codes for ordering has no longer been used since June 2023, because there are many factors that make the use of QR Codes for ordering no longer used. The factor that is often complained about by traders at Sudirman Street Food Bandung is the website provided is not suitable for beginners, and visitors are also not given education about using QR Codes.

METHODOLOGY

This research uses a qualitative method with a case study approach. According to Denzin and Lincoln (2018) in the book *The SAGE handbook of qualitative research*. Qualitative methods are a way to explore and understand the complex social world through understanding the different experiences, views and practices of research subjects.

The sampling technique uses the Slovin's Formula (Firdaus MM, in the book *Quantitative Research Methodology*, 2021) with data collection techniques using observation and interviews. Data analysis was carried out using qualitative descriptive analysis techniques to identify challenges and opportunities in using QR Codes in the food and beverage business at Sudirman Street Food Bandung. The data analysis methods used are factor analysis and SWOT analysis.

The following is a calculation using the Slovin's Formula (Firdaus MM, in the book *Quantitative Research Methodology*, 2021). The Slovin's formula is used to determine the number of tenants that will be used as research data.

$$n = \frac{N}{1 + N(e)^2}$$

Figure 1. Slovin's Formula, *Quantitative Research Methodology* book

(Source: Firdaus MM, 2021)

$$n = 70 / 1 + 70 (0.1)^2$$

$$n = 70 / 1 + 70 (0.01)$$

$$n = 70 / 1.7$$

$$n = 41.1 \Rightarrow 41 \text{ Tenants}$$

From the results of the calculations above, researchers need 41 tenants to be used as representative data from the 70 tenants at Sudirman Street Food.

RESULTS AND DISCUSSION

Sudirman Street Food Bandung has quite a strong tourist attraction, every tourist who visits Bandung will definitely go to visit Sudirman Street Food because this is where tourists can find many types of food.

Based on the results of observations using the interview method with several tenants at Sudirman Street Food Bandung, using QR Codes for payments makes it easier for traders and can also maintain food quality hygiene. Apart from that, using QR Codes to order food will make it easier for traders, can provide comfort for visitors because visitors can directly Ordering without having to go to a tenant will also add to the uniqueness of Sudirman Street Food.

The following are the steps for ordering at Sudirman Street Food using a QR Code.

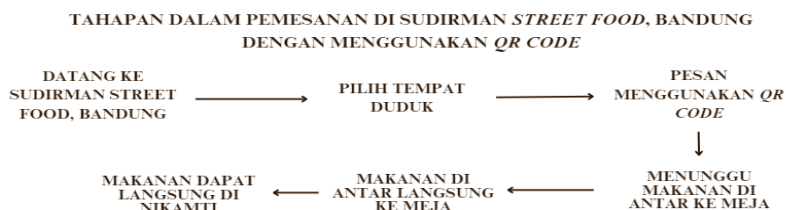


Figure 2. Ordering stages using QR Code

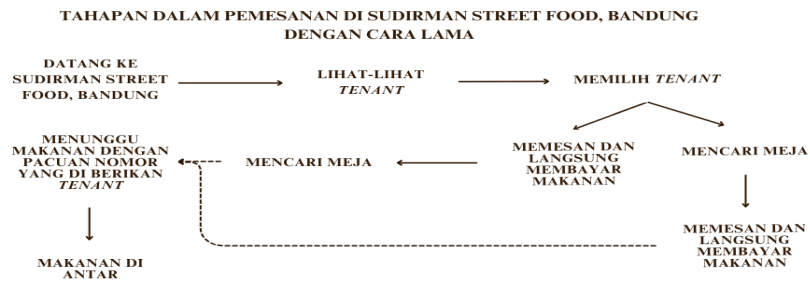


Figure 3. Ordering stages using the old method

The image above is a comparison between the method that uses QR Code ordering and the one that uses the old method. It can be seen that using the QR Code method can simplify the ordering process and save time, besides that it can also give a new impression to visitors (Daniel et al., 2023). Apart from that, using a QR Code can save time in ordering menus because visitors don't need to come to the tenant (Jover & Barrero-Rescalvo, 2023).

Sudirman Street Food has 70 tenants, consisting of 50 halal tenants and 20 non-halal tenants. After collecting data from the interview results, it can be concluded that the QR Code ordering has been no longer used for 3-4 months due to a lack of education to tenants and also to visitors who come, the lack of education to tenant owners means that there are still many tenant owners who have problems using it because the application used is not suitable for beginners plus there is a lack of additional education, visitors are also not informed about the existence of the QR Code so visitors are also not aware of the existence of the QR Code, but there are several tenants who feel that the QR Code helps their performance in picking up and delivering orders Apart from being effective in terms of time, using QR Codes can also reduce paper usage because visitors do not need to take proof of payment or receipts because everything can be seen on the website used when scanning the QR Code. Using QR Codes can also add new innovations that can make Sudirman Street Food is one of the food courts that uses QR Code technology not only for payments but also for orders.

Results of SWOT analysis of the use of QR Codes in eating places.

Table 1. SWOT table

<i>Strength</i>	<i>Weaknesses</i>	<i>Opportunities</i>	<i>Threats</i>
Speed up the ordering process	The code image is faded or missing	Development of new innovations	Not all people (elder) can understand how to scan codes
Can be used on all types of Smartphones	Notifications do not go to merchants	Can collect visitor to booking data	Misuse of visitor data

Minimize fraud and errors in ordering	Movement of visitor tables	of Having a QR code can attract people	Problems with internet connection
Reduce paper usage		Avoid physical contact between traders and visitors	Dependence on Vendor providing QR Code

1. Strength Factor

From the data obtained, researchers can conclude the strength factors in using QR Codes for ordering:

- a. Using a QR Code for ordering can speed up the process of recording orders, so that traders can focus more on preparing orders from visitors.
- b. Using a QR Code, it can be scanned using a Smartphone camera with the help of the Google application, where the application provides the Google Lens feature, users only need to open Google on their respective Smartphones and select the camera image in the search section then point the camera at the QR Code listed on the table. .
- c. Minimizes fraud and errors in taking orders because by using the QR Code, visitors can order directly via their respective smartphones and can provide notes on their orders, thereby reducing ordering errors which usually occur due to the loss of the seller's notes. Loss of records can be a means of fraud as a result of disorganized record keeping.
- d. Using a QR Code can reduce paper usage because sellers don't need to write order notes manually and visitors don't need to keep paper receipts or order receipts as proof of ordering because everything is recorded directly on the smartphone and application from the QR Code service provider.

2. Weakness Factors

- a. The QR Code image can fade over time and also be damaged if visitors frequently come into contact with water or dirt. Even though it has been coated with additional protection, it does not rule out the possibility that the QR Code image can be damaged, if the QR Code image is damaged or blurry, the QR Code cannot be scanned.
- b. Notifications do not go to merchants. This can happen if there is a problem with the network, but it can also be caused by an application or website experiencing an error in the system.
- c. Visitors' table movements can occur due to many reasons, such as the table being uncomfortable or unstable, the QR Code not being able to be scanned, guests exceeding the table capacity.

3. Opportunity Factor

- a. The development of new innovations can create opportunities to develop ordering systems and present ordering innovations using digital technology.
- b. Can collect consumer data when ordering food, data generated by using QR Codes can be used for consumer trend analysis, personalization and better promotional efforts. Apart from that, the

data collected in the QR Code ordering system can be used to analyze the business and to make the right decisions

c. QR Codes can attract the public's attention, with the QR Code it can provide new experiences to the public, especially in the digitized ordering system.

d. Avoiding physical contact between traders and visitors, since the COVID-19 pandemic, people have become more careful about their health, especially as physical contact can be a means of transferring germs and bacteria that cause disease.

4. Threat Factors

a. Not all groups (elder) can use the QR Code-based ordering system and not all visitors use smartphones. Apart from that, there is also a need to provide information to visitors regarding ordering using a QR code. This socialization action requires time and costs to educate visitors

b. Misuse of visitor data, in digital-based orders using QR Codes, the security of visitor data and the order history itself is vulnerable to data leaks and misuse by irresponsible parties.

c. One of the threats in an ordering system using a QR Code is problems with the internet connection, because this digital ordering system is very dependent on an internet connection. Because in tenants many visitors who gather in one area will usually experience disruption because the internet provider will not be able to accommodate too many users or is overloaded.

d. The ordering system via QR Code is very dependent on the presence of a third party or vendor, when this vendor no longer supports the ordering systems using QR Code then the stability of ordering using QR Code itself will be disrupted and if the QR Code vendor provider is not responsive can give a bad impression of use both for visitors and for traders.

From the results of the analysis of the four factors, the next stage is to determine the rating and weight for each factor using the IFE and EFE matrices with the following calculation information:

Weight:

0.15: Strongly Agree

0, 10: Agree

0.05: Disagree

Rating for Strength

4: Very Important

3: Important

2: Less Important

1: Not Important

Weakness Ratings

4: Main Power

3: Minor Power

2: Minor Weakness

1: Major Weakness

Opportunity & Threat Ratings

4: Very Important

3: Important

2: Less Important

1: Not Important

To determine the weight and rating, it is determined from the results of distributing questionnaires using Google Form.

Table 1. IFE matrix table for using QR Code.

IFE			
Strength	Weight	Ratings	Score
Speed up the ordering process	0.15	4	0.6
Can be used on all types of Smartphones	0.15	4	0.6
Minimize fraud and errors in ordering	0.15	4	0.6
Reduce paper usage	0.15	4	0.6
Total	0.6		2.4
Weaknesses	Weight	Rating	Score
The code image is faded or missing	0.15	2	0.3
Notifications don't come through	0.15	2	0.3
Movement of visitor tables	0.10	2	0.2
Total	0.4		0.8
Total	1		3.2

Table 2. EFE matrix table for using QR Code.

EFE			
Opportunities	Weight	Ratings	Score
Development of new innovations	0.15	4	0.6
Can collect visitor booking data	0.15	3	0.45
Having a QR code can attract people	0.15	3	0.45
Avoid physical contact between traders and visitors	0.15	4	0.6
Total	0.6		2.1
Threats			

Not all people (elder) can understand how to scan codes	0.05	4	0.2
Misuse of visitor data	0.15	3	0.45
Problems with internet connection	0.15	4	0.6
Dependence on Vendor providing QR Code	0.05	3	0.15
Total	0.4		1.4
Total	1		3.5

From the results of the IFE analysis, the total score is more than 2.5, which means the company can be said to be strong internally. From the EFE results, 3.5 was obtained, which means more than 2.5, which shows that the company responded very well to possible opportunities and threats that would occur in the future. From the results of the data above, a calculation can be obtained using a formula to obtain the quadrant position which will determine the use of the QR Code in zones I, II, III, IV.

SW/2 : OT/2

$$(2.4 - 0.8)/2 : (2.1-1.4)/2$$

0.8:0.38

Information:

S (Strength) :2,4

W (Weaknesses) : 0.8

O (Opportunity) : 2,1

T (Threats) : 1,4

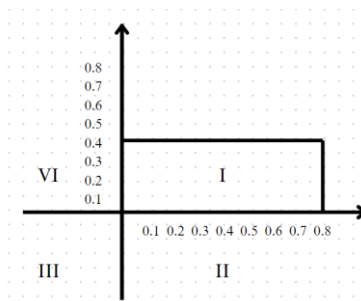


Figure 4.SWOT analysis quadrants

The SWOT analysis quadrant is divided into 4 parts, each part has its own meaning which can help to identify the position of a strategy more clearly.

- Quadrant I: is a very profitable situation because there is opportunity and strength to take advantage of existing opportunities. The strategy that should be implemented in this situation is to support active growth policies.
- Quadrant II: remain strong internally despite facing various threats.
- Quadrant III: facing huge market opportunities, but also facing several obstacles, namely internal weaknesses.
- Quadrant IV: facing various internal threats and weaknesses and being in a very disadvantaged position.

From the results of calculations and quadrant depictions, researchers can conclude that the use of QR Codes for ordering food is in quadrant I, which means it is in an aggressive strategy where the power takes advantage of existing opportunities to maintain the sustainability of the use of QR Code orders.

Table 4. SWOT Matrix

IFAS	Strength	Weakness
	Speed up the ordering process	The code image is faded or missing
	Can be used on all types of Smartphones	Notifications do not go to merchants
	Minimize fraud and errors in ordering	Movement of visitor tables
	Reduce paper usage	
EFAS		
Opportunities	SO Strategy	WO Strategy
Development of new innovations	- Can easily collect and pick up orders faster and more efficiently in time	- Regularly check each QR Code on the table. If any are damaged or blurry, immediately replace them
Can collect visitor booking data	- Making the development of new innovations by utilizing smartphone technology so that physical contact can be avoided.	- Added a table movement feature so that sellers can know that visitors have moved tables and can provide new table
Having a QR code can attract people		
Avoid physical contact between traders and visitors	- Can reduce paper usage because all	

data can be viewed via smartphone. numbers.

Threats	ST Strategy	WT Strategy
Not all people (elderly) can understand how to scan codes	Providing knowledge to guests and traders on how to use and benefit from QR Codes by vendors who are always on site in order to minimize fraud.	Adding a free internet network at several points for visitors and providing a special network for tenants to reduce the risk of notifications not coming through.
Misuse of visitor data		
Problems with internet connection		
Dependence on Vendor providing QR Code		

From the table above it can be concluded that the SO strategy of using QR Codes for visitors can increase effectiveness in terms of time and also the use of QR Codes for visitors can add to the experience for guests who come and also the use of QR Codes can make Sudirman Street Food Bandung a business that prioritizes the surrounding environment by reducing paper use.

QSPM (Quantitative Strategic Planning Matrix) Analysis

Analysis Quantitative Strategic Planning Matrix is the final stage of the SWOT analysis process which determines the selection of the best strategic alternative. The QSPM Matrix is seen from the highest TAS (Total Attractiveness Score) value and is the most suitable alternative strategy for using QR Code orders at Sudirman Street Food Bandung

		Alternatif Strategi Terpilih										
		Dapat dengan mudah mengumpulkan dan mengambil pesanan lebih cepat dan lebih efisien dalam waktu		Dapat mengurangi penggunaan kertas karena semua data dapat dilihat melalui smartphone		Memberikan pengetahuan kepada tamu dan pedagang cara penggunaan dan manfaat dari QR Code oleh vendor yang selalu ada di lokasi agar dapat meminimalisir kecurangan.		Melakukan pengecekan berkala pada setiap QR Code di meja jika ada yang rusak atau buram langsung segera diganti		Penambahan jaringan internet gratis di beberapa titik untuk pengunjung dan memberikan jaringan khusus bagi para tenant agar dapat mengurangi resiko notifikasi tidak masuk.		
No.	Faktor Kunci	Bobot	AS	TAS	AS	TAS	AS	TAS	AS	TAS	AS	TAS
Kekuatan												
1	Mempercepat proses pemesanan	0.15	4	0.60	4	0.60	4	0.60	3	0.45	4	0.6
2	Dapat digunakan di segala jenis Smartphone	0.15	4	0.60	3	0.45	3	0.45	3	0.45	4	0.6
3	Meminimalisir kecurangan dan kesalahan dalam pemesanan	0.15	3	0.45	4	0.60	3	0.45	4	0.6	4	0.6
4	Mengurangi penggunaan kertas	0.15	4	0.60	3	0.45	4	0.60	3	0.45	2	0.3
Kelemahan												
1	Gambar code pudar atau hilang	0.15	4	0.60	4	0.60	4	0.60	2	0.3	1	0.15
2	Notifikasi tidak masuk ke pedagang	0.15	4	0.60	4	0.60	3	0.45	2	0.3	3	0.45
3	Perpindahan meja pengunjung	0.10	3	0.30	3	0.30	4	0.40	3	0.3	2	0.2
Total Bobot		1.00										

<i>Peluang</i>												
1	Pengembangan inovasi baru	0.15	4	0.60	3	0.45	4	0.60	4	0.6	4	0.6
2	Dapat mengumpulkan data pemesanan pengunjung	0.15	3	0.45	4	0.60	3	0.45	2	0.3	4	0.6
3	Ada nya QR code dapat menarik masyarakat	0.15	4	0.60	3	0.45	4	0.60	1	0.15	3	0.45
4	Menghindari kontak fisik antara pedagang dan pengunjung	0.15	4	0.60	2	0.30	4	0.60	3	0.45	3	0.45
<i>Ancaman</i>												
1	Tidak semua kalangan (lanjut usia) dapat mengerti cara men-scan code	0.05	3	0.15	4	0.20	4	0.20	4	0.2	4	0.2
2	Penyalahgunaan data pengunjung	0.15	3	0.45	3	0.45	4	0.60	4	0.6	3	0.45
3	Permasalahan pada koneksi internet	0.05	3	0.15	3	0.15	4	0.20	3	0.15	2	0.1
4	Ketergantungan pada Vendor penyedia QR Code	0.15	2	0.30	2	0.30	2	0.30	4	0.6	3	0.45
Total Bobot		1.00										
Total Nilai Daya Tarik (STAS)				7.05		6.50		7.10		5.9		6.2

Figure 2. Results of Researcher Analysis

From the results of the analysis using the QSPM table, the first thing that must be done so that the use of the QR code continues to run at Sudirman Street Food Bandung is to always provide education to each tenant about the importance of using the QR Code and also educate about how to use it. In addition, sellers need to be educated on how to overcome if a problem occurs. Education that is intended not only to sellers but also to visitors, in this case visitors also need to understand and understand the use of the QR code.

CONCLUSION

The use of QR Codes at Sudirman Street Food, Bandung can increase the selling value of Sudirman Street Food. It can contribute to starting to reduce the use of paper waste. Apart from helping reduce paper waste, the innovation of using QR Codes can also make Sudirman Street into a food court that has technology that can help tenants and also can increase visitor comfort because visitors do not need to come to each tenant, just by scanning the QR Code, all tenant menus can be seen. The use of QR Codes must also be supported by availability and fast response from the service provider if there are problems that occur. Can be completed immediately so that the QR Code can run effectively.

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