

## **CHAPTER IV**

### **RESULT AND DISCUSSION**

#### **4.1 Results**

This section presents the findings obtained throughout the research process, which serve as the foundation for the development of the Guide Book for Tour Guides at Solo Technopark. The results were organized according to the stages of research and product development, highlighting both the potential and problems identified, as well as the data collection, product design, validation, revision, testing, and production processes. Each subsection provided a detailed explanation of how the information was gathered, analyzed, and utilized to enhance the final guidebook product.

##### **4.1.1 Potential and Problems**

The development of the "Guide Book for Tour Guides at Solo Technopark" was initiated in response to the absence of a specific guide or Standard Operating Procedure (SOP) used by the public relations team at Solo Technopark for guiding industrial visits. To create an effective guidebook, it was necessary to gather data demonstrating its need. Therefore, the researchers collected data through direct observation at Solo Technopark. Based on the researcher's direct observation during the internship in the Public Relations Division, it was identified that the division was responsible for three main tasks: functioning as the master of ceremonies (MC) during industrial visits, delivering presentations on the Solo Technopark company profile, and guiding visitors throughout the facility. The researchers found that new employees, particularly interns in the public relations division, largely learned through a "learning by doing" approach. They were typically advised to study the material from Solo Technopark's official website, which proved inefficient and suboptimal. The lack of a structured written guide led to inconsistent information delivery and made it difficult for tour guides to provide accurate and engaging explanations. This situation potentially diminished visitor satisfaction.

The development of the “*Guidance for Tour Guides at Solo Technopark*” emerges as a strategic response to the identified challenges in ensuring consistent and engaging information delivery. This approach is supported by a substantial body of literature highlighting the pedagogical and operational benefits of guidebooks in tourism contexts. For instance, Wahyuningtyas et al. (2024) demonstrated that bilingual guidebooks can significantly enhance tour guides’ English communication skills and confidence, particularly when designed with a user-centered framework. Furthermore, Rochim and Taulina (2023) found that integrating digital features—such as QR codes and Google Maps—into guidebooks not only increases accessibility but also enhances interactivity, which is particularly relevant for Solo Technopark’s positioning as a technology- and education-based destination. Novitasari, Safitri, and Rahayu (2024) confirmed that professionally developed guidebooks, validated by experts and tested in the field, can significantly improve tour guide performance and service quality. Taken together, these findings provide a robust theoretical and practical foundation for the creation of a bilingual, digitally integrated guidebook at Solo Technopark, offering the potential to address current service inconsistencies while simultaneously strengthening tour guides’ communication competencies and enhancing visitor satisfaction.

#### **4.1.2 Data Collection**

This section explains the data and information collection methods used to develop the guidebook for tour guides at Solo Technopark. The data collection technique carried out by the researchers in making this guide book is direct observation, documentation, interviews, literature studies, and research instruments in the form of questionnaires.

##### **a) Observations**

The researchers conducted direct observation during the author's internship at Solo Technopark, which ran from September 2024 to January 2025. The researchers directly observed the workflow of the Public Relations team. This process revealed a significant issue: the Public Relations division lacked a formal

and standardized operational guide for conducting industrial tours. Due to the absence of a fixed reference, the guiding methods and information presented by each tour guide tended to vary. Therefore, the researchers proposed a tour guide handbook development project to address this problem.

b) Unstructured Interviews

Semi-structured interviews were conducted with the Head of the Public Relations division to gather information regarding the buildings and facilities at Solo Technopark and to discuss the design for the proposed guidebook. Furthermore, an interview with a Head of the Oil and Gas Skill Center of Indonesia (OGSCI) provided information about *Minyak Bumi dan Gas (MIGAS)* Corner and details about OGSCI itself. An interview with the Head of Manufacturing also yielded insights into the procedures for visiting the manufacturing workshop.

c) Documentation

In addition to interviews, the researchers also gathered data through documentation techniques. This involved reviewing various sources, like the official solo technopark's website and booklets, along with analyzing relevant internal documents. Furthermore, the researchers took on-site photographs to visually capture the existing facilities and infrastructure. This combination of textual and visual data serves as the primary reference material for the guidebook, enabling guides to provide comprehensive explanations to visitors. Some buildings that can be documented for research purposes include the Research and Development (R&D) Building, the Solo Trade Center Building, and the Sembrani Gumarang Building.

d) Literature Study

Each page of this guidebook features a tour commentary script that serves as a substantive reference for the Public Relations team. This script details explanatory material on various assets at Solo Technopark, encompassing its infrastructure, technical divisions, and flagship programs. Literature review was used extensively to form the basis of its composition and to validate the accuracy of the information contained within each guiding narrative.

### 4.1.3 Product Design

The product design phase begins after data has been gathered through direct observations and respondent interviews. During this stage, the book's core content is formulated from the results of these discussions, interviews, and observations to ensure it meets the specific needs and suggestions of the respondents. The researchers were assisted by a graphic designer in compiling this guidebook. The application used was Photoshop. At this stage, the researchers developed a design plan to provide an overview of the guidebook's intended design. This design planning encompassed several fundamental aspects, as detailed below:

#### a. Material Collection and Structuring

The researchers gathered the necessary materials for the guidebook's creation in this process by employing several data collection techniques. The collected materials included observations and interviews with sources at Solo Technopark, Solo Technopark booklets, internal documents that provided in-depth information, and the official website detailing the facilities.

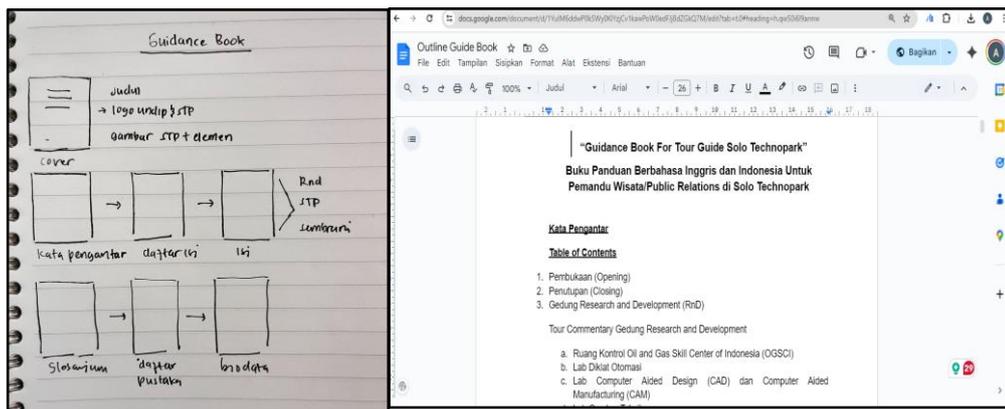


Figure 4. 1 Outline Guide Book Materials

Following this, the researchers composed an outline. An outline was then developed to brief the graphic designer on the guidebook's overall structure and content. This framework makes it easier for the graphic designer to design the relevant visuals for each topic covered in the book. The content included in this guidebook consists of knowledge that a tour guide needs to know, along with tour commentaries based on the buildings and facilities available at Solo Technopark.

The content to be included in this guidebook consists of: Table of Contents, Ethics and Attitudes of Being a Tour Guide, Body Language, Solo Technopark Map, Examples of Tour Opening and Closing, Tour Commentary for the Research and Development Building, Tour Commentary for the Solo Trade Center Building, Tour Commentary for the Sembrani and Gumarang Buildings, Glossary, References, and finally, the Author's Biography. In the preface, the Solo Technopark map, and the section on the ethics and attitudes of being a tour guide are presented in Indonesian. Meanwhile, the tour commentaries related to the buildings and facilities are presented bilingually, in both Indonesian and English, to support accessibility and bilingual competence for tour guides.

## b. Content Translation

Following the material collection phase, the next step in the design process is translation. This stage is crucial as the guidebook designed to be bilingual (Indonesian and English). According to the foundational definition by Nida and Taber (1982), translation consists of "reproducing in the receptor language the closest natural equivalent of the source-language message, first in terms of meaning and secondly in terms of style".

To accomplish this, the researchers utilized two tools. The first is Google Translate, a service developed by Google that leverages advanced Neural Machine Translation (NMT) technology to translate text between languages (Wu et al., 2016). The second tool is Grammarly, which is used to proofread and refine the English grammar, ensuring a higher quality and more polished final text

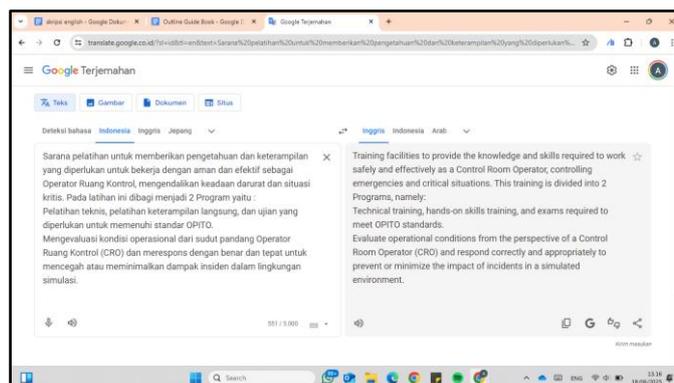


Figure 4. 2 The Usage of Google Translate

The translation process for this guidebook was carried out topic by topic, as detailed in the table below:

Table 4. 1 Translating Text Using Google Translate

<b>No</b>	<b>Indonesian</b>	<b>English</b>
1.	<p>Ruang Kontrol Oil Gas Skill Center of Indonesia (OGSCI) Sarana pelatihan untuk memberikan pengetahuan dan keterampilan yang diperlukan untuk bekerja dengan aman dan efektif sebagai Operator Ruang Kontrol, mengendalikan keadaan darurat dan situasi kritis. Pada latihan ini dibagi menjadi 2 Program yaitu :</p> <p>a) Pelatihan teknis, pelatihan keterampilan langsung, dan ujian yang diperlukan untuk memenuhi standar OPITO.</p> <p>b) Mengevaluasi kondisi operasional dari sudut pandang Operator Ruang Kontrol (CRO) dan merespons dengan benar dan tepat untuk mencegah atau meminimalkan dampak insiden dalam lingkungan simulasi.</p>	<p>A training facility designed to provide the knowledge and skills required to work safely and effectively as a Control Room Operator (CRO), including how to manage emergencies and critical situations. This training is divided into two main programs:</p> <p>a) Technical training, hands-on skills training, and the required assessments to meet OPITO standards.</p> <p>b) Participants will evaluate operational conditions from a Control Room Operator's perspective and respond accurately and appropriately to prevent or minimize the impact of incidents in a simulated environment.</p>
2.	<p>Mandiri Digipreneur Hub adalah area yang</p>	<p>Mandiri Digipreneur Hub is an area where a co-working space</p>

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di dalamnya terdapat *co-working space* yang bisa digunakan untuk melakukan aktivitas-aktivitas produktif, pelatihan, sosialisasi dan kolaborasi ataupun mengembangkan produk Usaha Mikro, Kecil, dan Menengah (UMKM). Selain itu fasilitas-fasilitas yang tersedia juga diperuntukkan bagi generasi milenial untuk menunjang pengembangan diri di era digital. Pada Mandiri Digipreneur Hub memiliki sejumlah fasilitas yang bisa dimanfaatkan pengunjung, diantaranya adalah :

- a) Fasilitas meeting area
- b) Ruang podcast studio
- c) Ruang kelas
- d) Sudut UMKM

can carry out productive activities, training, socialization, and collaboration, or develop *UMKM* products. In addition, the facilities available are also intended for the millennial generation to support self-development in the digital era. The Mandiri Digipreneur Hub has several facilities that visitors can utilize, including:

A. Meeting area facilities

- a) Podcast studio room
- b) Classroom
- c) *UMKM* corner

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The data that has been collected and translated is copied to Google Docs, then the researchers links the Grammarly application with Google Docs, where Grammarly will work automatically to detect grammar errors, writing, punctuation, and the like. Examples of using Grammarly in writing are as follows:

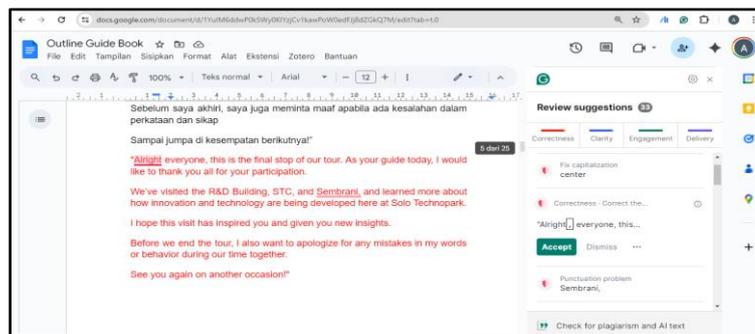


Figure 4. 3 The Usage of Grammarly

### c. Format Arrangement

The following are the formats contained within the guidebook for tour guides at Solo Technopark:

#### a) Introduction

The introduction section establishes the guidebook's identity and structure. It contains the cover and title page, acknowledgments, and a table of contents. The cover and Title Page elements are the book's primary face. They present the official title, identify Solo Technopark, and provide an immediate sense of the book's purpose and branding. Acknowledgments is a dedicated section for formally thanking the individuals, teams, or organizations whose contributions, support, or collaboration were crucial in the research, development, and publication of the guidebook. The table of contents acts as a user's guide, listing all topics and subtopics with their page numbers to facilitate easy navigation through the book.

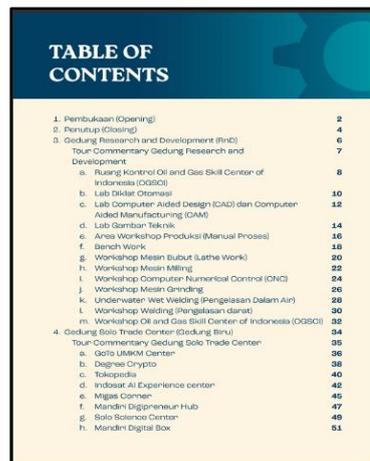


TABLE OF CONTENTS	
1. Pembukaan (Opening)	2
2. Penutup (Closing)	4
3. Gedung Research and Development (RnD)	6
Tour Commentary Gedung Research and Development	7
a. Ruang Kontrol Oil and Gas Skill Center of Indonesia (OGSCI)	8
b. Lab Diklat Otomasi	10
c. Lab Computer Aided Design (CAD) dan Computer Aided Manufacturing (CAM)	12
d. Lab Gambar Teknik	14
e. Area Workshop Produksi (Manual Proses)	16
f. Bench Work	18
g. Workshop Mesin Bubut (Lathe Work)	20
h. Workshop Mesin Milling	22
i. Workshop Computer Numerical Control (CNC)	24
j. Workshop Mesin Grinding	26
k. Underwater Wet Welding (Pengelasan Dalam Air)	28
l. Workshop Welding (Pengelasan darat)	30
m. Workshop Oil and Gas Skill Center of Indonesia (OGSCI)	32
4. Gedung Solo Trade Center (Gedung Bnu)	34
Tour Commentary Gedung Solo Trade Center	35
a. Goto UMKM Center	36
b. Dajhae Crypto	38
c. Tokopedia	40
d. Indosat AI Experience center	42
e. Migas Conner	45
f. Mandiri Digpreneur Hub	47
g. Solo Science Center	49
h. Mandiri Digital Box	51

Figure 4. 4 Table of Contens

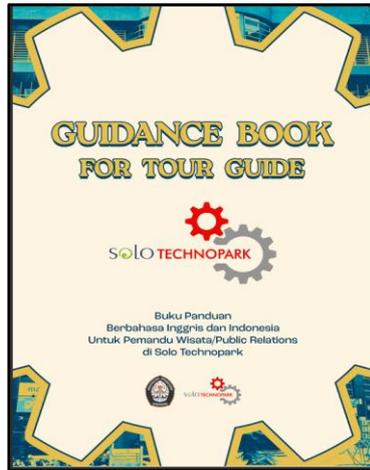


Figure 4. 5 Cover of Guidance

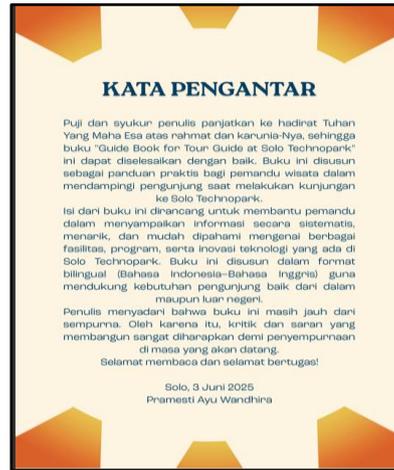


Figure 4. 6 Acknowledgement

## b) Content

This section forms the main part of the guidebook and covers essential information for leading a tour. First, there are ethics and attitudes as a tour guide, which are important for a tour guide to know, and the body language of a tour guide. It then follows with a map of Solo Technopark, followed by a detailed overview of the various facilities and buildings within Solo Technopark. In addition, it offers a practical guide to tour management by explaining the specific steps for a tour's opening and closing sequences. For example, the standard opening sequence instructs guides to begin with a personal introduction, present an outline of the tour's activities, and communicate the site's rules that tourists must follow. In this opening section, it is also equipped with a barcode that contains how to pronounce sentences in English.

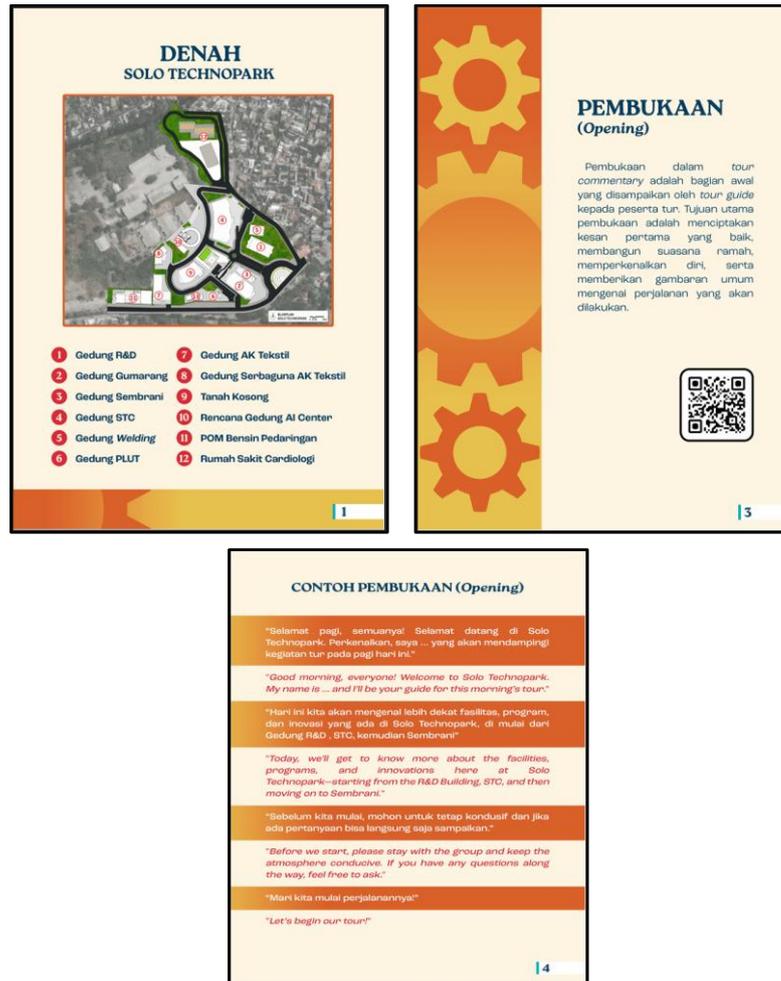


Figure 4. 5 Opening of Content

The standard closing sequence for a tour involves the guide thanking the tourists for their visit. It is also common practice to apologize for any deficiencies during the tour, whether it be incomplete information or any misstatements. To conclude, the guide will often extend a warm wish, expressing hope that the visitors will return for a future experience. In this closing section, it is also equipped with a barcode that contains how to pronounce sentences in English.

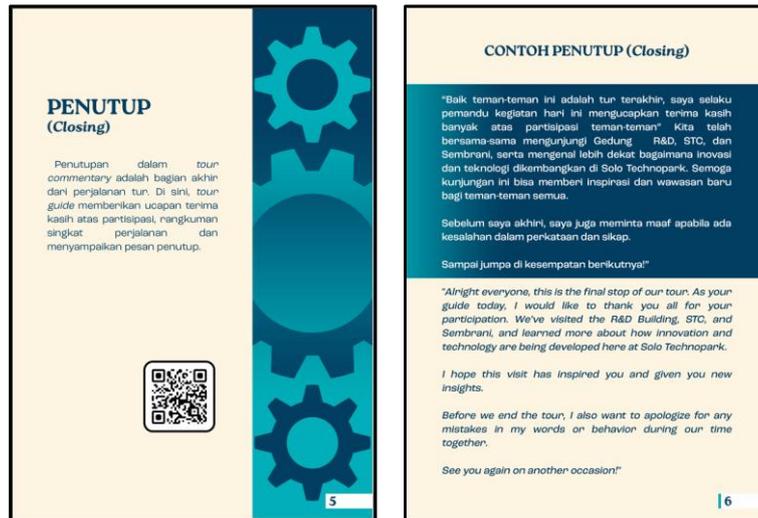


Figure 4. 6 Closing of Content

After developing sample tour commentaries for the opening and closing sections, the guidebook explains the buildings and facilities at Solo Technopark. This content is divided into three chapters, covering the Research and Development building, the Solo Trade Center building, and the Sembrani and Gumarang buildings. Each chapter includes examples of tour commentaries, then continues with a description of each room and the facilities available. These are equipped with a barcode that contains how to pronounce sentences in English.



Figure 4. 7 Tour Commentary



Figure 4. 8 Example of an Explanation of The Facilities in The R&D Building

This guidebook also includes a glossary of foreign terms related to the facilities at Solo Technopark. This feature makes it easier for tour guides to understand these terms and explain them to tourists.



Figure 4. 9 List of Glossary

### c) Closing

The final section of the guidebook is dedicated to references, listing supplementary materials sourced from external resources. The researchers utilized these materials to fill information gaps that remained after the initial data collection phase, which consisted of observations and interviews.

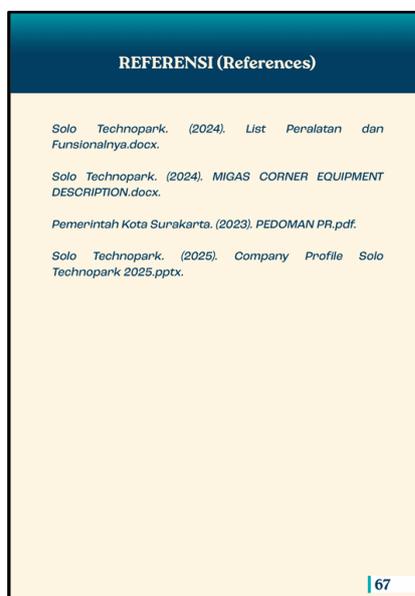


Figure 4. 10 References

Beyond the references, this section also features a researcher's biography, which contributes to the guidebook's overall identity. This bio offers a concise description of the author, detailing their name, place of residence, year of birth, and current educational background.



Figure 4. 11 Biography of The Researchers

#### d. Design Formatting

In this section, the researchers collaborated closely with a professional illustrator to conceptualize and implement the visual elements of the *Solo Technopark* guidebook. The design phase was carried out using Adobe Photoshop, a widely adopted industry-standard software known for its capabilities in producing high-quality, detailed graphic materials suitable for both digital and print media (Rahmawati & Sari, 2020). The design aimed to reflect the innovative and technological character of Solo Technopark while maintaining clarity and visual harmony.

##### a) Color Palette Selection

Through a series of discussions and iterative feedback with the public relations mentor of Solo Technopark, it was agreed that the guidebook would adopt a color palette consistent with the Solo Technopark official branding. The selected hues—shades of blue, yellow, and red—were chosen not only for consistency but also for their psychological and communicative impact. Blue represents trust,

intelligence, and professionalism, aligning with the image of a modern innovation hub. Yellow symbolizes energy, creativity, and optimism, which suits the entrepreneurial spirit of the technopark. Red, on the other hand, evokes action and attention, making it effective for highlighting key information. According to a study by Nugroho et al. (2022), color schemes in educational or promotional materials significantly influence users' perception and comprehension, especially when aligned with institutional branding.



Figure 4. 12 Color Palette

#### **b) Font Selection**

Typography plays a vital role in delivering information effectively. The fonts used in the guidebook are Rocca for headlines and Roc Grotesk for body content. These font choices were made due to their high readability, modern aesthetics, and versatile application across different media. Rocca, with its bold and stylized features, is used to capture attention for headlines, while Roc Grotesk offers a clean and neutral appearance, suitable for longer texts.

The chosen font sizes are, 25 pt for main headlines, 17 pt for sub-headings, 12 pt for content text. These specifications ensure legibility across different reading conditions and printing results. Based on research by Mahendra and Putri (2021), appropriate font selection and sizing are crucial for maintaining user engagement and preventing cognitive overload in guide materials.

#### **c) Book Size**

To enhance portability and user convenience, this guidebook is designed in A5 size (148 mm x 210 mm), with pixel dimensions equivalent to 1748 x 2480 pixels for digital layout purposes. The compact format ensures that this guidebook is easy to carry by tour guides during field activities, while providing sufficient space for visual elements and informative content. The book is bound using spiral

binding, which allows the pages to lie flat when opened, making it easier to use in dynamic environments such as guided tours. The use of spiral binding was also one of the requests from Solo Technopark, who found it easy to use the guidebook. This choice is in line with the findings of Santosa & Yuliana (2019), which show that portability and ergonomic design are very important in educational guidebooks and field use.

#### **d) Creating Audio and QR Code**

To support the audio component of the bilingual guidebook, the researchers adopted artificial intelligence-based technology through the use of the Luvvoice website (<https://luvvoice.com/>). Luvvoice is a free, web-based text-to-speech (TTS) platform that allows users to convert written text into high-quality, natural-sounding voice recordings. This tool offers a wide selection of AI-generated voices in multiple languages, accents, and genders, enabling users to tailor the audio output according to specific preferences or context. The process is user-friendly: users simply paste their desired text into the interface, choose from the available voice options (such as male/female, American/British English), and then either preview the result in real-time or download it as an MP3 file.

For this guidebook project, researchers used a female voice with an American English accent and an AI voice named AriaOn average, each audio file lasts one minute. The generated audio recordings were exported in MP3 format and systematically uploaded to a dedicated Google Drive folder. These files are designed to serve as pronunciation guides or supplementary narratives that align with each section of the guidebook. To ensure easy access for users—particularly tour guides and visitors—the next step involved converting the Google Drive links into QR codes. This was accomplished using QRFY, a digital platform that provides customizable QR code designs and tracking features. Each QR code was embedded strategically on the relevant pages of the guidebook, allowing users to scan and instantly access the corresponding audio via their smartphones. Through this integration of TTS and QR code technologies, the guidebook not only becomes more interactive and engaging but also accommodates auditory learners and

supports tour guides in mastering correct pronunciation and tone when presenting information to visitors.

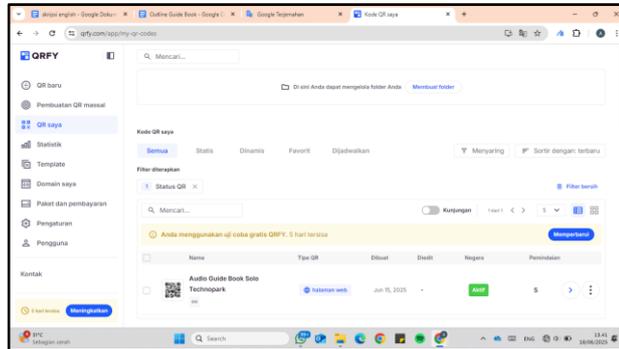


Figure 4. 13 Generating a Link to Google Drive into QR Qode

After the barcodes were successfully generated from the Google Drive links, the last step was to review the completed QR codes before integrating them into the design of this guidebook.



Figure 4. 14 The Usage of QR Codes in Design

#### 4.1.4 Design Validation

After the product design stage, the guide book proceeds to the design validation phase. During this phase, two aspects of the guide book are validated: the media and the material. The supervisor conducts this design validation to evaluate the guide book's quality.

### a. Media Expert Validation

Within this section, the guide book's display undergoes a quality assessment by supervisors, who consider the following aspects:

Form of Validation Product  
English Guidance Book for Tour Guide at Solo Technopark

Validator : Windy Harswi S.Pd., M.Int.Cul.  
Date :

Media Expert Validation

Please check one of the selected answers (x):

1. Is the guidance book display attractive?  
 Not attractive  Fairly attractive  Attractive  Very attractive

2. Is the guidance book giving clear pictures?  
 Not clear  Fairly clear  Clear  Very clear

3. Is the readability of font style and font size clear?  
 Not clear  Fairly clear  Clear  Very clear

4. Is the selection of colors suitable in the guidance book?  
 Not suitable  Fairly suitable  Suitable  Very suitable

5. Is the guidance book easy to carry?  
 Not easy  Fairly easy  Easy  Very easy

6. Is the guidance book practical to use?  
 Not practical  Fairly practical  Practical  Very practical

7. Is there more information that needs to be added to this book? if yes, please explain.  
Tambahkan map /peta destinasi- destinasi Solo Technopark.

8. Criticism and suggestions:  
1. Ganti buku) gambar foto;  
2. Tuliskan barang yang (pecah);  
3. Buku asing dikal bersing (belum selesai)  
4. Buku chumkun dari yang pertama dipaku (diberi nomor).  
5. Gantikan numbering;  
6. Ganti dengan binding (buku siplek) dan soft cover.

Figure 4. 15 Form of Media Validation

From the media validation sheet, it can be concluded, starting from the first question, that the display of this guidebook is fairly attractive, and the images within the book are clear. The font size and usage are legible, and the color palette is appropriate and harmonious. Furthermore, the guidebook is very easy to carry and practical to use. The validator suggested adding a map of Solo Technopark to the guidebook.

### b. Material Expert Validation

Within this section, the guide book's material undergoes a quality assessment by supervisors, who consider the following aspects:

**Form of Validation Product**  
**English Guidance Book for Tour Guide at Solo Technopark**

Validator : Windy Harsiwi S Pd., M.Int.Cul.  
Date :

**Material Expert Validation**

Please check one of the selected answers (v):

1. Is the material suitable for the tour guide's needs?  
 Not Suitable     Fairly Suitable     Suitable     Very Suitable
2. Is the organizing contents and explanations in the Guidant book complete?  
 Not Complete     Fairly Complete     Complete     Very Complete
3. Is the use of language in the material easy to understand (both English & Bahasa)?  
 Not Easy     Fairly Easy     Easy     Very Easy
4. Is the translation appropriate to grammar rules?  
 Not Appropriate     Fairly Appropriate     Appropriate     Very Appropriate
5. Does each image come with a clear explanation?  
 Not Clear     Fairly Clear     Clear     Very Clear
6. Does the material make it easier for tour guides to explain tourist objects and spots?  
 Not Easy     Fairly Easy     Easy     Very Easy
7. Are the illustrations used interesting?  
 Not Interesting     Fairly Interesting     Interesting     Very Interesting
8. Are the QR codes easily accessible?  
 Not Accessible     Fairly Accessible     Accessible     Very Accessible
9. Is the material easy to understand?  
 Not Understand     Fairly Understand     Understand     Very Understand
10. Is the use of punctuation and capital letters appropriate?  
 Not Appropriate     Fairly Appropriate     Appropriate     Very Appropriate

Figure 4. 16 Form of Material Validation

From the validation sheet of the material above, it can be concluded that the material in the guidebook is very suitable for the needs of a tour guide, the organizing contents and explanation in this guidebook are complete, the language used (Indonesian-English) is easy for readers to understand, the translation is appropriate to grammar rules, each image is given a clear explanation, the material is very easy for tour guides to use to explain to tourists, the illustrations used are attractive, the barcode used is very easy to access, the use of punctuation and capital letters is fairly appropriate. Upon evaluating the guidebook's media and content, the supervisor provides recommendations and commentary regarding required modifications and enhancements.

#### 4.1.5 Design Revision

After receiving feedback from the supervisor as validator, the next stage is to comprehensively revise the guidebook, covering both its material and media components, based on the suggestions and critiques from the previous validation. This revision aims not only to address specific input but also to perfect every aspect of the guidebook to produce a high-quality final product that meets its intended purpose. Several points that need revision are:

**a. Cover of Guide Book**

This cover change is a request from the validator. The validator suggested changing the cover color and adding a solo technopark image in it.

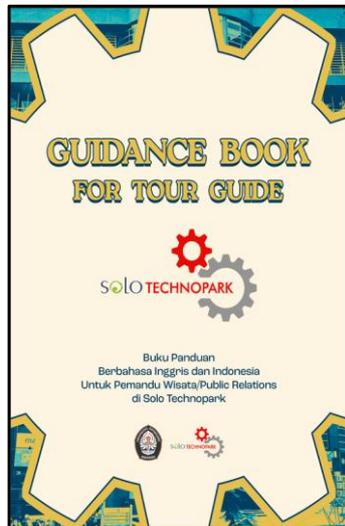


Figure 4. 17 Cover Before Revision

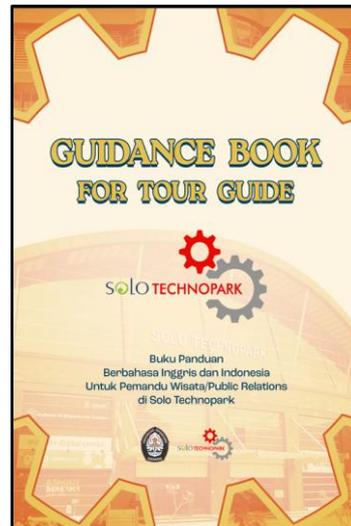


Figure 4. 18 Cover After Revision

**b. Content**

For the guidebook's content, the first revision was the addition of a solo technopark map. This was intended to provide tour guides with an overview of the building layouts, making it easier for them to answer questions regarding directions and building locations.

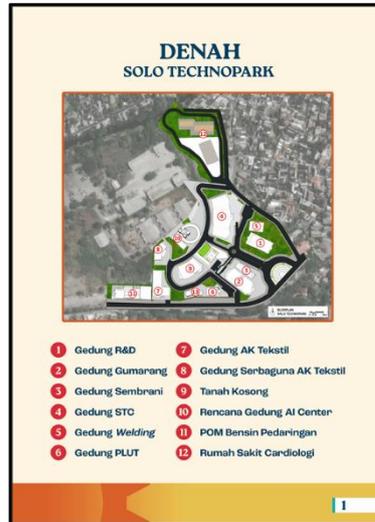


Figure 4. 19 Add a Map to The Guidebook

The second revision addressed the lack of consistency in italicizing foreign terms. Therefore, the researchers re-corrected several foreign terms to be italicized. The following is an example of a revised page:

Bagian ini memuat contoh tour commentary, bagian pembukaan dan penutup. Tour commentary adalah narasi atau penjelasan yang disampaikan oleh pemandu wisata (tour guide) kepada wisatawan selama perjalanan tur berlangsung.

Tujuannya adalah untuk memberikan informasi, edukasi, serta hiburan terkait tempat-tempat yang dikunjungi maupun hal-hal menarik yang terlihat sepanjang perjalanan.

Figure 4. 20 Before Revision

Bagian ini memuat contoh *tour commentary*, bagian pembukaan dan penutup. *Tour commentary* adalah narasi atau penjelasan yang disampaikan oleh pemandu wisata (*tour guide*) kepada wisatawan selama perjalanan tur berlangsung.

Tujuannya adalah untuk memberikan informasi, edukasi, serta hiburan terkait tempat-tempat yang dikunjungi maupun hal-hal menarik yang terlihat sepanjang perjalanan.

Figure 4. 21 After Revision

The third revision involved the use of numbering. Previously, the content within each sub-chapter used bullet points. Below is an example of the revised text:

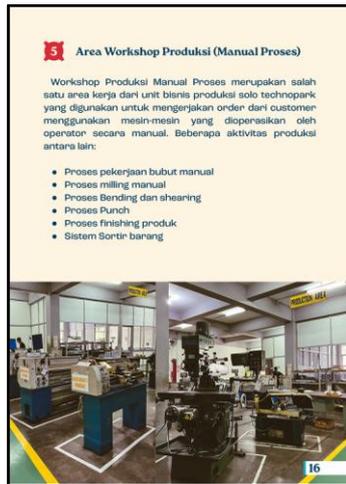


Figure 4. 22 Page Before Revision

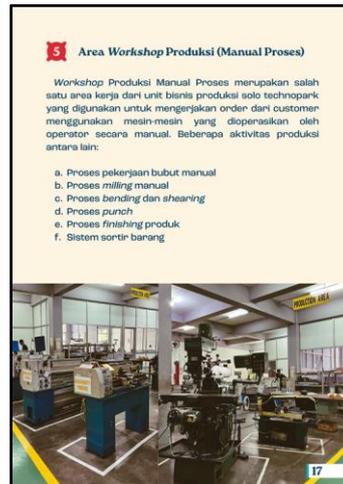


Figure 4. 23 Page After Revision

Next, two tenants, *GOTO UMKM* and Degree Crypto, were removed as their contracts had expired. These two spaces will be filled by new tenants, though information regarding what those new tenants will be is not yet available.

#### 4.1.6 Product Testing

After completing the design revision stage, the next step is product testing. The product testing was conducted at Solo Technopark on Tuesday, July 8, 2025. This testing was carried out with tour guides at Solo Technopark.



Figure 4. 24 Conducting Product Testing with Tour Guide

During the product testing phase, the researchers distributed the product along with an evaluation questionnaire addressed to the tour guides as an instrument for assessing the quality of the guidebook. The product evaluation questionnaire consisted of 10 questions using a 4-point rating scale, as detailed in the following:

Table 4. 2 List of Product Validation Questions

No	Questions	SD	D	A	SA
1.	Is the display of the guide book for tour guides at the interesting?				
2.	Are the pictures contained in the guide book for tour guides at the Solo Technopark clear?				
3.	Is the language in the guide book for tour guides at Solo Technopark easy to understand?				
4.	Is the font used in the guide book for tour guides at the Solo Technopark easy to read?				
5.	Is the material presented in the guide book for tour guides at the Solo Technopark easy to understand?				
6.	Is the guide book for tour guides at Solo Technopark practical to use?				
7.	Whether a guidebook equipped with a list of glossary can help tour guides to explain to tourist?				
8.	Can a guide book equipped with audio barcodes help tour guides learn the pronunciation of sentences in English?				
9.	Whether this guide book can help tour guides in providing explanations to foreign tourists?				
10.	Does this guidebook provide new knowledge related to English vocabulary?				

The assessment for each question utilized a Likert scale with options: Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA). At this stage, the researchers conducted product testing and assessment with 10 tour guides. The responses provided by the participants were analyzed using a Likert scale, facilitating the interpretation and calculation of mean scores for each statement. This approach enabled a clear and systematic evaluation of user perceptions and supported the assessment of the guidebook's overall functionality and its supporting components. The summary of average scores, corresponding values, and criteria based on the four-point Likert scale is outlined below:

Table 4. 3 Score of Likert Scale

No	Average Score	Score	Criteria
1.	1.0–1.49	1	Strongly Disagree
2.	1.5–2.49	2	Disagree
3.	2.5–3.49	3	Agree

4.	3.5–4.0	4	Strongly Agree
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To calculate the average score, the following formula was used:

$$\text{Average Score} = \text{Total Score} / \text{Total Respondents}$$

This calculation method enables a clear and efficient determination of the average score for each item evaluated using the Likert scale. By dividing the total score obtained for a specific statement by the number of respondents, researchers can quantitatively interpret participants' overall perceptions or levels of agreement. During the product trial phase, three key aspects were examined: content, visual design, and instructional material. These components were assessed by respondents through a structured questionnaire administered via Google Forms.

For the first question regarding the guidebook's display, all 10 respondents provided positive feedback, with 70% indicating "Strongly Agree" and 30% indicating "Agree." This suggests that the guidebook's display is appealing.

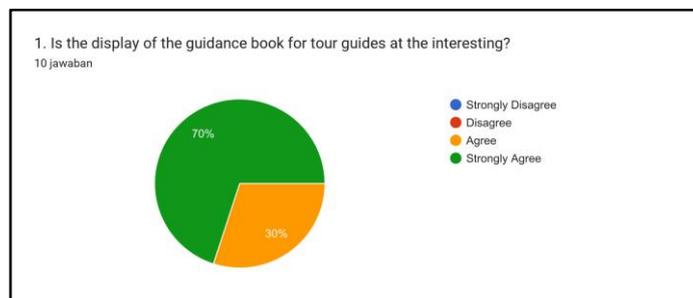


Figure 4. 25 Analysis of Product Testing Number 1

For the second question, concerning the photographs included in the guidebook, 80% of the 10 respondents answered "Strongly Agree" and 20% answered "Agree" that the photos were clear. This indicates that the photographs in the guidebook are very clear.

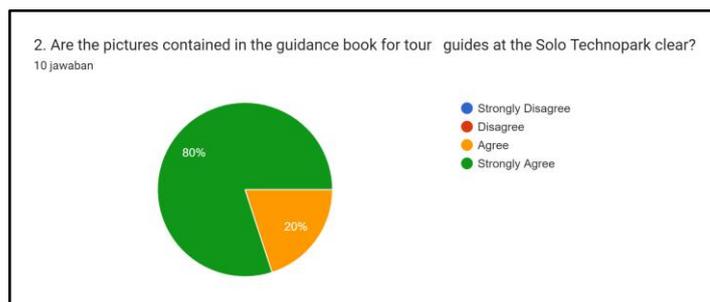


Figure 4. 26 Analysis of Product Testing Number 2

The third question pertained to the language used in the guidebook. Of the 10 respondents, 50% indicated "Agree" and 50% indicated "Strongly Agree" that the book uses easily understandable language. Therefore, it can be concluded that the guidebook employs language that is easy to comprehend.

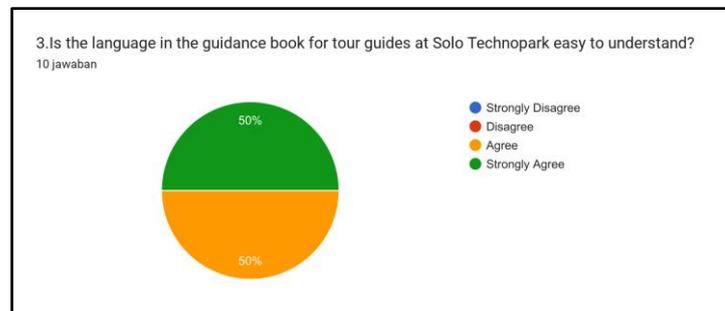


Figure 4. 27 Analysis of Product Testing Number 3

The fourth question concerned the font usage in the guidebook. Of the 10 respondents, 70% strongly agreed and 30% agreed that the font used in the guidebook was easy to read. Therefore, it can be concluded that the guidebook employs an easily legible font.

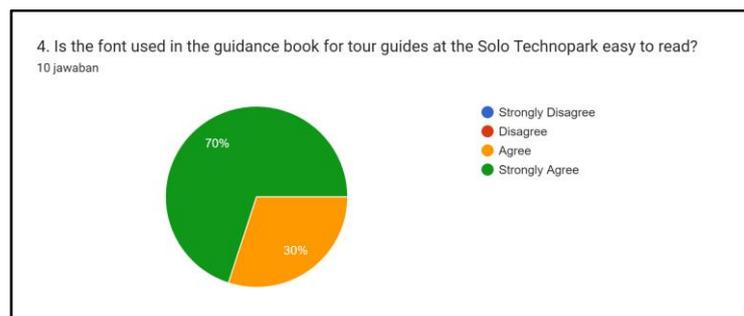


Figure 4. 28 Analysis of Product Testing Number 4

The fifth question concerned the ease of understanding the material in the guidebook. Of the 10 respondents, 40% answered "Agree" and 60% answered "Strongly Agree." It can be concluded that the material in this guidebook is easy to understand.

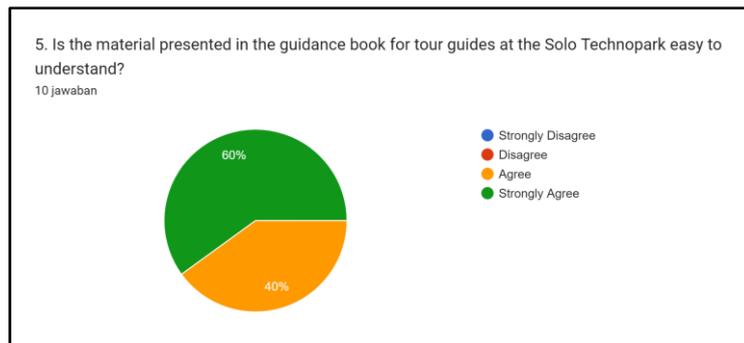


Figure 4. 29 Analysis of Product Testing Number 5

The sixth question addressed the practicality of the guidebook. Of the 10 respondents, 80% answered "Strongly Agree" and 20% answered "Agree." This indicates that the guidebook is highly practical for use.

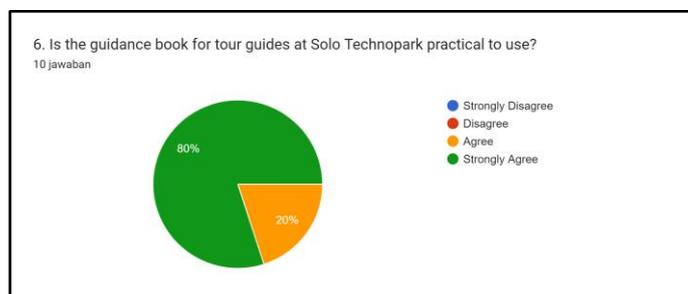


Figure 4. 30 Analysis of Product Testing Number 6

For the seventh question, concerning the benefits of the glossary included in the guidebook, 70% of the ten respondents answered "Strongly Agree" and 30% answered "Agree." This leads to the conclusion that the glossary in the guidebook can assist tour guides in explaining terms to tourists.

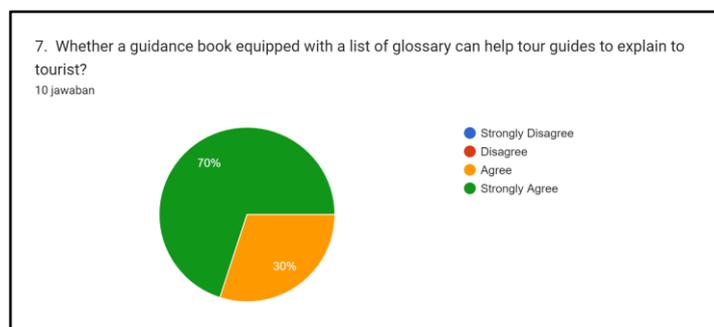


Figure 4. 31 Analysis of Product Testing Number 7

The eighth question addressed the audio barcode feature. Of the 10 respondents, 80% answered "Strongly Agree" and 20% answered "Agree." It can

be concluded that the audio barcodes in the guidebook can help tour guides learn proper English pronunciation.

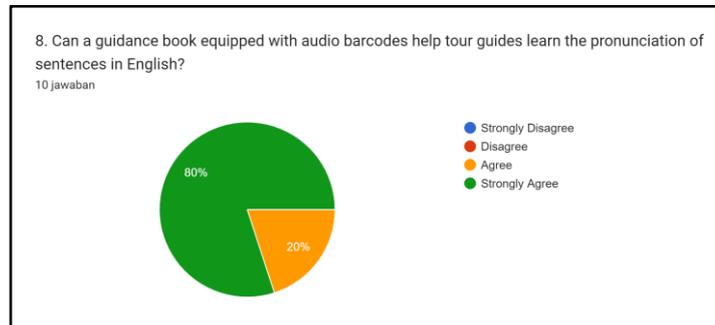


Figure 4. 32 Analysis of Product Testing Number 8

The ninth question assessed the effectiveness of the guidebook in assisting tour guides when explaining to foreign tourists. Of the 10 respondents, 70% answered "Strongly Agree" and 30% answered, "Agree." This indicates that the guidebook is effective in helping tour guides provide explanations to foreign tourists.

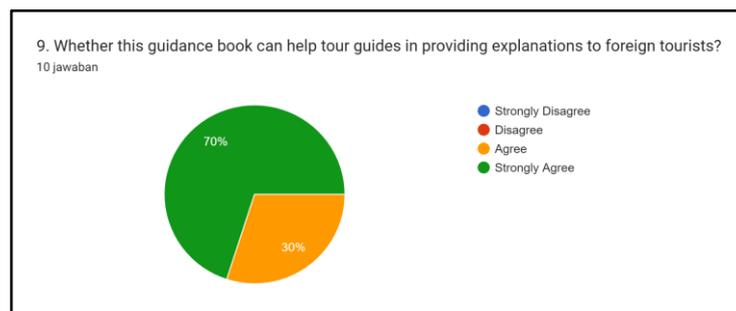


Figure 4. 33 Analysis of Product Testing Number 9

The final question asked whether this guidebook provided new knowledge about English vocabulary. Of the 10 respondents, 50% answered strongly agree and 50% answered agree. It can be concluded that this guidebook provides new knowledge about English vocabulary.

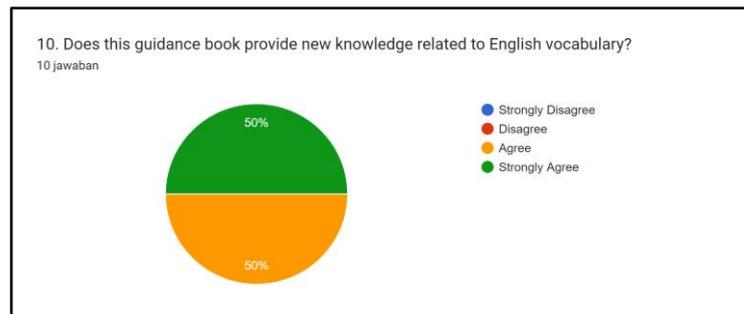


Figure 4. 34 Analysis of Product Testing Number 10

The table below presents the calculated average scores based on the respondents' feedback. The majority of participants provided positive responses, indicating that the guidebook's content, design, and instructional materials were well-developed and engaging. Nevertheless, several respondents also identified specific areas that require further improvement. These responses highlight both the strengths of the guidebook and the remaining technical and editorial issues that should be addressed prior to its final implementation.

Table 4. 4 Summary of Respondents Perception Based on Average Scores

No	Statement	Average	Interval
1	Display	3.7	Strongly Agree
2	Images	3.8	Strongly Agree
3	Language	3.5	Strongly Agree
4	Font	3.7	Strongly Agree
5	Content	3.6	Strongly Agree
6	Practicality	3.8	Strongly Agree
7	Glossary	3.7	Strongly Agree
8	Audio	3.8	Strongly Agree
9	Explanation	3.7	Strongly Agree
10	Vocabulary	3.5	Strongly Agree

#### 4.1.7 Product Revision

Following the product's testing and validation by the tour guides of Solo



Figure 4. 35 Mandiri Digipreneur Hub Before Revision



Figure 4. 36 Mandiri Digipreneur Hub After Revision

Technopark, the next stage involved product refinement. This revision was based on the suggestions and recommendations provided by the guides during the trial sessions. This marks the final revision before the guidebook enters the production phase. Some of the revision points proposed by the tour guides include, changing the photo listed in the Mandiri Digipreneur Hub room, where previously it was an interior photo, the internship mentor gave input to change it to the front of the Mandiri Digipreneur Hub to display the Mandiri Digipreneur Hub more clearly.

#### 4.1.8 Production

The production process constituted the final stage in the development of the guidebook. At this stage, the guidebook had undergone thorough refinement following a series of revisions encompassing both its design and substantive content. All previously provided feedback and recommendations had been carefully incorporated. Within this production phase, the guidebook was printed and formally submitted to Solo Technopark as the principal output of the research. In addition to

the printed version, a soft file was archived to enable future reproduction or broader dissemination, as required.

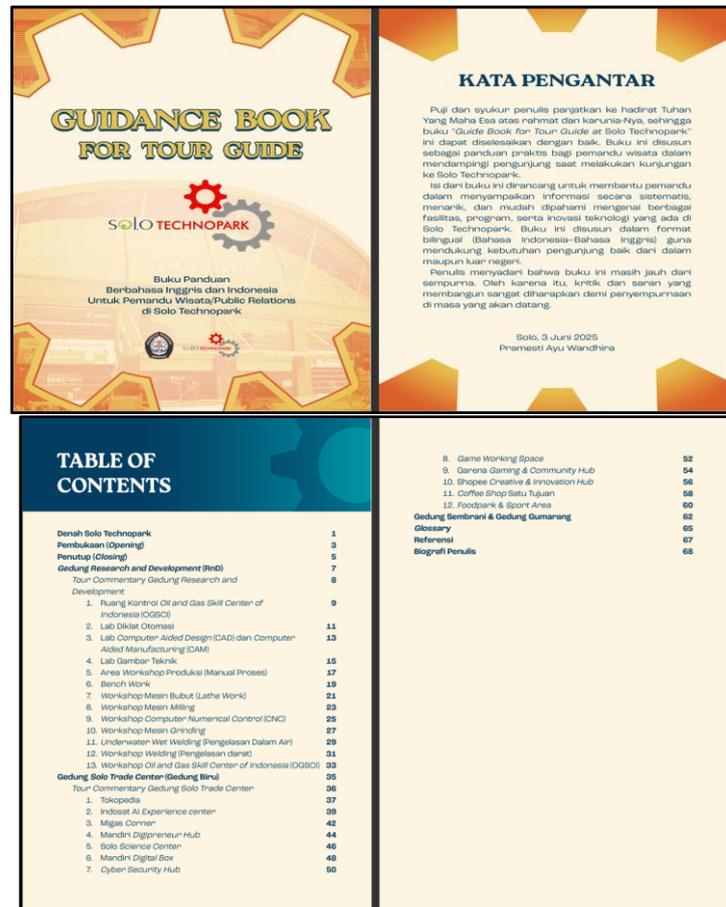


Figure 4. 37 First Page of Guidebook Containing Cover, Acknowledgement, Table of Contents



Figure 4.38 Content about Map of Solo Technopark

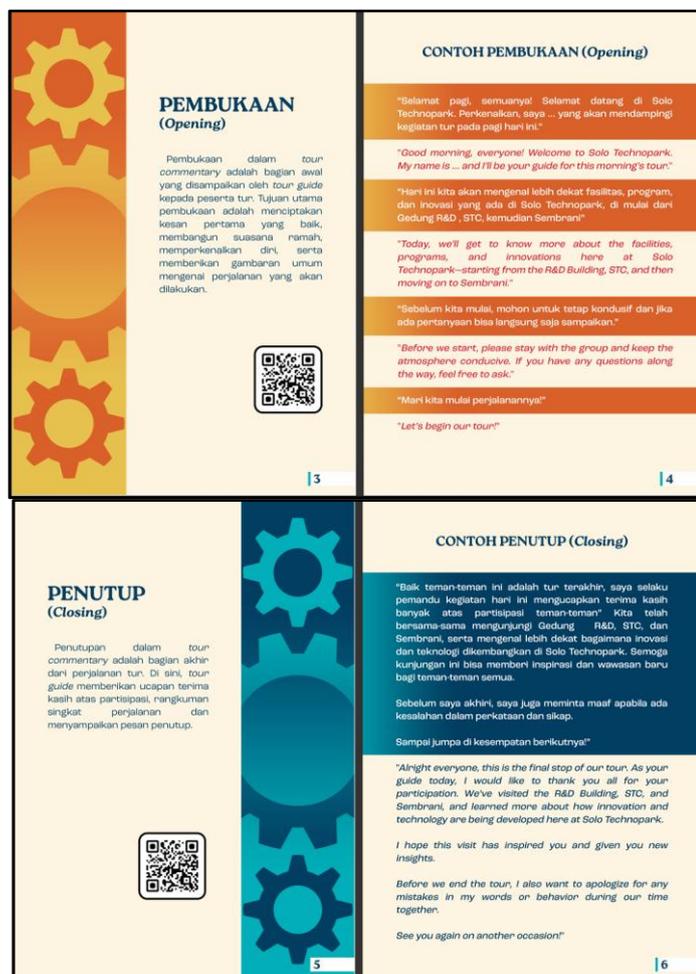


Figure 4.39 Content about Opening and Closing

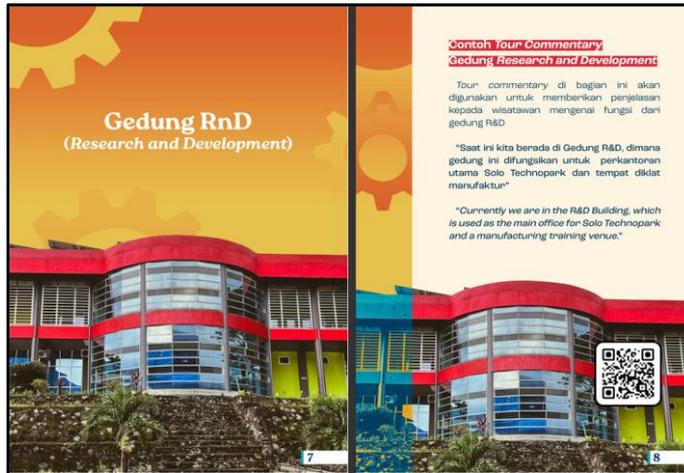


Figure 4. 40 Content about Research and Development Building

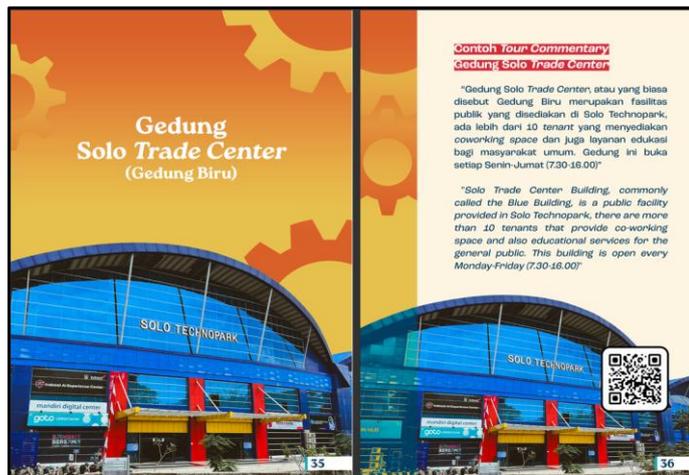


Figure 4. 41 Content about The Solo Trade Center Building

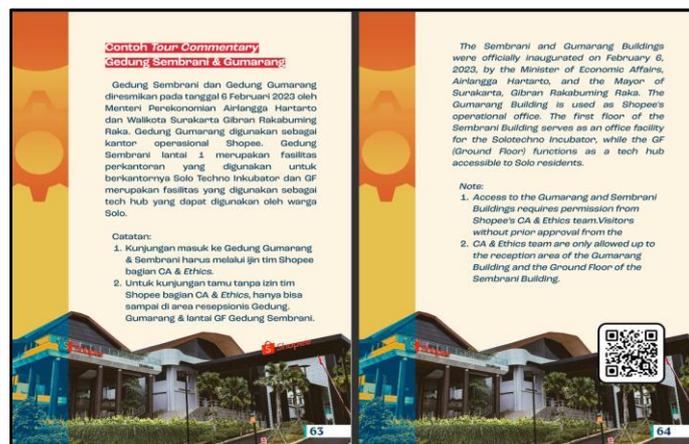


Figure 4. 42 Content about Sembrani and Gumarang Buildings

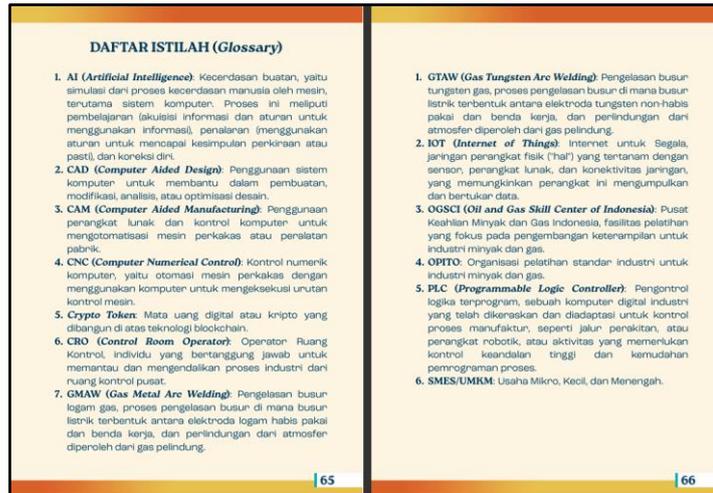


Figure 4. 43 Glossary



Figure 4. 44 References and Biography

## 4.2 Discussion

The development of the "Guide Book for Tour Guides at Solo Technopark" was based on a clear need to address the lack of a standardized guide or Standard Operating Procedure (SOP) used by the Public Relations team at Solo Technopark. Direct observation during the internship revealed inconsistent current information guidance, especially among new employees and interns who relied on a 'learning by doing' approach and unstructured resources like the official website. This led to inconsistencies in information delivery, potentially decreasing visitor satisfaction. This discussion section critically examines the results in relation to the research

objectives, theoretical framework, and prior studies. First, expert validation results indicated that the guidebook fulfilled the criteria of content accuracy, visual design, and user practicality. This suggests that the product aligns with the principles of effective instructional design.

Afterwards, user testing involving ten tour guides yielded highly positive responses. Most participants agreed that the guidebook was easy to understand, practical to use, and helpful in explaining information to visitors. The QR-code-based audio feature, in particular, was perceived as highly beneficial in boosting confidence and pronunciation skills. The researcher also gathered input from the Public Relations supervisor. According to the Head of the Public Relations Division, the guidebook is very helpful in standardizing information and reducing the training time required for new tour guides. It allows them to understand room layouts, key terminologies, and presentation techniques more quickly and systematically.

These findings support the study by Wahyuningtyas et al. (2024), which found that bilingual guidebooks significantly improve the speaking ability and information delivery accuracy of tour guides in Wonocoyo Village. However, one limitation of this research is the absence of audiovisual examples or simulation videos within the QR codes that could further illustrate how the guidebooks were used in actual tourism scenarios. Due to time constraints and limited production resources, the researcher was unable to provide sample audiovisual content. In comparison to Rochim and Taulina (2023), who developed a digital tourism guidebook integrating QR codes and Google Maps for Sabtu Village, the current research shares the similarity of using QR code technology to enhance interactivity. The key difference lies in the primary function: Rochim and Taulina aimed to improve the general visitor experience, whereas the present study is designed to enhance guide performance and standardize service quality within a professional setting. Furthermore, the results resonate with Novitasari, Safitri, and Rahayu (2024), whose English “City Tour” guidebook for tourism students—validated by experts and tested in the field—proved effective in boosting guiding performance. Both studies treat guidebooks as professional learning tools. However, Novitasari

et al. applied the ADDIE model for tourism students, while this research implements a modified Borg and Gall R&D model for practicing guides in a real-world workplace. Lastly, unlike Putri and Dewi (2021), who highlighted guidebooks as tools for tourists to understand local culture and enhance safety, the present research positions the guidebook as an internal training and operational resource. This distinction underscores its function not only as an informational medium but also as a competency development instrument for tour guides in a specialized tourism niche.

Overall, the development of this guidebook has been systematically carried out using the Borg and Gall Research and Development (R&D) method, with an emphasis on user feedback and expert validation. The integration of QR codes with audio pronunciations is a unique contribution that significantly enhances the guidebook's value as a practical learning and reference tool, ultimately aiming to improve the professionalism and consistency of tour guides at Solo Technopark.