



Implementation of Information System Audit to Improve Internal Control on Accurate 5 and Zahir 6

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ABSTRACT

Large funds are used by organizations to invest in business applications to achieve the strategic and business operational goals of the organization. Running business operations using applications which are closely related to technology comes with the risk of bugs, errors, and similar issues. This risk will lead to a negative impact on the output of information that may cause errors and data loss. To prevent this from happening, the proper action that needs to be applied to overcome the risk is by conducting an information system audit on the application control that is implemented. An information system audit is an audit process carried out to determine whether the application or information system implements a sufficient control system. Application control testing is an important thing to do to overcome potential risks that could threaten the application. This research applied qualitative descriptive approach. This research aims to identify whether Accurate 5 and Zahir 6, the two accounting software applications, have been designed appropriately and could be operated effectively. The research findings indicate that the Accurate and Zahir applications implement controls, however, there are some weaknesses that should be fixed to improve internal control. In the Accurate application, there were differences in output results for reports, date entries that exceeded the limit, and sign checks on unit prices. Whereas in the Zahir application, it was identified that there were discounts entered that exceeded the range and sales reports that were not varied.

Keywords: Application Control, Audit Information System, Black-box Approach

INTRODUCTION

Organizations spend large sums of money to invest in new business applications for various reasons, such as achieving strategic and operational goals along with the increasing use of technology in this increasingly advanced era (Farida & Setiawan, 2022). The utilization of technology can support business operations, which is supported by statistics showing that 58% of respondents use accounting software to meet client needs, improve efficiency, and increase productivity (Sage, 2020). In addition, according to a survey conducted by Capterra in Lillard (2023), 34% of respondents will invest in finance and accounting software in the future. However, businesses that intend to use accounting software should be aware that the business operations inherent in technology, such as transactional applications, may pose risks to users based on the way the technology is implemented, the inherent technology, as well as the way employees configure, manage, and use the software. Risks such as bugs and errors may cause losses to the company and negatively impact the integrity, completeness, timeliness, and availability of financial or operational data if not properly mitigated (Khan & Malaika, 2021). Therefore, it is not uncommon for the output information results to experience errors, defects, and missing, causing errors in the report results. Inaccurate reporting will lead to errors in future decision-making.

One effective and efficient way to overcome these risks is the implementation of application control. This is supported by research conducted by Bobbyansyah & Kosasih (2019), which is to implement application control to produce accuracy in the completeness of information. Application control is an efficient way to ensure accurate and complete transaction data in business processes. In addition, application control can increase data security during data processing to minimize the potential for risk. However, the risks that may compromise the data in the application may also continue to increase, making it imperative for businesses to ensure that controls are in place to mitigate these risks.

Therefore, it is necessary to periodically audit information systems for application control to ensure that the software has been designed appropriately and can be operated effectively. Thus, this research aims to identify whether the two accounting software applications have been designed appropriately and could be operated effectively. The object of this research consists of two accounting software applications, Accurate and Zahir. According to Siregar et al. (2021), Accurate Accounting Software is the most widely used accounting application in Indonesia. This is supported by the award won by Accurate in 2017 from the top brand with the highest number of users in Indonesia. Until now, Accurate has been trusted by more than 377,000 users with different business backgrounds, such as Jiwa Group and Ruang Guru. The second research object, Zahir

Accounting, has more than 100,000 users for 27 years so that researchers decided to use Zahir Accounting software as the second research object used in this research.

LITERATURE REVIEW

Information system audit is the process of collecting data and evaluating evidence in determining whether the information system implements an adequate internal control system and all assets are properly protected and can be guaranteed data integrity, reliability, effectiveness, and efficiency of system operation (Nugroho, 2020).

Application controls are audit procedures to address potential risks that could threaten an application such as the system of purchases, payroll, and cash disbursements. Application control is further categorized into 3 main controls:

1. Input Control: There are several forms of input controls, one of which is validation controls. The followings are several types of of input validation controls:
 - a. Source Document Controls: Control procedures that can be implemented such as using prenumbered source documents for more accurate recording and a means for auditors to trace transactions through accounting records.
 - b. Field Interrogation is a procedure to examine the characteristics of data. There are several types of field interrogation:
 - 1) Numeric Alphabetic Check: Testing of field characteristics such as the price field, which is numeric. This is to ensure that each field is inputted in accordance with the characteristics of the field in order to be processed.
 - 2) Limit Check: A test is conducted to determine whether the value in the field can exceed a predetermined limit. In this research, the test was conducted on the date field by inputting the date 31/09/2023 which exceeds the actual date limit. This is to ensure that no date errors are processed.
 - 3) Zero Value Check: A test is conducted to determine whether a field can be filled with the number 0 for processing. In this research, testing was carried out on numeric fields such as qty, price, disc%, and other costs by filling in the number 0. This is to determine whether there is an error trap when filling in the field with the number 0.
 - 4) Range Check: A test is conducted to determine whether a field can be filled with a nominal that exceeds the range. In this research, testing is conducted on the disc% field by filling in the nominal disc which is 101%. This is to ensure

that the field cannot receive input that exceeds the predetermined range.

- 5) Missing Data Check: Tests are conducted to determine whether numeric fields can be left blank for processing. In this research, tests were conducted on numeric fields such as qty, unit price, disc%, discount, and miscellaneous costs by not filling in these fields.
 - 6) Validity Check: tests were conducted to test the validity of the input for each field.
- c. Record Interrogation is a procedure to validate records by checking the relationship of field values.
- 1) Reasonable Check: A test was conducted to see the reasonableness of numbers in fields with numeric data types. In this research, testing is conducted for the qty and unit price fields by filling the qty value with a negative symbol which is not valid as there is no negative quantity. In addition, for the unit price field, testing was carried out by inputting a nominal price of 3,000,000,000,000,000,000 which exceeds the value range.
 - 2) Sign Check: A test was conducted on the sign of numeric type fields. This is to ensure that each field can't process negative values.
- d. Field Interrogation is a procedure to ensure that the correct file has been processed by the system.
2. Process control: consists of run to run control, operating intervention control, and audit trail control.
 3. Output control is performed to prevent the loss, misplacement, or destruction of system outputs and protect data privacy (Hall, 2015).

Black box testing is a test that examines whether all software functions meet predefined functional requirements. In addition, testing of software based on functional specifications does not involve testing the design and program code to determine whether the functions, inputs, and outputs of the software meet the specifications (Fahrozi et al., 2023).

RESEARCH METHODOLOGY

This research applied qualitative descriptive approach. A descriptive approach in economic research refers to a method of modeling and analyzing data to gain insights and understand patterns and relationships (Furidha, 2023; Raja et al., 2019). It involves using descriptive statistics and techniques to summarize and interpret data (Kotronoulas et al., 2023). The qualitative approach emphasizes the quality of the data obtained, where direct observation is utilized as a data

collection method (Agustina & Safaria, 2023). This research was conducted by analyzing data on the software by inputting data that had been prepared, including sales and repayment data for both software. Input control is carried out by inputting data on sales documents, starting from sales quotation, sales order, delivery order, sales invoice, sales return, and sales receipt. While output control is performed by comparing sales and settlement reports on both software. Testing was conducted on Accounting Software Enterprise Edition version 5.0 and Zahir Enterprise System version 6.

RESULT AND DISCUSSION

Input Control Findings

Numeric alphabetic check has been performed on both software for sales documents. Numeric alphabetic check testing is conducted to observe whether a field can process an input that does not match the characteristics of the field. Table 1 and table 2 indicate examples of work papers performed on delivery order documents. In both software, Accurate and Zahir have implemented good control on numeric alphabetic check.

Table 1. Numeric Alphabetic Check Working Paper for Delivery Order Document (Accurate)

| Field | Data Type | Description of The Tests Performed |
|------------------|--------------------|---|
| Customer | Numeric-Alphabetic | FS-1006; 1006 |
| Bill to/Ship to | Numeric-Alphabetic | B-29 Margorejo Indah St., Surabaya - Indonesia Surabaya; East Java; 60299 |
| PO No. | Numeric-Alphabetic | FS-02; 002 |
| Delivery No. | Numeric-Alphabetic | DO-1000 |
| Delivery Date | Date | 16/08/2023 ; <i>date</i> |
| Ship via | Numeric-Alphabetic | JNE |
| Item | Numeric-Alphabetic | FS-101 |
| Item description | Numeric-Alphabetic | Yu Jin Blouse |
| Qty | Numeric | 1 ; a |
| SN | Barcode | 0 ; a |
| No SO | Numeric-Alphabetic | 1000 |
| Description | Numeric-Alphabetic | Safe and secure under control |

Source: Processed Data by Researchers by Researchers

Table 2. Numeric Alphabetic Check Working Paper for Delivery Order Document (Zahir)

| Field | Data Type | Description of The Tests Performed |
|---------------|--------------------|------------------------------------|
| Customer Name | Numeric-Alphabetic | CV Dressynx |
| DO Number | Numeric-Alphabetic | DO-1000 |
| SO Number | Numeric-Alphabetic | SO-1000 |

| | | |
|---------------------------|--------------------|---------------------|
| Date | Date | 7/9/2023 |
| Currency | Alphabetic | IDR |
| Depart from the warehouse | Alphabetic | <i>Head Quarter</i> |
| Description | Numeric-Alphabetic | Sales, CV Dressynx |
| Item No. | Numeric-Alphabetic | FS-104 |
| Item Description | Numeric-Alphabetic | <i>Button Dress</i> |
| Ordered | Numeric | 3 |
| Sent | Numeric | 3 |
| Unit | Alphabetic | <i>Pcs</i> |
| Price | Numeric | 140,000 |
| Disc (%). | Numeric | 0 |
| Total | Numeric | 420,000 |
| Pjk | Alphabetic | T |
| Payment Term | Numeric-Alphabetic | COD |
| Total Tax | Numeric | 46,200 |
| Total After Tax | Numeric | 466,200 |

Source: Processed Data by Researchers by Researchers

Sign check is conducted by seeing if a field can process a negative sign. Tests were conducted on both software on numeric fields. The findings indicate that both Accurate and Zahir have implemented controls but not evenly across numeric fields. In Accurate, the control is only found in the qty field when inputted with “-5” marked by an error trap, which is “Quantity must be greater than zero”. In Zahir, the control is only found in the price field when inputted with “-20,000” marked by an error trap, which is “Unit price cannot be negative!”. Table 3 and Table 4 provide examples of work papers carried out on sales order documents.

Table 3. Sign Check Working Paper for Sales Order Document (Accurate)

| Field | Sign Check | Description of The Tests Performed |
|-------------------|-------------------------------------|------------------------------------|
| Qty | <input checked="" type="checkbox"/> | -5 ; 5 |
| Unit Price | <input checked="" type="checkbox"/> | -50.000 |
| Disc% | <input checked="" type="checkbox"/> | -2 |
| Discount | <input checked="" type="checkbox"/> | 0 |
| Estimated Freight | <input checked="" type="checkbox"/> | -10.000 |

Source: Processed Data by Researchers by Researchers

Table 4. Sign Check Working Paper for Sales Order Document (Zahir)

| Field | Sign Check | Description of The Tests Performed |
|---------|------------|------------------------------------|
| Ordered | ý | -3 |
| Sent | ý | -3 |

| | | |
|-------------|---|---------|
| Price | p | -90,000 |
| Disc (%). | y | -2 |
| Other Costs | y | -10,000 |

Source: Processed Data by Researchers by Researchers

Limit check is conducted by inputting the date field with the date 31/09/2023 which is not on the calendar. The findings indicate that Accurate and Zahir have implemented the control, although it is not evenly distributed in Accurate. The control is applied to Accurate with an error trap, which is "Incorrect date format". However, this control is not applied to sales quotation and sales order documents. In Zahir, the control is applied with an error trap, which is "is not a valid date and time" on all documents with a date field. Table 5 and Table 6 provide examples of working papers applied to all sales documents.

Table 5. Limit Check Working Paper for Sales Documents (Accurate)

| Field (Document) | Limit Check | Description of Tests Performed |
|--------------------------------|-------------------------------------|--------------------------------|
| Quote Date (Sales Quotation) | <input checked="" type="checkbox"/> | Input the Date with 31/09/2023 |
| SO Date (Sales Order) | <input checked="" type="checkbox"/> | |
| Ship Date (Sales Order) | <input checked="" type="checkbox"/> | |
| Delivery Date (Delivery Order) | <input checked="" type="checkbox"/> | |
| Invoice Date (Sales Invoice) | <input checked="" type="checkbox"/> | |
| Ship Date (Sales Invoice) | <input checked="" type="checkbox"/> | |
| Date (Sales Return) | <input checked="" type="checkbox"/> | |
| Payment Date (Sales Receipt) | <input checked="" type="checkbox"/> | |
| Cheque Date (Sales Receipt) | <input checked="" type="checkbox"/> | |

Source: Processed Data by Researchers

Table 6. Limit Check Working Paper for Sales Documents (Zahir)

| Field (Document) | Limit Check | Description of Tests Performed |
|-------------------------------|-------------|--------------------------------|
| Date (price quotation) | p | Input the Date with 31/09/2023 |
| Date (sales order) | p | |
| Date (Items Shipping) | p | |
| Invoice Date (Sales) | p | |
| Delivery Date (Sales) | p | |
| Invoice Date (Sales Return) | p | |
| Shipment Date (Sales Returns) | p | |
| Date (payment of receivables) | p | |

Source: Processed Data by Researchers

Zero value check and missing data check are performed by inputting 0 in numeric fields such as qty, unit price, disc%, and freight. The findings indicate that Accurate and Zahir have implemented these controls despite being uneven. In the Accurate application, the control is only applied to the qty field with an error trap, which is "Quantity must be greater than zero." In the Zahir application, the control is applied to the qty and price fields with error traps, which are "Quantity cannot be zero" and "Unit price cannot be zero." Table 7 and table 8 provide an example of the sales quotation document workpapers.

Table 7. Zero Value Check and Missing Data Check Working Papers for Sales Quotation Documents (Accurate)

| Field | Zero Value Check and Missing Data Check | Description of Tests Performed |
|------------|---|---------------------------------|
| Qty | <input checked="" type="checkbox"/> | Fill the numeric field with "0" |
| Unit Price | <input checked="" type="checkbox"/> | |
| Disc% | <input checked="" type="checkbox"/> | |
| Discount | <input checked="" type="checkbox"/> | |
| Freight | <input checked="" type="checkbox"/> | |

Source: Processed Data by Researchers

Table 8. Zero Value Check and Missing Data Check Working Papers for Sales Quotation Documents (Zahir)

| Field | Zero Value Check and Missing Data Check | Description of Tests Performed |
|-------------|---|---------------------------------|
| Total | þ | Fill the numeric field with "0" |
| Price | þ | |
| Disc (%) | ý | |
| Other Costs | ý | |

Source: Processed Data by Researchers

Range check is performed by inputting a disc of 101% in the disc field that exceeds the range, which is 0 - 100%. The findings indicate that only Accurate has this control with an error trap, which is "Discount must be less than or equal to 100%." In the Zahir application, there is no control, so a disc of 101% can be processed which causes the nominal document to be negative and the selling price is below the cost of purchases. This finding can result in a loss to the company if the software records the selling price below the cost of purchases. Table 9 and table 10 provide the working papers applied to all sales documents.

Table 9. Range Check Working Paper for Sales Documents (Accurate)

| Field (Document) | Range Check | Description of Tests Performed |
|-------------------------------|-------------------------------------|---|
| Disc% (Sales Quotation) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Discount (Sales Quotation) | <input checked="" type="checkbox"/> | |
| Disc % (Sales Order) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Discount (Sales Order) | <input checked="" type="checkbox"/> | |
| Disc% (Sales Invoice) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Discount (Sales Invoice) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Disc% (Sales Return) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Discount (Sales Return) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Cheque Amount (Sales Invoice) | <input checked="" type="checkbox"/> | Input nominal exceeds the nominal Sales Invoice |

Source: Processed Data by Researchers

Table 10. Range Check Working Paper for Sales Documents (Zahir)

| Field (Document) | Range Check | Description of Tests Performed |
|-----------------------------|-------------------------------------|--------------------------------|
| Disc (%). (Sales Quotation) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Disc (%). (Sales Order) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Disc % (Delivery Order) | <input checked="" type="checkbox"/> | Perform disc input with 101% |
| Disc % (Sales Return) | <input checked="" type="checkbox"/> | Perform disc input with 101% |

Source: Processed Data by Researchers

Reasonable check is performed on the unit price and qty fields. For the qty field, testing is conducted by inputting a quantity that is actually unreasonable because no items sold are inputted negatively. As for the unit price field, it was inputted with an unreasonable nominal selling price, 3,000,000,000,000,000,000. The findings indicate that Accurate and Zahir have implemented the control equally for the unit price field, but only Accurate has implemented the qty field. In Accurate, controls have been applied with the existence of error traps, which are “Quantity must be greater than zero” and “Incorrect number formation or amount cannot be greater than 922 trillion”. Zahir has also implemented controls with error traps, which is “error message”. However, there is no control when qty is inputted negatively. Table 11 and Table 12 provide an example of the working papers for sales quotations.

Table 11. Reasonable Check Working Paper for Sales Quotation (Accurate)

| Field (Document) | Reasonable Check | Description of Tests Performed |
|------------------|-------------------------------------|--------------------------------|
| Qty | <input checked="" type="checkbox"/> | -3 |
| Unit Price | <input checked="" type="checkbox"/> | 3.000.000.000.000.000 |

Source: Processed Data by Researchers

Table 12. Reasonable Check Working Paper for Sales Quotation (Zahir)

| Field (Document) | Reasonable Check | Description of Tests Performed |
|------------------|-------------------------------------|--------------------------------|
| Qty | <input checked="" type="checkbox"/> | -3 |
| Unit Price | <input checked="" type="checkbox"/> | 3.000.000.000.000.000 |

Source: Processed Data by Researchers

Prenumbered checks are performed on the document number of each sales document in both software. Both software have implemented prenumbered checks so that controls have been implemented. The findings are summarized in the following table:

Table 13. Findings of Input Control Testing on Sales Quotation Documents

| Testing on Sales Quotation Documents | Findings (Accurate) | Findings (Zahir) | Impacts |
|--------------------------------------|---------------------|------------------|---------|
| Numeric Alphabetic Check | No findings | No findings | - |

| | | | |
|---------------------------------------|---|--|---|
| Sign Check | Unit price, disc%, and freight can be filled with negative values | Total, disc%, and other costs can be filled with negative values | In Accurate and Zahir, the document amount can be negative |
| Limit Check | Date can be input with 31/09/2023 | No findings | In Accurate, the date may change when the document is reopened |
| Zero Value Check & Missing Data Check | Unit price, disc%, and freight can be filled with zero / left blank | Disc% and other costs can be filled with zero / left blank | In Accurate, the company may experience a loss if the selling price is 0. |
| Range Check | No findings | Disc% can be filled with 101% | In Zahir, the document amount becomes negative and can be a loss to the company |
| Reasonable Check | No findings | Total can be filled with negative values | In Zahir, it can cause the records of outgoing inventory to be incorrect |

Source: Processed Data by Researchers

Table 14. Findings of Input Control Testing on Sales Quotation Documents

| Testing on Sales Quotation Documents | Findings (Accurate) | Findings (Zahir) | Impacts |
|---------------------------------------|--|---|---|
| Numeric Alphabetic Check | No findings | No findings | - |
| Sign Check | Unit price, disc%, and estimated freight can be filled with negative values | In ordered, shipped, and disc% can be filled with negative values | In Accurate and Zahir, it can cause the document nominal to be negative |
| Limit Check | Date can be input with 31/09/2023 | No findings | In Accurate the date may change when the document is reopened |
| Zero Value Check & Missing Data Check | Unit price, disc%, discount and freight can be filled with zero / left blank | Disc% and other costs can be filled with zero / left blank | In Accurate, the company can experience a loss if the selling price is 0 |
| Range Check | No findings | Disc% can be filled with 101% | On Zahir, the document nominal becomes negative and is detrimental to the company |
| Reasonable | No findings | Total can be filled | In Zahir, it can cause |

| | | | |
|-------|--|----------------------|--|
| Check | | with negative values | the record of outgoing inventory to be incorrect |
|-------|--|----------------------|--|

Source: Processed Data by Researchers

Table 15. Findings of Input Control Testing on Delivery Order Documents

| Testing on Delivery Order Documents | Findings (Accurate) | Findings (Zahir) | Impacts |
|---------------------------------------|---------------------|--|---|
| Numeric Alphabetic Check | No findings | No findings | - |
| Sign Check | No findings | Ordered and disc% can be filled with negative values | In Zahir, it can cause the document nominal to be negative |
| Limit Check | No findings | No findings | - |
| Zero Value Check & Missing Data Check | No findings | Disc% can be filled with zero | No significant impact |
| Range Check | No findings | Disc% can be filled with 101% | In Zahir, the document nominal becomes negative and is detrimental to the company |
| Reasonable Check | No findings | Total can be filled with negative values | In Zahir, it can cause the record of outgoing inventory to be incorrect |

Source: Processed Data by Researchers

Table 16. Findings of Input Control Testing on Sales Invoice Documents

| Testing on Sales Invoice Documents (Accurate) | Findings (Accurate) | Findings (Zahir) | Impacts |
|---|---|--|---|
| Numeric Alphabetic Check | No findings | No findings | - |
| Sign Check | Unit price, disc%, and freight can be filled with negative values | Other costs can be filled with negative values | In Accurate and Zahir it can cause the invoice total to be negative |
| Limit Check | Ship date can be input with 31/09/2023 | No findings | In Accurate, the date may change when |

| | | | |
|---------------------------------------|--|--|--|
| | | | the document is reopened |
| Zero Value Check & Missing Data Check | Unit price, disc%, discount and freight can be filled with zero / left blank | Other costs can be filled in with a value of zero / left blank | In Accurate and Zahir, the company can experience a loss if the selling price is 0 |
| Range Check | No findings | Disc% can be filled with 101% | On Zahir, the document nominal becomes negative and is detrimental to the company |
| Reasonable Check | No findings | Total can be filled with negative values | In Zahir, it can cause the record of outgoing item inventory to be incorrect |

Source: Processed Data by Researchers

Table 17. Findings of Input Control Testing on Sales Receipt Documents

| Testing on Sales Receipt Documents (Accurate) | Findings (Accurate) | Findings (Zahir) | Impacts |
|--|---|---|---|
| Numeric Alphabetic Check | No findings | No findings | - |
| Sign Check | Payment amount and cheque amount can be filled with negative values | Discount can be filled with negative values | In Accurate and Zahir, it can cause the total invoice to be negative |
| Limit Check | No findings | No findings | - |
| Zero Value Check & Missing Data Check | Payment amount can be filled with zero / left blank | No findings | In Accurate, the company can experience a loss if the selling price is 0 |
| Range Check | No findings | Disc% can be filled with 101% | In Zahir, the document nominal becomes negative and costs the company money |
| Reasonable Check | No findings | Total can be filled with negative values | In Zahir, it can cause the record of outgoing inventory to be incorrect |

Source: Processed Data by Researchers

Table 18. Findings of Input Control Testing on Sales Return Documents

| Testing on Sales Return Documents (Accurate) | Findings (Accurate) | Findings (Zahir) | Impacts |
|--|---|---|---|
| Numeric Alphabetic Check | No findings | No findings | - |
| Sign Check | Unit price and disc% can be filled with negative | In return, disc%, and other expenses can be filled in with negative | In Accurate and Zahir, it can cause the total invoice to be negative. In addition, Zahir can cause errors in the inventory record |
| Limit Check | No findings | No findings | - |
| Zero Value Check & Missing Data Check | Unit price, disc%, and freight can be filled with zero / left blank | Disc% and other costs can be filled with zero / left blank | In Accurate and Zahir, the company can experience a loss if the selling price is 0 |
| Range Check | No findings | Disc% can be filled with 101% | On Zahir, the document nominal becomes negative and is detrimental to the company |
| Reasonable Check | No findings | Total can be filled with negative values | In Zahir, it can cause the record of outgoing items inventory to be incorrect |

Source: Processed Data by Researchers

Table 19. Findings of Error Traps in Control Inputs

| Testing | Control Inputs | | Description (Error Trap) | |
|--------------------------|----------------|-------|---|---|
| | Accurate | Zahir | Accurate | Zahir |
| Numeric Alphabetic Check | ☑ | ☑ | | |
| Sign Check | ☑ | ☑ | “Quantity must be greater than zero” | “The unit price cannot be negative!” |
| Limit Check | ☑ | ☑ | “Incorrect date format” | “is not a valid date and time” |
| Zero Value Check | ☑ | ☑ | “Quantities must be greater than zero” | “Quantity cannot be zero” and “Unit price cannot be zero” |
| Missing Data Check | | | | |
| Range Check | ☑ | ☒ | “Discount must be smaller or equal to 100%” | - |
| Reasonable Check | ☑ | ☑ | “Quantity must be greater than zero” and “Wrong | “Error message” |

| | | | | |
|--|--|--|---|--|
| | | | number formation or quantity cannot be greater than 922 trillion” | |
|--|--|--|---|--|

Source: Processed Data by Researchers

Output Control Findings

Output control was performed on both software by comparing reports to reports. The findings are summarized in the following table:

Table 20. Findings of Output Control

| Software | Report Name | Report Name | Output Control | Description |
|----------|-----------------------------|----------------------------|-------------------------------------|--|
| Accurate | Sales details per customer | Item sales per customer | <input checked="" type="checkbox"/> | |
| | Sales details per item | Customer sales per item | <input checked="" type="checkbox"/> | |
| | Sales per item | Sales per item (quantity) | <input checked="" type="checkbox"/> | |
| | Sales returns per customer | Sales returns per item | <input checked="" type="checkbox"/> | |
| | Payment summary per invoice | Income summary per invoice | <input checked="" type="checkbox"/> | There is a difference in the two reports |
| Zahir | Sales - summary | Sales per customer | <input checked="" type="checkbox"/> | |
| | Items sold | Sales - details | <input checked="" type="checkbox"/> | |
| | Sales returns - details | Sales - details | <input checked="" type="checkbox"/> | |

Source: Processed Data by Researchers

In the Accurate application, testing was carried out on eight reports where there were two reports that did not have the same nominal. The reports are the summary of payments per invoice and the summary of receipts per invoice. The difference is obtained from the summary of invoice receipts which is greater than the summary of payments per invoice. The difference arises because there is a payment for the previous period's invoice, however, the nominal is not recorded in the invoice receipt summary. In the Zahir application, output control is applied to all reports because there is no nominal difference. However, in the Zahir application the existing reports were found to be less varied.

CONCLUSIONS AND SUGGESTIONS

Conclusions

Input control is not applied thoroughly for Accurate sales documents, especially in the testing of sign checks and zero value checks. As for sales documents in Zahir, it was found in the range check, sign check, and reasonable check tests. These findings affected the nominal sales documents that became negative, so that the sales reports generated were not accurate. Sales reports are used by business management for decision making, therefore, reports with the incorrect nominal can lead to inaccurate decision making.

Output control is applied to Accurate and Zahir sales reports. There is a nominal difference in the invoice payment summary report and the sales receipt summary report in the Accurate application due to a difference of 200,000 from the previous year's invoice which is only recorded on sales receipts, but not on invoice payments. For Zahir, the sales reports in the software are less varied, causing users to not have many choices in conducting more in-depth report analysis.

Suggestions

Based on the conclusions and implications described, there are several suggestions given by researchers for the developers of both software. For Accurate, (1) The unit price field should not be filled with negative values as there is no negative nominal price of items. (2) The Date field should not be changed according to the device date. For example, the sales invoice date cannot be earlier than the sales order date. For Zahir, (1) The disc field should not be filled with a value that exceeds its upper limit, which is 100%. If the disc exceeds 100%, it may cause the nominal quantity of the document to be negative. (2) The qty field should not be filled with a negative value. This is because there is no sales activity that sells items in the system with a negative sign. (3) Sales report options that are less varied can be added to the report variations to make it easier for users to make decisions.

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