

Improving Tour Package Quotation Efficiency Utilizing the Roundup Function in Microsoft Excel

Muhamad Ari Perdana^{1*}, Ayu Wanda Febrian²

¹Tourism Destination Study Program, Politeknik Negeri Banyuwangi, Indonesia

²Tourism Business Management Study Program, Politeknik Negeri Banyuwangi, Indonesia

*ariperdana@poliwangi.ac.id

Received : 26-05-2026

Accepted : 29-05-2026

Available online : 31-05-2026

ABSTRACT

Accurate and efficient tour package quotation or price calculation is one of the key factors in supporting the competitiveness of the travel and tourism industry. Manual calculation processes, which are still widely used in the education and in the travel industries are often time-consuming, prone to errors, and difficult to modify when there are changes in cost components and the number of tourists. This study aims to improve an efficient method for calculating tour package quotations through the utilization of the ROUNDUP function in Microsoft Excel. The method employed in this study is Research and Development (R&D) using the ADDIE model, which consists of the stages of Analysis, Design, Development, Implementation, and Evaluation. The results of the study indicate that the Excel template based on the ROUNDUP function is capable of simplifying formula structures by up to 60% compared to manual methods, making them easier to modify and reducing calculation processing time. Two Experts validation yielded a score of 90%, categorized as highly feasible. The implementation of this template has proven effective in improving efficiency for accelerating the pricing preparation process and minimizing the risk of pricing calculation errors. Therefore, this tour package quotation template utilizing the round up function can serve as a practical solution for enhancing education and work productivity in the travel and tourism industry.

Keywords: ROUNDUP Function, Tour Package Quotations, Research and Development

ABSTRAK

Perhitungan harga paket wisata yang akurat dan efisien merupakan salah satu faktor penting dalam mendukung daya saing industri perjalanan wisata. Proses perhitungan manual yang masih banyak digunakan di dunia pendidikan dan di industri perjalanan wisata sering kali memakan waktu, rawan kesalahan, dan sulit dimodifikasi ketika terjadi perubahan komponen biaya dan jumlah wisatawan. Penelitian ini bertujuan meningkatkan efisiensi metode perhitungan harga paket wisata melalui pemanfaatan fungsi ROUNDUP pada Microsoft Excel. Metode penelitian yang digunakan adalah *Research and Development (R&D)* dengan model *ADDIE* yang terdiri dari tahap *Analysis, Design, Development, Implementation, dan Evaluation*. Hasil penelitian menunjukkan bahwa template Microsoft Excel dengan menerapkan fungsi ROUNDUP mampu menyederhanakan struktur rumus hingga 60% lebih pendek dibandingkan metode manual, lebih mudah dimodifikasi, dan dapat mengurangi waktu proses perhitungan. Validasi ahli memperoleh skor 90% dengan kategori sangat layak. Implementasi template ini terbukti dapat meningkatkan efisiensi kerja bagi admin *travel agent*, mempercepat proses penyusunan harga, serta meminimalkan risiko kesalahan perhitungan harga. Dengan demikian, template ini dapat menjadi solusi praktis untuk meningkatkan edukasi dan produktivitas kerja di industri pariwisata.

Kata Kunci: Fungsi ROUNDUP, Quotation Paket Wisata, R&D

INTRODUCTION

The digital era has ushered businesses into a state of modernization. Its presence has encouraged every sector to utilize digital technology to achieve greater effectiveness and efficiency in resource management. This development has significantly influenced the travel agency industry. A travel agency is a business entity that provides services such as the preparation and planning of tourism activities, including all necessary documents, travel permits, and supporting facilities to facilitate tourists' travel experiences (Hartono, 2023). The growth of the tourism business sector, particularly travel agencies, has increased the need for information systems capable of facilitating work processes in a fast and accurate manner. This is driven by consumer demands that require business operators to prepare tour package components according to customer requests quickly and accurately, which has become one of the determining factors influencing consumer purchase intentions and ultimately affecting the company's profitability (Ahmad et al., 2022).

When consumers purchase a tour package, travel agencies prepare tourism products in the form of a tour itinerary and a tour quotation. An itinerary refers to the provision of schedules, lists of activities, and destinations to be visited, while also guiding tourists throughout the tour (Habibie et al., 2024).

Generally, the itinerary is distributed to prospective customers and serves as an overview of the planned tourism activities. In contrast, the quotation is usually not disclosed openly to prospective customers. A quotation represents the calculation of tour package costs, which may constitute a valuable resource or asset and can be considered confidential. The ultimate outcome of the quotation is the price charged to consumers, whether individual travelers or groups (Panggabean & Lestari, 2025). Competition among travel agencies often occurs when similar itineraries are offered but differ in terms of quotations. These differences depend on the calculation methods used and the components included in the tour package.

There is no standardized template used by travel agencies to determine quotations. Each travel agency has its own method for quickly calculating tour package prices. Given these differences, it is necessary to examine quotation preparation methods that are both efficient and accurate. This aims to facilitate companies in distributing their tour package products, particularly in relation to quotations.

For travel agencies that do not yet have a specialized quotation-generating application, Microsoft Excel is commonly used. One of the primary reasons is its ease of use for data compilation and its provision of a wide range of statistical functions that can be utilized by business practitioners in general (Damjanovic & Katanic, 2023). Among general users, Microsoft Excel remains the primary tool for calculating tour quotations because it is easily accessible and does not require advanced programming skills (Odja et al., 2021). However, in practice, many users rely on overly complex manual formulas, such as combinations of the IF, INT, and MOD functions. These formulas tend to be lengthy, difficult to understand, and prone to writing errors.

Microsoft Excel actually provides a built-in ROUNDUP function specifically designed to perform upward rounding in a simpler and more practical manner (Wicaksono, 2023). In addition to price rounding, the ROUNDUP function can also be utilized for inventory management and budget planning. The use of this function has the potential to reduce formula complexity, shorten

processing time, and minimize the risk of errors. Nevertheless, there is still limited research comparing the efficiency of manual formulas and the ROUNDUP function in the context of tour package price calculations. This study aims to implement the ROUNDUP function in the process of calculating tour package prices in Microsoft Excel, compare the efficiency between manual methods and the ROUNDUP function, and provide recommendations regarding the most efficient function usage for travel agency business practitioners who utilize Excel. The findings of this study are expected to serve as a practical reference for students, business practitioners, and administrative staff in simplifying the process of tour package price calculations using Excel, thereby enabling work processes to become faster, more accurate, and easier to perform.

METHODS

This study employed the Research and Development (R&D) methodology using the ADDIE model approach, which consists of the stages of Analysis, Design, Development, Implementation, and Evaluation. During the Analysis stage, user needs and problems in the existing pricing calculation process were identified. The Design stage produced an Excel template integrating the ROUNDUP function to automate price rounding consistently. In the Development stage, the template was constructed and tested, while the Implementation stage involved limited trials and validation by two experts, the tour quotation expert and the Microsoft Excel expert. The Evaluation stage focused on improving the Excel template based on expert feedback.

This model was selected because it is suitable for producing a product in the form of an Excel template. The Research and Development (R&D) method is a scientific approach used to investigate, design, produce, and test the validity of a developed product (Sugiyono, 2014). This study falls under Level 4 research and development, in which the researcher conducts research to produce a design, proceeds with product development, and evaluates its effectiveness through expert judgment (Purwohedi, 2022). Specifically, the procedure for calculating tour package prices or quotations is divided into five stages (Nuriata, 2014) : (1) identification of tour package cost components; (2) calculation of fixed costs; (3) calculation of per-person costs (variable costs); (4) calculation of free-of-charge participants; and (5) calculation of profit and determination of the selling price.

Subsequently, all data were processed using the Microsoft Excel application with both simple manual formulas and the ROUNDUP function as analytical tools for determining the selling price of tour packages. The results from both calculations were then compared using a descriptive-comparative approach, which explains and contrasts a phenomenon, condition, or research object to identify its similarities and differences. The ROUNDUP function is generally used for rounding numbers upward in decimal form (Microsoft, n.d.), while in other scenarios applied in this study, it is utilized for inventory and budget management, namely to ensure that the calculated tour package prices are aligned with the number of participants adjusted to the fixed cost and variable cost provisions.

RESULT AND DISCUSSION

Analysis Stage: The Need of Tour Quotation Improvement

Tour quotation is one of the essential components in developing a tour package. There is no standardized method used by each travel agency for calculating tour quotation. Every travel agency has its own method to facilitate its operational processes but based on the literature review from the report of on-the-job training students in the tour and travel industry, most of them using Microsoft Excel with simply formula or manual method (without any automation formula) to calculate the tour quotation. Consequently, the education institution adopts the manual method of tour quotation in the education.

Empirical observation during the instruction of the manual method indicated that a majority of students encountered difficulties in processing quotations, the process was time-consuming and highly susceptible to computational errors shifting with variations in tour components and tourist number. Meanwhile, clients necessitate prompt feedback and precise final pricing regarding adjustments to components and participant numbers. Therefore, the improvement of tour quotation utilizing Round Up Function in Microsoft Excel is need to be done.

Design Stage: Understanding the Manual Method and Design the Improvement Method

The tour quotation manual method utilizing Microsoft Excel is consist of the components below:

a. Identification of tour package cost components.

The main components of tour package costs include attraction fees (entrance tickets or performances), transportation and parking, accommodation, consumption (meals and beverages), tour leader and tour guide services, free-of-charge participants, profit percentage (markup), and other costs (such as souvenirs, first aid & medical, insurance, local guides, and others), as well as the determination of the selling price (business-to-business or business-to-consumer).

b. Calculation of fixed costs

Fixed costs refer to costs whose total amount remains constant and is not affected by changes in the volume of activities or operations up to a certain level of activity (Sherly et al., 2019). The cost components of tour packages (point a) are still varied and include a mix of individual and group pricing schemes. This significantly affects pricing when there is an increase in the number of participants. Generally, fixed costs are charged to participants based on cost components that must be included regardless of the number of participants. These costs are applied on a lump-sum or group basis rather than per individual, including attraction costs (per-performance fees charged per group), transportation and parking, tour leader services, tour guide services, and other expenses such as first aid & medical and local guides.

c. Calculation of variable costs)

In contrast to fixed costs, this stage involves cost components that are always charged on an individual basis. Variable cost is a method of determining production costs that only accounts for variable production expenses (Santioso et al., 2019). These costs cannot be charged on a minimum group basis. This component typically has a significant impact on the increase in tour package prices because it is calculated per person (per pax). The cost components include

attraction costs (such as entrance tickets or performances charged per individual), transportation and parking, accommodation according to type, consumption (meals and beverages), free-of-charge participants, and profit (markup).

d. Calculation of free-of-charge participants (FOC)

The free-of-charge (FOC) cost component is calculated because, in every tourism activity, there are tour leaders, tour guides, or travel agency staff whose costs are fully borne by paying participants. If this cost component is not included in the calculation, it may result in losses for the company. In addition, FOC is also applied due to requests for free participants from group or large-scale tour customers. Ideally, the FOC is applied at a minimum ratio of 10% of the total number of participants in the tour activity.

e. Calculation of profit (markup) and determination of selling price

The markup applied by each travel agency varies in composition. Ideally, this figure ranges from 10% to 30%, although there is no definitive regulation governing it. Each travel agency is free to determine the profit margin according to its operational needs.

QUOTATION OF EDUCATIONAL TOUR PACKAGES FOR BANYUWANGI COASTAL TOURISM														
For participants: Minimum 4 people, Maximum 12 people														
FOC 2 Pax (Tour Guide & Photographer)														
No	Tour Component Cost Description	Fixed Cost	Variable Cost	Total Pax 4	Total Pax 5	Total Pax 6	Fixed Cost	Variable Cost	Total Pax 7	Total Pax 8	Total Pax 9	Total Pax 10	Total Pax 11	Total Pax 12
1	Tourist Attractions													
7	Cemara Beach		5,000					5,000						
8	Cemara Beach Turtle Education		5,000					5,000						
9	Plengsengan Beach		5,000					5,000						
10	Marina Boom Beach		10,000					10,000						
2	Transportation and Parking													
12	Innova (Capacity 6 Pax)	500,000					1,000,000							
13	Plengsengan Beach Parking	5,000					10,000							
3	Accommodation													
4	Meals and snacks													
17	Lunch - Seafood Plengsengan		25,000					25,000						
5	Tour Guide													
19	Tour Guide (1 person; 1 day)	250,000					250,000							
6	Others													
21	Photography	150,000					150,000							
22	Travel Insurance		25,000					25,000						
23	First Aid and Medical	50,000					50,000							
7	Total price	955,000	75,000				1,460,000	75,000						
25	Total price per person (Total Fixed Cost Price divided by Total Number of Persons)		75,000	238,750	191,000	159,167		75,000	208,571	182,500	162,222	146,000	132,727	121,667
26	Total Price Per Pax (Total Fixed Cost per pax + Total Variable cost)			313,750	266,000	234,167			283,571	257,500	237,222	221,000	207,727	196,667
8	Free Of Charge/FOC													
28	FOC 2 people (2 x Total Variable Cost) divided by total pax)			37,500	30,000	25,000			21,429	18,750	16,667	15,000	13,636	12,500
9	Total Price + FOC													
30	Total Price Per Pax + FOC			351,250	296,000	259,167			305,000	276,250	253,889	236,000	221,364	209,167
10	Profit													
32	Mark Up 15%			52,688	44,400	38,875			45,750	41,438	38,083	35,400	33,205	31,375
11	Total price													
34	Total Package Price per Pax			403,938	340,400	298,042			350,750	317,688	291,972	271,400	254,568	240,542
35	Total Selling Price (Rounded)			IDR 405,000	IDR 345,000	IDR 305,000			IDR 350,000	IDR 320,000	IDR 295,000	IDR 275,000	IDR 260,000	IDR 250,000
36	Total Profit Per Pax (Total Selling Price minus Total Price Per Pax + FOC)			53,750	49,000	45,833			45,000	43,750	41,111	39,000	38,636	40,833
37	Total Overall Profit			215,000	245,000	275,000			315,000	350,000	370,000	390,000	425,000	490,000

Figure 1. Manual Method of Tour Package Quotation

Figure 1 presents an example of a tour package quotation template using Microsoft Excel manually. The template is fully structured through five stages of cost component calculation based on the (Nuriata, 2014). It can be observed that there are separate columns for fixed costs

and variable costs, as well as additional columns for the required number of pax (in this example, a minimum of 4 pax and a maximum of 12 pax). This is because the costs required for each number of pax vary. This also necessitates the addition of columns when there is an increase in the number of pax, as it affects changes in both fixed and variable costs, thereby extending the layout and requiring manual adjustments in accordance with the total number of participants.

The “Total Pax” column is adjusted according to the number of tour participants, where the price calculation stops at six participants and its multiples as the maximum capacity of the vehicle used. When the number of participants exceeds six, additional costs are required in the fixed cost column because an additional vehicle is needed, increasing from one to two vehicles (see cell H12 in Figure 1). This “Total Pax” column continues to increase indefinitely in accordance with the number of participants and requires repeated manual adjustments, as it affects changes in both fixed costs and variable costs.

After all cost components are entered and separated into fixed costs and variable costs, the total price per pax is obtained by adding the total variable cost (cell D25 in Figure 1) to the result of dividing the total fixed cost by the number of participants (cell E25 in Figure 1). Subsequently, the total price per pax is further added to the FOC cost for two individuals, namely the tour guide and photographer (cell E28 in Figure 1).

After the total price plus FOC is calculated, the next step is to compute the profit (markup), which then yields the final selling price that includes the added profit. In this manual Excel template, the rounding of the selling price per pax is performed manually (row 35 in Figure 1), requiring individual adjustments for each case. For example, the tour package price per person for a group of four participants is Rp 298,042 (see cell G34 in Figure 1), which must be manually rounded to Rp 305,000 (see cell G35 in Figure 1).

To improve the efficiency, the Roundup function can be applied to calculate “the fixed cost components” and “final total selling price”. The ROUNDUP function is used to round numbers up to specified number of digits higher (away from 0). The syntax for the ROUNDUP function is: ROUNDUP(Number, Num_digits). Number is the value (any real number) to be rounded up. NUM_digits is the number of digits or decimal places will be rounded up to. If greater than 0, the number is rounded to num_digits decimal places. If 0, the number is rounded to the nearest integer. If less than 0, the number is rounded to the left of the decimal point (Mehta, 2022; Moriarty et al., 2022; Prager, 2015).

The application of the ROUNDUP function to 'fixed cost components' is intended to automatically determine the required 'number of units' for each component in response to changes in tour participant numbers. While, its application to the 'total selling price' calculation aims to automatically round up the final price, thereby eliminating the need for manual adjustments. Implementing this function enhances tour quotation calculations by simplifying the spreadsheet layout; specifically, following the 'Fixed Cost' (Column C) and 'Variable Cost' (Column D) sections, it only requires the addition of a 'Unit' column (Column E) and a 'Total Price' column (Column F) (see Figure 2). Furthermore, this approach enables rapid total price recalculations when modifications occur in tour package components or participant numbers based on consumer demand.

Development Stage: Applying ROUNDUP Function in the Tour Quotation Template

The application of the ROUNDUP function to the fixed cost components is executed by rounding up the quotient of the total number of tour participants divided by the maximum capacity of the respective component, subsequently rounded to “0” or to the nearest integer. The fixed cost components include the Transportation, allocated at one unit per six tour participants; Parking, calculated per transportation unit; the Tour Guide, at one person per maximum participant capacity (12 tour participants); the Photography, at one person per maximum participant capacity (12 tour participants); and the First Aid & Medical Kit, provided as a single package for a tour activity with a maximum capacity of 12 tour participants.

E14						F31							
fx =ROUNDUP(((\$C\$5/6),0)						fx =roundup((F30+F29),-4)							
A	B	C	D	E	F	A	B	C	D	E	F		
1	QUOTATION OF EDUCATIONAL TOUR PACKAGES FOR BANYUWANGI COASTAL TOURISM					1	QUOTATION OF EDUCATIONAL TOUR PACKAGES FOR BANYUWANGI COASTAL TOURISM						
2	For participants: Minimum 4 people, Maximum 12 people					2	For participants: Minimum 4 people, Maximum 12 people						
3	FOC 2 Pax (Tour Guide & Fotographer)					3	FOC 2 Pax (Tour Guide & Fotographer)						
4						4							
5	Total Pax		6			5	Total Pax		12				
6	No	Tour Component Cost Description	Fixed Cost	Variable Cost	Unit	Total Price	6	No	Tour Component Cost Description	Fixed Cost	Variable Cost	Unit	Total Price
7													
8	1	Tourist Attractions					8	1	Tourist Attractions				
9		Cemara Beach		5,000	6	30,000	9		Cemara Beach		5,000	12	60,000
10		Cemara Beach Turtle Education		5,000	6	30,000	10		Cemara Beach Turtle Education		5,000	12	60,000
11		Plengsengan Beach		5,000	6	30,000	11		Plengsengan Beach		5,000	12	60,000
12		Marina Boom Beach		10,000	6	60,000	12		Marina Boom Beach		10,000	12	120,000
13	2	Transportation and Parking					13	2	Transportation and Parking				
14		Innova (Capacity 6 Pax)	500,000		1	500,000	14		Innova (Capacity 6 Pax)	500,000		2	1,000,000
15		Plengsengan Beach Parking	5,000		1	5,000	15		Plengsengan Beach Parking	5,000		2	10,000
16	3	Accommodation					16	3	Accommodation				
17													
18	4	Meals and snacks					18	4	Meals and snacks				
19		Lunch - Seafood Plengsengan		25,000	6	150,000	19		Lunch - Seafood Plengsengan		25,000	12	300,000
20	5	Tour Guide					20	5	Tour Guide				
21		Tour Guide (1 person; 1 day)	250,000		1	250,000	21		Tour Guide (1 person; 1 day)	250,000		1	250,000
22	6	Others					22	6	Others				
23		Photography	150,000		1	150,000	23		Photography	150,000		1	150,000
24		Travel Insurance		25,000	6	150,000	24		Travel Insurance		25,000	12	300,000
25		First Aid and Medical	50,000		1	50,000	25		First Aid and Medical	50,000		1	50,000
26	7	Total price	955,000	75,000		1,405,000	26	7	Total price	955,000	75,000		2,360,000
27	8	Total Price Per Pax				234,167	27	8	Total Price Per Pax				196,667
28	9	Free Of Charge/FOC (2 Pax)				25,000	28	9	Free Of Charge/FOC (2 Pax)				12,500
29	10	Total Price Per Pax + FOC				259,167	29	10	Total Price Per Pax + FOC				209,167
30	11	Profit 15%				38,875	30	11	Profit 15%				31,375
31	12	Total Selling Price Per Pax (Rounded Up)				300,000	31	12	Total Selling Price Per Pax (Rounded Up)				250,000
32	14	Total Selling Price All Pax				-	32	14	Total Selling Price All Pax				-
33	15	Total Profit Per Pax				40,833	33	15	Total Profit Per Pax				40,833
34	16	Total Profit All Pax				-	34	16	Total Profit All Pax				-

Figure 2. Tour Package Price Calculation Using the ROUNDUP Function for 6 Pax (Left) and 12 Pax (Right)

Figure 2 illustrates the calculation of tour package quotation using the ROUNDUP function template. The ROUNDUP function is applied in calculating the vehicle cost unit (cell E14) as a fixed cost component with a vehicle capacity limitation of 6 pax, as well as the parking cost unit (cell E15), which increases in accordance with the number of vehicle units. The ROUNDUP function used is “=ROUNDUP((\$C\$5/6),0)”, which means rounding up to zero decimal places the result of dividing the “total pax” (cell C5) by “6,” which represents the maximum vehicle capacity. Thus, if the “total pax” (cell C5) is changed to 12, the number of vehicle cost units will automatically change to 2 units. Furthermore, to calculating the unit of the Tour Guide (Cell E21), the Photography (Cell E23), and the First Aid & Medical Kit (Cell E25) as a fixed cost component with a limitation of 12 pax (maximum participant capacity) use The ROUNDUP function

"=ROUNDUP((\$C\$5/12),0)", which means rounding up to zero decimal places the result of dividing the "total pax" (cell C5) by "12," which represents the maximum participant capacity.

In addition, the application of the ROUNDUP function to the total selling price (Cell F31) is executed by rounding up the sum of the total price per pax + FOC and the profit; this value is subsequently rounded to '-4', representing four decimal places to the left of the decimal point (the nearest tens of thousands level). The ROUNDUP function used is "=ROUNDUP((F30+F29),-4)", which means rounding up to four places to the left of the decimal from the sum of "total price per pax + FOC" and "profit." For example, the tour package price per person for a group of four participants will automatically become Rp 300,000 (see cell F31 in Figure 2, left section), which is the upward rounding of Rp 298,042 to the nearest ten-thousand level. By implementing this approach, the rounded-up selling price per pax can be easily obtained simply by changing the number of pax (cell C3), without the need to add additional columns as in the manual template and without manually entering rounded prices one by one for each different number of pax.

Implementation Stage: Limited Trials and Validation by Experts

The implementation stage was conducted through limited testing and validation of the tour quotation template by two experts, specifically a tour quotation expert and a Microsoft Excel expert. The evaluation indicators comprised: (1) the template's capacity to accommodate tour package cost components; (2) its efficacy in simplifying calculations; (3) its capacity to enhance calculation speed; (4) its efficacy in minimizing calculation errors; and (5) the precision of the ROUNDUP function implementation in the template. Based on expert judgment validation, the tour quotation template was deemed feasible for use, obtaining a score of 90%.

Table 1 Experts Validation of Tour Quotation Template Feasibility

No	Indicator	Feasibility Validation				Score
		Expert 1		Expert 2		
		Met	Not Met	Met	Not Met	
1	the template's capacity to accommodate tour package cost components	1	-	1	-	2
2	the template's efficacy in simplifying calculations	1	-	1	-	2
3	the template's capacity to enhance calculation speed	1	-	1	-	2
4	the template's efficacy in minimizing calculation errors	-	0	1	-	1
5	the precision of the ROUNDUP function implementation in the template	1	-	1	-	2
Total Score						9
Percentage						90%

Both experts consensually agreed that indicator (1) the template's capacity to accommodate tour package cost components; (2) its efficacy in simplifying calculations; (3) its capacity to enhance calculation speed; and (5) the precision of the ROUNDUP function implementation in the template successfully met the feasibility criteria. In the manual approach, each step must be executed sequentially to derive the next formula, meaning that numerous stages are required and multiple formulas must be combined, such as calculating total fixed costs, variable costs, and subsequently adding other price components.

Furthermore, to accommodate an increase in the number of pax sold, additional columns must be created and recalculations must be performed manually. In contrast, the ROUNDUP function

is structurally simpler because it only requires adjustment of fixed and variable cost components, after which the number of pax can be freely modified without manually adding new columns. The tour package price calculation template using the ROUNDUP function requires only six columns to calculate prices for up to 12 pax (or even more), consisting of the number, cost components, fixed costs, variable costs, unit, and total price columns. In comparison, the manual template requires 15 columns or even more. The results indicate that ROUNDUP is superior in terms of simplification, achieving approximately 60% efficiency by reducing the number of columns, making it easier to understand, edit, and maintain. It is also considered low-maintenance, as price changes only require adjustment at the item level.

	A	B	C	D	E	F
1	QUOTATION OF EDUCATIONAL TOUR PACKAGES FOR BANYUWANGI COASTAL TOURISM					
2	For participants: Minimum 4 people, Maximum 12 people					
3	FOC 2 Pax (Tour Guide & Fotographer)					
4						
5		Total Pax	6			
6	No	Tour Component Cost Description	Fixed Cost	Variable Cost	Unit	Total Price
7						
8	1	Tourist Attractions				
9		Cemara Beach		5,000	6	30,000
10		Cemara Beach Turtle Education		5,000	6	30,000
11		Plengsengan Beach		5,000	6	30,000
12		Marina Boom Beach		10,000	6	60,000
13	2	Transportation and Parking				
14		Innova (Capacity 6 Pax)	500,000		1	500,000
15		Plengsengan Beach Parking	5,000		1	5,000
16	3	Accommodation				
17		-				
18	4	Meals and snacks				
19		Lunch - Seafood Plengsengan		25,000	6	150,000
20	5	Tour Guide				
21		Tour Guide (1 person; 1 day)	250,000		1	250,000
22	6	Others				
23		Photography	150,000		1	150,000
24		Travel Insurance		25,000	6	150,000
25		First Aid and Medical	50,000		1	50,000
26	7	Total price	955,000	75,000		1,405,000
27	8	Total Price Per Pax				234,167
28	9	Free Of Charge/FOC (2 Pax)				25,000
29	10	Total Price Per Pax + FOC				259,167
30	11	Profit 15%				38,875
31	12	Total Selling Price Per Pax (Rounded Up)				300,000
32	14	Total Selling Price All Pax				-
33	15	Total Profit Per Pax				40,833

Figure 3. The Potential for Calculation Errors Regarding the Total Participant Number

However, regarding the evaluation of indicator (4) the template's efficacy in minimizing calculation errors, a discrepancy in assessment emerged, as one expert determined that this indicator had not yet met the feasibility criteria. This variance arises because the tour quotation template, despite implementing the ROUNDUP function, still presents a probability of error in calculating the total number of participants, including the Free of Charge (FOC). Such calculation errors could lead to discrepancies in determining the required number of transportation units, subsequently resulting in financial losses for the company. Consequently, a further evaluation is imperative to mitigate these potential errors.

Evaluation stage: Improving the Tour Quotation Template Based on Expert Feedback

Based on the discussions with the experts, a comprehensive evaluation is required to minimize the probability of error when calculating the total number of tour participants, including those participants under Free of Charge (FOC). The positioning of the FOC calculation in the below of the template may lead to errors in calculating the total number of participants, including FOC.

For example, in the “Total Pax 6”, the total number of participants is 6 pax plus 2 FOC, resulting in a total of 8 pax, which cannot be accommodated in a single vehicle with a capacity of 6. Therefore, it is necessary to include clear information regarding the number of participants and FOC at the top of the template.

Figure 4 illustrates the calculation of tour package prices using the ROUNDUP function template, where information regarding the number of tourist participants (pax) and the number of FOC is displayed at the top of the template. This information is necessary for the application of the ROUNDUP function and also serves to prevent potential errors in calculating the total number of participants. Hopefully, this template can be directly used both by academics as well as practitioners. The more superior of the two is the template utilizing the ROUNDUP function due to its practicality, lower error potential, and ability to increase company profitability.

QUOTATION OF EDUCATIONAL TOUR PACKAGES FOR BANYUWANGI COASTAL TOURISM					
For participants: Minimum 4 people, Maximum 12 people					
Pax			6		
FOC (Tour Guide & Fotographer)			2		
Total Pax			8		
No	Tour Component Cost Description	Fixed Cost	Variable Cost	Unit	Total Price
1	Tourist Attractions				
	Cemara Beach		5,000	6	30,000
	Cemara Beach Turtle Education		5,000	6	30,000
	Plengsengan Beach		5,000	6	30,000
	Marina Boom Beach		10,000	6	60,000
2	Transportation and Parking				
	Innova (Capacity 6 Pax)	500,000		2	1,000,000
	Plengsengan Beach Parking	5,000		2	10,000
3	Accommodation				
	-				
4	Meals and snacks				
	Lunch - Seafood Plengsengan		25,000	6	150,000
5	Tour Guide				
	Tour Guide (1 person; 1 day)	250,000		1	250,000
6	Others				
	Photography	150,000		1	150,000
	Travel Insurance		25,000	6	150,000
	First Aid and Medical	50,000		1	50,000
7	Total price	955,000	75,000		1,910,000
8	Total Price Per Pax				318,333
9	Free Of Charge/FOC (2 Pax)				25,000
10	Total Price Per Pax + FOC				343,333
11	Profit 15%				51,500
12	Total Selling Price Per Pax (Rounded Up)				400,000
14	Total Selling Price All Pax				2,400,000
15	Total Profit Per Pax				56,667
16	Total Profit All Pax				340,000

Figure 4. The Evaluation of Tour Quotation Template to Minimize Potential Error

CONCLUSION

This study successfully shows the improvement of an Excel template for tour package quotation using the ROUNDUP function. The template has been proven to be simpler 60% more concise and easier to modify than manual formulas, with rounding results that are appropriately adjusted and beneficial for travel agencies. Product validation by experts yielded a score of 90%, indicating that the template is feasible for use. The use of the ROUNDUP function is also shown to be more

error-resistant due to its simpler syntax structure, thereby reducing the risk of data input errors. In addition, the template can be directly used by both academics and practitioners for determining tour package prices, thereby accelerating the calculation process and improving work efficiency. The findings of this study indicate that the ROUNDUP function can serve as a more effective and efficient alternative for tour package quotation, particularly in the context of Microsoft Excel usage.

ACKNOWLEDGMENTS

The authors gratefully acknowledge Universitas Khairun for their assistance and cooperation. We also thank our colleagues in Politeknik Negeri Banyuwangi for their insightful discussion that greatly improved the manuscript.

REFERENCES

- Ahmad, F., Hidayanti, I. & Fahri, J. (2022). The Effect of Product Quality and Brand Image on the Purchase Decision of Ms.Glow Skincare Products Through Purchase Interest as a Mediation Variable in Users of Ms.Glow Skincare Products in Ternate. *Journal Of Management and Islamic Finance*, 2(2), 240–258. <https://doi.org/10.22515/Jmif.V2i2.5244>
- Damjanovic, S. & Katanic, P. (2023). Employing Microsoft Excel for Enhanced Mathematical and Statistical Online Pedagogy in Economics Amidst a Pandemic. *Education Science and Management*, 1(2), 58–72. <https://doi.org/10.56578/Esm010201>
- Habibie, H., Humairah, S., Putri, E. R., Nurhayati, A. & Ratnasari, D. (2024). Designing Tourist Itineraries with Design Thinking and System Usability Scale: A Case Study Of Uluwatu Island, Bali. *Jurnal Pariwisata Nusantara (JUWITA)*, 3(1), 42–58. <https://doi.org/10.20414/Juwita.V3i1.10506>
- Hartono, S. M. (2023). Pengaruh Harga Terhadap Loyalitas Pelanggan Studi Kasus Pada Antavaya Tour And Travel Jakarta. *Jurnal Nasional Pariwisata*, 13(1), 20. <https://doi.org/10.22146/Jnp.80242>
- Mehta, C. M. S. (2022). *Microsoft Excel Professional 2021 Guide A Complete Excel Reference, Loads of Formulas and Functions, Shortcuts, And Numerous Screenshots to Become an Excel Expert (English Edition)*. Walter De Gruyter GmbH.
- Microsoft. (N.D.). *ROUNDUP (ROUNDUP Function)*. <https://support.microsoft.com/id-id/office/roundup-fungsi-roundup-f8bc9b23-e795-47db-8703-db171d0c42a7>. Retrieved May 20, 2026, From <https://support.microsoft.com/id-id/office/roundup-fungsi-roundup-f8bc9b23-e795-47db-8703-db171d0c42a7>
- Moriarty, B., Held, B. & Richardson, T. (2022). *Microsoft Excel Functions and Formulas with Excel 2021 / Microsoft 365 (Sixth Edition)*. Walter De Gruyter GmbH & Co KG.
- Nuriata. (2014). *Perencanaan Dan Pelaksanaan Perjalanan Wisata Konsep Dan Aplikasi* (D. Nurjamal, Ed.). Alfabeta.
- Odja, M. O., Likadja, F. J., Ina, W. T. & Pella, S. I. (2021). Penggunaan Microsoft Excel Untuk Kemudahan Pengolahan Data Nilai Hasil Belajar Siswa. *Jurnal Pengabdian Kepada Masyarakat Undana*, 15(2), 22–29. <https://doi.org/10.35508/JpkmIppm.V15i2.6052>
- Panggabean, J. V. & Lestari, D. (2025). Rancangan Paket Wisata Tailor Made Untuk Accessible Tourism Di Bali: Inovasi Biro Perjalanan Wisata. *Jurnal Ilmiah Pariwisata*, 21, 12–40. <https://doi.org/10.56910/Gemawisata.V21i3.725>
- Prager, J. K. (2015). *Financial Forecasting in Microsoft Excel*. Builderbooks.
- Purwohedi, U. (2022). *Metode Penelitian: Prinsip Dan Praktik*. Penebar Swadaya.

- Santioso, L., Salim, S., Daryatno, A. B. & Bangun, D. N. (2019). *Variable Costing Sebagai Alternatif Costing Untuk Meningkatkan Kualitas Keputusan Penentuan Harga Produk*. 2(2), 315–322.
- Sherly, A., Widia, N. & Putri, A. M. (2019). Fixed Cost Analysis (Case Study In Pinochio Stores In Duri) Analisis Biaya Tetap (Studi Kasus Pada Toko Pinochio Di Duri). In *Research in Accounting Journal* (Vol. 1, Issue 2). [Http://Journal.Yrpiiku.Com/Index.Php/Raj](http://Journal.Yrpiiku.Com/Index.Php/Raj)
- Sugiyono. (2014). *Metode Penelitian Kuantitatif Kualitatif Dan R&D*. Alfabeta.
- Wicaksono, Y. (2023). *Panduan Lengkap Formula Dan Fungsi Excel 2007, 2010, 2013, 2016, 1019*. Elex Media Komputindo.