

CASH BUDGETING PLANNING AND FORECASTING PANDEMIC ERA IN HOSPITAL M (CASE STUDY)

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ABSTRACT

Purpose: This research aims to find out how planning, budgeting, and forecasting cash budget in the pandemic era at M General Hospital because the cash budget has a great role in maintaining the stability of incoming and outgoing cash which has an impact on hospital operations. **Methods:** The type of this research is a combination of qualitative and quantitative research. Data collection techniques with the interview, observation, and supporting data are used to analyze the cash budget planning, budgeting, and forecasting in the pandemic era at M General Hospital. **Analysis data:** The data were analyzed in 2 steps, the first step was collecting the previous year's financial data which will be used to arrange cash budgeting. From the data that has been compiled, forecasting will be carried out using the Exponential Smoothing method which will produce data for the next year. The second step was interviewing the hospital chief and budget maker committee. **Result and discussions:** The forecasting results describe cash position prediction and, estimate surplus/deficit to prepare the management for making cash utilization decisions. **Conclusion:** It is recommended to arrange cash budgeting to maintain cash balance which has an impact on the hospital's operations. It also can be considered for further researchers to use different methods to achieve better results

Keywords: planning, cash budgeting, forecasting

INTRODUCTION

The tighter business competition was accompanied by pandemic conditions which at that time left social restrictions that hampered people's activities. Under these conditions, business actors must make efforts to maintain their viability by planning to support their performance by making budgets so that operations can continue to run effectively and efficiently. Hospitals as one of the business sectors in the health sector have an interest in maintaining their survival by implementing the right strategy to get positive performance effectively and efficiently.

Based on research that has been carried out by Fadilah (2017), it shows that generally, the problems faced by hospitals related to budget calculations are, that they are less accurate in predicting the budgeted costs, besides the weak supervision of the realization of budgeted revenues and costs also makes the difference unprofitable. because the hospital focuses on social

obligations to provide optimal services. Hospitals must supervise the recording and financial reporting of revenues and costs that have been strictly budgeted so that they are carried out properly.

Research conducted by Hartoyo (2018) shows that planning, budgeting, and forecasting at At-Thurota Al Islami Hospital have basically gone well but have not been maximized because in their implementation there are still things that are not in accordance with the consumptive method, there are several activities that are not in accordance with hospital needs, but has provided significant benefits in the accuracy of estimates in the form of saving funds and providing an overview of expenditure estimates effectively and efficiently.

Subsequent research was carried out by Prabowo (2020) that the accountability of the work plan and budget plan of RSUD Dr. Iskak Tulungagung had a positive impact on the managerial and operational

performance of the hospital. All forms of innovation and programs implemented by hospitals cannot be separated from adequate planning and budgeting support.

The hospital Revenue and Expense Budget Plan is an important factor in the implementation of planning, budgeting, and forecasting in hospitals. The purpose of this study was to determine cash budgeting planning and forecasting in the pandemic era at M. Hospital.

The paper produced from this research is a series of ideas and formulations that were compiled by the author himself without the help of a third party except for the direction of the Advisory Team.

THEORITICAL BASIS

According to Permenkes 72 of 2016, a hospital is a health service institution that provides comprehensive health services that provide inpatient, outpatient, and emergency services. Meanwhile, according to the World Health Organization (WHO), the hospital is an integral part of social and health organizations with the function of providing complete (comprehensive), disease healing (curative), and disease prevention (preventive) services to the community. The hospital is also a training center for health workers and a center for medical research.

Planning or planning is one of the functions of management which includes organizing, implementing, and monitoring. Planning itself is generally able to assist organizations in adapting to threats and opportunities that exist around the hospital. Planning provides a basis for carrying out supervision until at the end of the process is preparing a budget through the preparation of a systematic activity plan (Suyatno et al, 2018: 55).

The budget is a plan that is described quantitatively and is assessed in the form of money or other quantitative measures (Suyatno et al, 2018: 31). According to Nafarin (2013: 309), a cash budget is a budget that shows changes in cash and

provides reasons for the changes in cash by showing cash inflows as a source of cash and cash outflows as cash flows being spent (used) so that it looks like excess or shortage of cash, and the balance cash during a certain period of an organization. According to Gunawan and Yunita (2017: 295), the cash budget shows cash inflows, cash outflows, and the final position in each period. Cash budgeting is an effective way to plan and control cash flow. Estimated cash needs, and effective use of excess cash.

Forecasting is a process of systematically assessing the success and/or failure of a policy or program in achieving the goals and objectives that have been set. Forecasting results are useful as a source of information in making decisions to continue, make improvements, or stop an organization's policies, programs, and activities (Artini, 2015:295). Forecasting is the art and science of predicting future events. This can be done by using historical data and calculation processes to predict a projection of future events.

Forecasting Techniques. There are 2 techniques in Forecasting, namely Qualitative and Quantitative. The qualitative Forecasting method is subjective because it is influenced by factors such as institutions, emotions, and one's experience (Heizer & Render, 2011). Heizer & Render (2011:139) explains that the Quantitative forecasting method is carried out using various mathematical models with historical data related to forecasting and causal variables to forecast demand.

One of the qualitative forecasting methods is Exponential Smoothing. Exponential Smoothing is a weighted moving average forecasting method, where is a weight or smoothing constant chosen by the forecaster has a value between 0 and 1.

RESEARCH MODEL

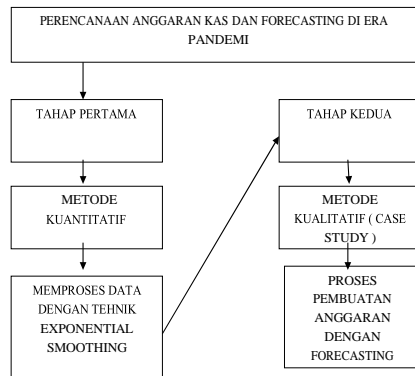


Figure 1. Research Concept Framework

RESEARCH METHODS

This study uses a combination of quantitative and qualitative which was carried out at the M. Quantitative Hospital, namely the Exponential Smoothing Method, while qualitative by interview, observation, and supporting data which in this study were used to analyze planning, cash budgeting and forecasting in the pandemic era. There are two stages in analyzing the data, namely:

1. First Stage

Collect data from the previous year to be used to prepare a cash budget. From the data that has been compiled, then Forecasting is carried out using Exponential Smoothing.

2. Second Stage

Based on the results obtained from the first stage, interviews were conducted with parties who have a relationship with the preparation of hospital budgeting.

RESULTS AND DISCUSSION

Data analysis in the first stage, the cash budget is made from hospital income and expenditure data for 2019, 2020, and 2021. This stage provides processing information using the Exponential Smoothing Method, the results of which are Forecasting Cash Budgets in the future using:

1. MAD (Mean Absolute Deviation)

Is to calculate the average absolute error that is the result of reducing the actual and forecast values for each period which is absolute and then added up.

2. MSE (Mean Square Error)

Is to calculate the average error power calculated by subtracting the actual value and the squared forecast.

3. MAPE (Mean Absolute Percentage Error)

Is to calculate the average value of the absolute error percentage.

The exponential Smoothing method is a continuous calculation using new data in the procedure where each data is weighted with an alpha symbol. Alpha can be determined independently, which reduces forecast errors. The value of the smoothing constant, α , can be chosen between values 0 and 1, because it applies: $0 < \alpha < 1$

The following is the data on the components of the cash budget and forecasting results.

Table 1. Cash and Forecasting Budget Data per semester 2019

KETERANGAN	2019			
	SEMESTER 1	FORECASTING	SEMESTER 2	FORECASTING
SALDO AWAL	1.433.306.877	1.433.306.877	3.172.661.813	1.433.306.877
KAS TUNAI	14.588.229.005	15.050.421.259	12.019.448.557	11.978.157.856
KAS DARI PIUTANG	16.080.400.814	339.004.638	12.733.987.931	339.004.638
PEMINDAHBUKUAN	12.408.909.110	3.551.794.873	11.404.295.894	5.830.462.167
JUMLAH KAS MASUK	43.077.538.929	18.941.220.770	36.157.732.382	18.147.624.661
KAS TERSEDIA	44.510.845.806	20.374.527.647	39.330.394.195	19.580.931.538
KEGIATAN OPERASIONAL	18.303.723.326	14.103.527.410	16.690.482.385	14.392.282.824
INVESTASI	9.754.960.859	2.036.419.869	3.932.850.997	3.257.867.114
HUTANG USAHA	8.125.835.741	7.978.067.930	7.303.988.999	6.534.144.424
PEMINDAHBUKUAN	5.153.664.067	900.000.000	8.900.000.000	900.000.000
JUMLAH KAS KELUAR	41.338.183.993	25.018.015.209	36.827.322.381	25.084.294.363
SALDO AKHIR	3.172.661.813	- 4.643.487.563	2.503.071.814	- 5.580.362.825

Table 2. Cash Budget and Forecasting Data per semester 2020

KETERANGAN	2020			
	SEMESTER 1	FORECASTING	SEMESTER 2	FORECASTING
SALDO AWAL	2.503.071.814	3.562.770.799	2.757.261.585	3.620.125.455
KAS TUNAI	14.017.845.574	14.223.673.006	10.445.598.375	10.445.244.268
KAS DARI PIUTANG	18.663.240.274	16.500.666.342	20.490.896.299	16.500.666.342
PEMINDAHBUKUAN	5.000.000.000	5.309.017.012	4.400.000.000	4.440.827.748
JUMLAH KAS MASUK	37.681.085.848	36.033.356.360	35.336.494.674	31.386.738.358
KAS TERSEDIA	40.184.157.662	39.596.127.159	38.093.756.259	35.006.863.813
KEGIATAN OPERASIONAL	17.053.272.616	15.648.056.107	16.287.182.167	16.048.545.971
INVESTASI	2.259.914.757	2.259.914.757	442.786.308	442.786.308
HUTANG USAHA	8.513.708.704	6.825.824.568	6.731.436.388	6.825.824.568
PEMINDAHBUKUAN	9.600.000.000	9.000.000.000	11.600.000.000	9.000.000.000
JUMLAH KAS KELUAR	37.426.896.077	33.733.795.432	35.061.404.863	32.317.156.847
SALDO AKHIR	2.757.261.585	5.862.331.727	3.032.351.396	2.689.706.966

Table 3. Cash Budget and Forecasting Data per semester 2021

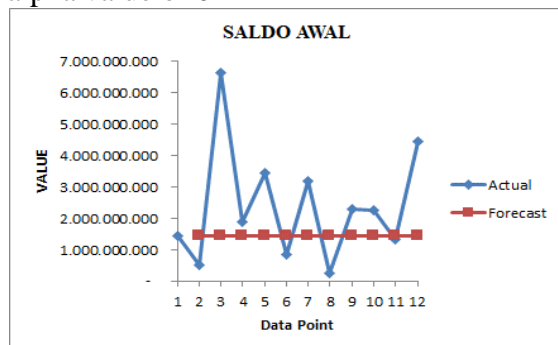
KETERANGAN	2021			
	SEMESTER 1	FORECASTING	SEMESTER 2	FORECASTING
SALDO AWAL	3.032.351.396	1.842.366.153	829.587.220	19.075.169.309
KAS TUNAI	10.551.595.175	10.911.630.125	9.987.643.518	9.895.960.347
KAS DARI PIUTANG	18.439.058.172	5.531.926.103	42.831.453.762	18.094.358.825
PEMINDAHBUKUAN	10.019.000.001	11.237.667.964	18.510.000.000	12.874.468.723
JUMLAH KAS MASUK	39.009.653.348	27.681.224.192	71.329.097.280	40.864.787.894
KAS TERSEDIA	42.042.004.744	29.523.590.345	72.158.684.500	59.939.957.204
KEGIATAN OPERASIS	21.227.983.890	20.434.175.966	19.396.821.424	20.434.175.966
INVESTASI	1.006.229.650	397.299.606	854.169.575	507.783.206
HUTANG USAHA	9.485.554.532	8.630.289.544	10.270.869.820	8.873.568.413
PEMINDAHBUKUAN	9.492.649.451	8.936.119.164	27.210.000.000	21.627.424.689
JUMLAH KAS KELUAR	41.212.417.523	38.397.884.281	57.731.860.819	51.442.952.275
SALDO AKHIR	829.587.220	8.874.293.936	14.426.823.681	8.497.004.929

The table above is obtained from the results of forecasting calculations for each component of the cash budget that is made per semester. So the data every month per component of the cash budget in one year is processed by data processing, including the following: (the display is a sample of several components of the cash budget for 2019 to 2022)

Table 4. Beginning Balance Forecasting 2019

NO	SALDO AWAL	α Damppling			
		FORECAST	MAD	MSE	MAPE
		0	1		
1	1.433.306.877	#N/A	#N/A	#N/A	#N/A
2	502.070.768	1.433.306.877	931.236.109	867.200.689.811.473.000	1,85
3	6.636.126.846	1.433.306.877	5.202.819.969	27.069.335.624.830.500.000	0,78
4	1.901.500.607	1.433.306.877	468.193.730	219.205.369.045.410.000	0,25
5	3.443.965.830	1.433.306.877	2.010.658.953	4.042.749.424.474.790.000	0,58
6	852.120.132	1.433.306.877	581.186.745	337.778.032.796.170.000	0,68
7	3.172.661.813	1.433.306.877	1.739.354.936	3.025.355.592.691.820.000	0,55
8	264.265.027	1.433.306.877	1.169.041.850	1.366.658.846.209.710.000	4,42
9	2.281.560.965	1.433.306.877	848.254.088	719.534.998.419.455.000	0,37
10	2.245.112.668	1.433.306.877	811.805.791	659.028.642.820.692.000	0,36
11	1.330.429.855	1.433.306.877	102.877.022	10.583.681.589.747.200	0,08
12	4.452.480.858	1.433.306.877	3.019.173.981	9.115.411.529.479.660.000	0,68
		1.433.306.877	1.534.963.925	4.312.076.584.742.670.000	0,96
					96%

The best mape 96% is obtained with an alpha value of 0



Graph 1. Beginning Balance Forecasting 2019

Table 5. Cash Forecasting 2020

NO	KAS TUNAI	α Damppling			
		FORECAST	MAD	MSE	MAPE
		0,75	0,25		
1	2.558.661.273	#N/A	#N/A	#N/A	#N/A
2	2.418.583.585	2.558.661.273	140.077.688	19.621.758.675.425.300	0,06
3	2.672.027.180	2.453.170.070	218.857.110	47.898.434.422.665.300	0,08
4	2.778.401.601	2.617.989.322	160.412.279	25.732.099.282.993.900	0,06
5	1.657.105.889	2.738.794.316	1.081.688.427	1.170.049.852.520.200.000	0,65
6	1.933.066.046	1.924.184.833	8.881.213	78.875.945.754.986	0,00
7	1.618.296.056	1.930.873.192	312.577.136	97.704.465.824.794.500	0,19
8	1.616.958.301	1.695.474.261	78.515.960	6.164.756.000.708.270	0,05
9	1.567.622.806	1.636.344.623	68.721.817	4.722.688.078.121.270	0,04
10	1.734.104.824	1.584.590.862	149.513.962	22.354.424.720.942.800	0,09
11	1.966.086.206	1.697.188.435	268.897.771	72.306.011.365.324.700	0,14
12	1.942.530.182	1.899.692.843	42.837.339	1.835.037.643.532.590	0,02
		1.931.953.244	230.089.155	133.497.127.680.043.000	0,13
					13%

The best mape 13% is obtained with an alpha value of 0.75

Graph 2. Cash Forecasting 2020

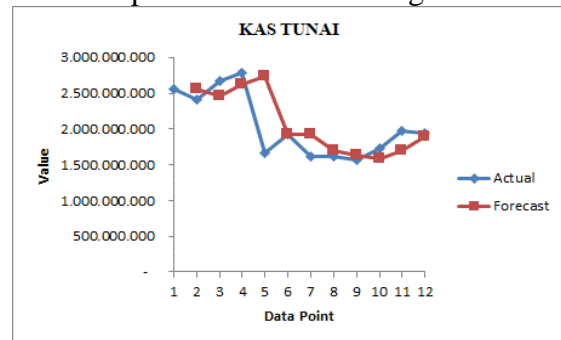
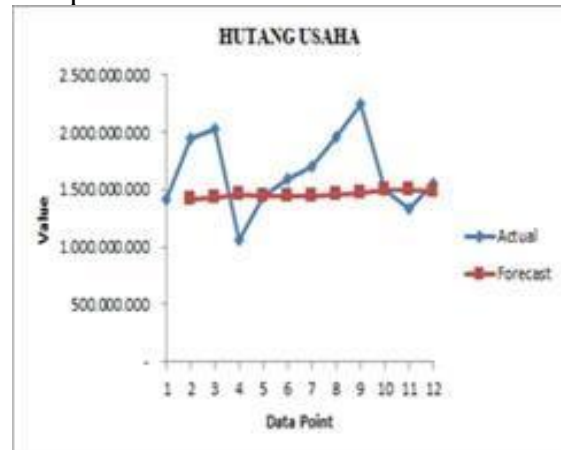


Table 5. Accounts Payable Forecasting 2021

NO	HUTANG USAHA	α Damppling			
		FORECAST	MAD	MSE	MAPE
		0,03	0,97		
1	1.418.915.758	#N/A	#N/A	#N/A	#N/A
2	1.941.462.985	1.418.915.758	522.547.227	273.055.604.445.390.000	0,27
3	2.022.020.231	1.434.321.530	587.698.701	345.389.762.662.657.000	0,29
4	1.061.960.416	1.451.648.103	389.687.687	151.856.493.367.020.000	0,37
5	1.446.564.344	1.440.159.304	6.405.040	41.024.532.084.794	0,00
6	1.594.630.798	1.440.348.138	154.282.660	23.803.139.108.171.300	0,10
7	1.704.030.455	1.444.896.710	259.133.745	67.150.297.821.932.600	0,15
8	1.958.601.069	1.452.536.508	506.064.561	256.101.339.476.805.000	0,26
9	2.243.578.083	1.467.456.338	776.121.745	602.364.963.432.508.000	0,35
10	1.490.337.059	1.490.338.011	952	906.588	0,00
11	1.328.142.015	1.490.337.983	162.195.968	26.307.532.060.629.100	0,12
12	1.546.181.139	1.485.556.111	60.625.028	3.675.394.061.241.350	0,04
		1.487.343.462	311.342.119	159.067.777.360.850.000	0,18
					18%

The best mape 18% is obtained with a value of alpha 0.03



Graph 3. Accounts Payable Forecasting 2021

After all the existing data is processed using the Exponential Smoothing Method, finally the forecast results for the future are obtained, namely the 2019 forecast data into the 2022 cash budget, the 2020 forecast data into the 2023 cash budget, and the 2021 forecast data into the 2024 cash budget. The forecast results are used to monitor the condition of the existing cash, namely how the cash position is by comparing the amount of cash in and cash out so that management can estimate the possibility of a surplus or deficit that has an impact on decisions related to the use of cash and also as a basis for assessing the actual cash realization. Based on Lewis (1982), MAPE values for forecasting results can be interpreted in four categories:

1. < 10% category is very accurate
2. 10% < 20% good category
3. 20% < 50% fair category
4. 50% > inaccurate category

From the results of the analysis of the data above, it is obtained that

KETERANGAN	PROSENTASE			
	2019	2020	2021	Rata-rata
Sangat Akurat		12,5%		4%
Baik	25%	12,5%	37,5%	25%
Wajar	13%	25%	25%	21%
Tidak Akurat	63%	50%	37,5%	50%

Furthermore, for the second stage of analysis, the results of interviews with agency leaders, namely the Director of the hospital with the question "How are planning, cash budgeting and forecasting during the pandemic at Hospital M", the answer is that the hospital has prepared a Budget Plan for Revenue and Costs. RAPB is the implementation of the Business Strategic Plan accompanied by adjustments to internal or external conditions that occur.

With regard to planning, cash budgets and specific forecasting for cash have not been prepared even though the hospital has prepared a Revenue and Expense Budget Plan which is basically an accurate estimate of how cash will be affected during the period.

For an interview with the Head of the Budget Preparation Section, it was found that the budget in the pandemic era was

prioritized for the fulfillment of facilities and infrastructure to support operational services to serve Covid patients.

CONCLUSION

1. Specific cash budget planning and forecasting at M Hospital have not been carried out, including responding to pandemic conditions which have many impacts in all sectors of life, including hospitals, even though a Revenue and Expense Budget Plan has been prepared which is actually an accurate estimate of the cash condition in Indonesia. at that time.
2. Exponential Smoothing method used to prepare cash forecasting based on existing cash data produces an inaccurate percentage of 50%. However, the application of the Exponential Smoothing Method in this study shows an increase in the accuracy of the results from year to year, although it is not yet at the highest level of accuracy, which is very accurate. Thus, the hospital should prepare a cash budget after compiling a Budget Plan of Revenue and Costs in order to be able to regulate the balance between expenditure and income which has an impact on the operation of the hospital.

SUGGESTION

Recommendations for further researchers to try to do similar research but use more than one method so that the processing results of each method can be compared.

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