Performance Evaluation of a Golf Course Using the PPP Model

Mohan P. Rao

The University of Texas Pan American
College of Business Administration, MAGC 3.334
Edinburg, TX 78539
Tel: 956-381-3352
e-mail: rao@panam.edu

ABSTRACT

The "Profitability = Productivity + Price Recovery" (PPP) model was published in Harvard Business Review more than two decades ago. Yet hardly any application of the model can be found in the open literature. This paper describes a spreadsheet application of the model in a real-world setting. Interest in golf has been growing over the years, but many golf courses have been losing money. So a performance measurement system using the PPP model is developed for a golf course to identify and analyze problem areas. Experience from this implementation and recommendations for improvement of the golf course will be discussed.

INTRODUCTION

Golf has been growing in popularity over the years. The majority of the courses in the USA are public. Since 1950s, public courses have shown the most growth, and currently have the largest market share with 46% of the golf market (Melvin and McCormick, 2001). Research suggests that the industry is over-built and half of the golf courses don't make money (Snell, 1999). Cities around the country are reporting financial problems with their golf courses (City of Reno, 2003; Woodward, 2003; McGee, 2004; Hardy, 2004; Viren, 2004). If the municipal golf courses keep on losing money year after year, tax payers are not going to be happy.

Total-factor productivity measurement models can help identify the problem areas in business organizations. The purpose of this paper is to describe the case of a municipal golf course, collect the financial data, develop a spreadsheet-based performance evaluation system, analyze the results, identify any problems, and develop possible solutions. Financial viability of golf courses is essential for making many more Woods and Wies of the future.

The paper is organized as follows: 1. background on performance measurement models and golf, 2. description of the Ebony Hills Golf Course, 3. data collection and model setup using the PPP model, 4.interpretation of the results, and 5. summary and conclusions.

BACKGROUND

Profit margins and productivity are the two most important performance indicators for CEOs in their strategic decision-making, according to Industry Week's 27th annual survey (Stevens, 1998). Performance measurement has gained some importance in recent years because of the

balanced scorecard created by Kaplan and Norton (1992). The scorecard does not attempt to link productivity to profitability, and it uses both financial and nonfinancial measures. But according to a 1998 survey of U.S. and Canadian companies, financial measures are given more importance and used most often (Stivers et al, 1998). The balanced scorecard and nonfinancial measures have gained tremendous importance in performance measurement over the last decade (Bourne et al., 2003; Frigo and Krumwiede, 1999; Ittner and Larcker, 1998). Managers are continually under pressure to measure the performance of their organizations (Holloway, 2001). Many companies are attempting to implement the balanced scorecard. However, there is evidence that many of these implementations are not successful (Bourne et al., 2003; Bruce, 2004; Clinton, Webber and Hassell, 2002; Ittner, Larcker and Randall, 2003; Schneiderman, 1999; Smith, 2002). One of the main problems seems to be the complexity of the system requiring considerable time and expense to implement and operate. Some suggest a more encompassing system that includes measures on corporate social responsibility (Stainer and Stainer, 2003). That may create even bigger problems.

Golf has been growing in popularity as shown in Table 1. Since 1990, while the number of golfers increased by 14%, golf courses increased by 32%. While rounds of golf played per facility had an up and down but relatively flat growth, the number of golfers per facility has dropped (Figure 1). This suggests over capacity. Moreover, the daily fee charged has by far the biggest growth since 1990: over 50% increase for golf facilities and 65% increase for golf courses. Given this financial state of golf courses, we wanted to look at the performance of a local municipal golf course.

Golf Statistics

Year	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Golfers (millions)	23.0	23.4	23.3	23.7	23.7	24.9	25.0	25.2	25.4	25.8	26.2
Rounds played Millions	421	439	409	431	420	482	465	496	518	518	502
Golf Facilities**	12846	13439	13683	14074	14341	14602	14900	15195	15487	15689	15827
Daily Fee	6024	6803	7126	7491	7729	7984	8247	8470	8759	8972	9113
Municipal	2012	2144	2190	2259	2306	2361	2402	2440	2438	2404	2388
Private	4810	4492	4367	4324	4306	4257	4251	4285	4290	4313	4326
Golf Courses	11179	11894	12161	12572	12885	13196	13529	13907	14268	14550	14725
Daily Fee	5010	5774	6060	6415	6686	6970	7231	7504	7835	8073	8241
Municipal	1787	1919	1969	2035	2076	2123	2171	2215	2223	2206	2192
Private	4383	4202	4132	4123	4123	4103	4128	4189	4211	4272	4292

(Source: National Golf Foundation. ** Includes 9-hole courses also)

Table 1: Golf Statistics

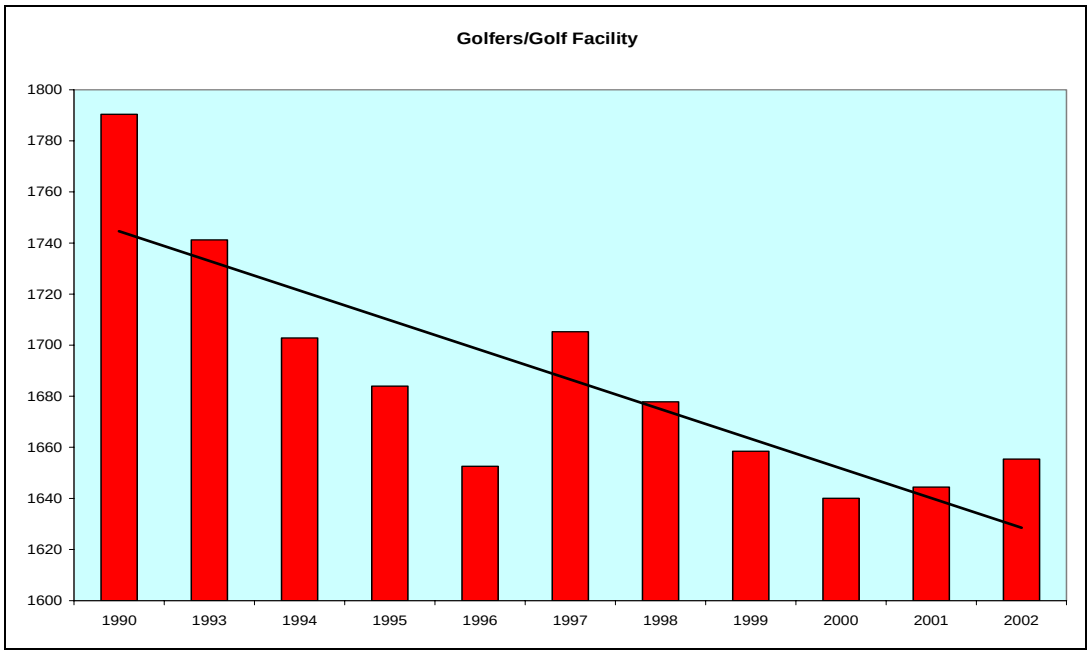

Figure 1: Golfers per facility

Because the significant problems facing many golf courses now seem to be financial, this paper will focus on financial performance. Moreover, a study of service industry shows that "the majority of performance indicators that companies have in place are financial ones. Non-financial aspects are partially measured but often they are not an integral part of the monthly or annual reporting…. The analysis shows further that the concept of leading and lagging indicators is not applied" (Kueng, 2002). The objective of performance evaluation is to identify the problem areas and their root causes so that management can take corrective action to improve the situation. Profit-linked total-factor productivity measurement models are more suitable for organization-level performance measurement. These models could be used for any organization that generates revenues. Although Ebony Hills golf course is not a for-profit organization, it generates revenues.

The advantage of total-factor measurement models lies in the fact that they link productivity to profitability (Miller, 1984; Miller and Rao, 1989; Rao, 2000; Sink et al, 1984). The terms total-factor and multi-factor are sometimes used interchangeably. When all factors of production are not used in the model, total-factor becomes a multi-factor measurement model (Sink et al, 1984).

One of the total-factor models is called the "Profitability = Productivity + Price Recovery" (PPP) model by Miller (1984). It is more than two decades since it was published in Harvard Business Review. Yet no application of the model can be found in the open literature. In this paper we describe the use the PPP model for performance measurement.

THE PPP MODEL

The attraction of the PPP model to the business community is that it uses readily available accounting data and provides performance results in dollars as opposed to abstract indexes (Rao, 2000). In the PPP model, current period performance is measured against the actual performances of the previous periods. As Peter Drucker said, to gauge firm performance over time, "[w]hat matters...is not the absolute magnitude in any area, but the trend...that the measurements will give...no matter how crude and approximate the individual readings are by themselves" (Drucker, 1992). The PPP model can be easily implemented in popular spreadsheet software such as Microsoft Excel, and can facilitate easy creation of graphs that are useful for trend analysis. This paper describes a multi-period implementation of the PPP model for a municipal golf course. This application can help many revenue-generating organizations – both public and private – to develop their own applications for performance evaluation.

A CASE STUDY

Ebony Hills golf course is a 9-hole municipal golf course in the center of Edinburg, Texas. Edinburg is located in the Rio Grande Valley in South Texas. It is about 20 miles north of Mexican border and about 50 miles west of South Padre Island. As a municipal course it is run on a cost recovery basis. It is managed by a superintendent, a golf supervisor, a green foreman, two cashiers, a cook, and three lawn equipment operators. The course structure is similar to an 18-hole course with 3 tees and combination of par 3, 4, & 5's. The course competes with 30 other courses in the valley, 17 of them within 15 miles and two 18-hole courses (one public and one private) within Edinburg. There are two 9-hole courses within 15miles, but Ebony Hills is the largest and charges the lowest green fees.

Customers are primarily Winter Texans and persons over 40. Most revenue is derived in winter months. Winter Texans spend about $225 million in the valley and it is estimated that a total of 7,850 jobs are generated from the economic impact that Winter Texans bring to the Valley (Texas Lawyer, 2002). Since 1998 there has been an annual increase of 7% of the winter visitors that come to the valley (Center of Tourism Research, 2003). Most under-18 golfers use the golf course in the summer via camp.

DATA COLLECTION AND MODEL SETUP

The required data for the PPP model is any two of the quantities, prices and values. Value is the product of quantity and price. These data are required on both outputs (products/ services sold) and inputs (resources used). As shown in Table 2, the revenues here come from green fees, annual memberships, cart fees, and other sales. The expenses are categorized into labor, supplies, material, maintenance, energy, capital, and miscellaneous.

For-profit businesses rarely share operational data such as quantities and prices of inputs and outputs. Since a municipal golf course is under the city government, the data is not confidential. Citizens have the right to the data. Yet there could be problems in getting the necessary data in the detail that is needed. Even if the data is accessible, we may have to spend many hours to sort through the data and extract the numbers. Finally without the cooperation of individuals who

know and use the data, interpretation and/or analysis may be impossible. We were fortunate to have the support of the city mayor as well as the superintendent and supervisor of the golf course.

	A	B	C	D	E	F	G	H	I	J	K
1	Ebony Golf Course: PPP Model for Performance Evaluation (1999-2003)										
3		QUANTITY					PRICE				
4		Period-1	Period-2	Period-3	Period-4	Period-5	Period-1	Period-2	Period-3	Period-4	Period-5
5		Q_1	Q_2	Q_3	Q_4	Q_5	P_1	P_2	P_3	P_4	P_5
6	Green Fees (round)	19,876	18,277	15,032	15,164	16,995	$9.00	$9.00	$9.60	$9.60	$9.60
7	Annuals(membership)	140	173	140	146	126	$300.00	$300.00	$320.00	$320.00	$335.00
8	Cart Rental(cart)	4,565	4,892	3,785	3,652	3,676	$10.50	$10.80	$11.00	$11.70	$11.70
9	Golf Club Rental(item)	151	104	106	91	66	$5.00	$5.00	$5.00	$5.00	$5.00
10	Trail Fees(round)	5,421	4,265	4,066	4,025	2,715	$1.80	$2.00	$2.00	$2.20	$2.20
11	Merch. Sales(item)	2,412	2,014	1,376	1,293	951	$9.00	$10.00	$10.00	$10.00	$12.00
12	Concessions(chip and	8,103	11,367	5,767	4,465	3,868	$2.50	$2.50	$2.50	$3.00	$3.00
13	Alcohol (beer)	23,990	23,990	26,458	26,376	24,478	$1.25	$1.25	$1.25	$1.50	$1.50
14	Kitchen (plate)	13,929	11,608	10,089	8,962	7,799	$1.50	$1.80	$2.00	$2.00	$2.00
15	Locker (locker)	1,329	1,645	1,153	1,169	936	$5.00	$5.00	$6.00	$6.00	$6.00
16	Miscelaneous (item)	1,144	1,424	3,898	354	1,233	$1.00	$1.00	$1.00	$1.00	$1.00
17	**TOTAL SALES**										
18	Management (2)	3,771	3,819	4,407	4,239	4,483	$14.00	$14.50	$14.50	$15.00	$15.00
19	Supervisor (1)	1,758	1,977	2,293	1,939	2,055	$13.25	$13.50	$13.50	$14.00	$14.00
20	Cook (1)	1,775	1,824	2,122	1,938	2,056	$10.75	$11.00	$11.00	$11.50	$11.50
21	Field Workers (3)	5,629	5,902	6,804	6,252	6,610	$12.00	$12.00	$12.00	$12.50	$12.50
22	Part Timers (2)	4,804	4,772	5,363	5,172	5,416	$10.00	$10.00	$10.00	$10.00	$10.00
23	**Labor**										
24	Office supplies (item)	297	248	181	146	107	$3.50	$4.00	$4.00	$4.50	$5.00
25	Wearing apparel(shirts a	2	106	105	82	59	$15.00	$16.00	$18.00	$18.00	$20.00
26	Tools(item)	64	79	66	30	35	$10.00	$10.00	$10.00	$10.00	$10.00
27	Botanic and agricultural	56	42	68	63	47	$100.00	$100.00	$100.00	$100.00	$100.00
28	Motor and vehicle fuel,	1,935	2,989	2,971	639	1,619	$0.95	$0.98	$1.00	$1.20	$1.35
29	Janitorial (supplies)	399	497	597	515	361	$3.00	$3.00	$3.50	$3.50	$4.00
30	Chemicals and medical	25	40	65	14	1	$40.00	$45.00	$45.00	$50.00	$50.00
31	**Supplies**										
32	Building (repairment)	9	10	9	10	9	$200.00	$200.00	$200.00	$200.00	$200.00
33	Motor Veh. and equipm	67	68	44	50	38	$180.00	$180.00	$190.00	$200.00	$200.00
34	Water and sanitary sawe	13	16	11	15	27	$85.00	$90.00	$95.00	$100.00	$100.00
35	**Material**										
36	Machine and equipment	46	45	16	14	11	$150.00	$160.00	$180.00	$200.00	$200.00
37	Air conditioning units (r	23	8	6	2	1	$120.00	$120.00	$130.00	$150.00	$150.00
38	**Maintenance**										
39	Contractual Services (k	871,514	809,156	688,066	718,935	590,701	0.035	0.035	0.035	0.035	0.035
40	**Energy**										
41	Capital Invest. (roun	20,089	23,882	20,537	21,323	23,158	$0.75	$1.09	$0.81	$0.79	$0.57
42	**Capital**										
43	Misc. Expense round	21,248	23,804	19,215	20,726	20,369	$3.77	$3.12	$4.05	$3.95	$3.02
44	**Miscellaneous**										
45	**TOTAL**										

Table 2: Quantities and prices of inputs and outputs

With the quantities and prices entered, costs and revenues are calculated. Then there are a series of calculations: 1. implied deflators and deflators, 2. values (i.e., costs and revenues) in constant

dollars, and 3. profit margins and deflated profit margins, 4. profitability, productivity, and price recovery indices, and 5. profitability, productivity, and price recovery contributions in dollars.

Calculation of deflator values

With the quantities and prices entered, costs and revenues were calculated. The PPP approach uses cumulative deflation. The period-to-period price changes are "chained together to produce a cumulative price deflator. Dividing a current period figure by this cumulative deflator allows the figure to be restated in base period prices, using a base several periods removed" (Miller, 1984). The values of deflators are obtained by multiplying current period quantity by the last period price. The *implied deflator* is obtained by dividing "value" of each period by the "value in last period price." The *deflator* values are calculated by multiplying all the previous periods' implied deflators with the current period's implied deflator.

Performance results

"The PPP model is based on the premise that a firm can generate profits from productivity and/or from price recovery improvement. Productivity is a measure of real growth changes in physical input and output quantities whereas price recovery is the extent to which input cost or price increases are passed on to the customers (i.e., the extent to which inflation is recovered through sales price increases)" (Miller and Rao, 1989). Performance results with respect to profitability, productivity and price-recovery for periods 2-4 are determined as follows:

Profitability contributions

Profitability is calculated by multiplying the difference between the current period margin and the base period margin by the total sales of the current period. That's

$$\begin{aligned} \text{Profitability} &= S_t\,(\text{Margin}_t - \text{Margin}_B) \\ &= S_t\,[((S_t - C_t)/S_t) - ((S_B - C_B)/S_B)] \\ &= (S_tC_B - S_BC_t)/S_B \qquad (5) \end{aligned}$$

where Margin_B = Base period gross profit margin

Margin_t = Period t gross profit margin.

Deflated values and margins

Gross margin values are calculated by dividing the difference between the total sales and the resource cost by the total sales to get the gross margin of a resource. The *deflated gross margin* values are obtained by dividing the difference between the deflated sales and costs by the sales (all deflated to base period).

Productivity contributions

Productivity is calculated by multiplying the difference between the deflated margin of the current period and the base period margin by the deflated total sales of the current period. That's

$$\text{Productivity} = S_{tD}\,(\text{Margin}_{tD} - \text{Margin}_B)$$
$$= S_{tD}[((S_{tD}-C_{tD})/S_{tD}) - ((S_B-C)/S_B)]$$
$$= (S_{tD}C_B - S_BC_{tD})/S_B \qquad (6)$$

where Margin_B = Base period gross profit margin
Margin_{tD} = Deflated gross profit margin in period t.

A1 fx Ebony Golf Course: PPP Model for Performance Evaluation (1999-2003)

	A	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
1	Ebony Golf C															
3		PRODUCTIVITY					PRICE RECOVERY					PROFITABILITY				
4		Period-1	Period-2	Period-3	Period-4	Period-5	Period-1	Period-2	Period-3	Period-4	Period-5	Period-1	Period-2	Period-3	Period-4	Period-5
5		Prodv1	Prodv2	Prodv3	Prodv4	Prodv5	PRec1	PRec2	PRec3	PRec4	PRec5	Prof1	Prof2	Prof3	Prof4	Prof5
17	TOTAL SALES															
23	Labor	0	(7,442)	(78,623)	(65,285)	(79,501)	0	1,474	8,377	8,480	3,877	0	(5,967)	(69,647)	(56,805)	(69,623)
31	Supplies	0	(2,028)	(7,692)	(1,990)	(61)	0	(285)	(567)	(61)	(356)	0	(2,313)	(8,259)	(2,051)	(416)
35	Material	0	(694)	1,337	(407)	601	0	223	312	121	367	0	(470)	1,649	(286)	968
38	Maintenance	0	1,944	4,871	5,394	5,831	0	(256)	16	131	527	0	1,688	4,887	5,526	6,358
40	Energy	0	2,126	748	(941)	3,371	0	627	1,775	2,709	2,994	0	2,753	2,522	1,768	6,365
42	Capital	0	(2,872)	(3,138)	(4,028)	(5,491)	0	(7,810)	(356)	485	5,647	0	(10,682)	(3,494)	(3,542)	156
44	Miscellaneous	0	(9,783)	(7,233)	(14,526)	(13,643)	0	17,120	(720)	3,384	23,221	0	7,337	(7,953)	(11,142)	9,578
45	TOTAL	0	(18,749)	(91,879)	(84,072)	(91,107)	0	11,094	11,584	17,541	44,493	0	(7,655)	(80,294)	(66,532)	(46,614)
46	Profits															

Table 3: Overall performance results

Price recovery contributions

$$\text{Price recovery} = \text{Sales}_{tPR}\,(\text{Margin}_{tPR} - \text{Margin}_B) \qquad (7)$$

where "Sales_{tPR}" is price-generated revenue in period t, and "Margin_{tPR}" is the price margin that equals the difference between price-generated revenue and inflation-generated cost divided by price-generated revenue.

An alternative formula of price recovery is simply the difference between profitability and productivity contributions.

Price recovery = Profitability - Productivity

INTERPRETATION OF RESULTS

Table 3 and Figure 2 show overall performance results for the golf course in terms of productivity, price recovery, and profitability contributions. Overall price recovery trend looks very good, but there are serious problems with overall productivity and profitability. They are not only negative but showing worsening trend. The biggest problem area seems to be labor. As shown in Figure 3, labor performance trend lines look very much like the overall performance lines. Price recovery seems to be good, but labor productivity and profitability are negative and going downhill. Negative labor productivity suggests that more labor hours are being used for the same or lower output. The sales revenues and deflated sales (revenues in constant dollars) suggest that they are either flat or slightly decreasing over time. If we go back to Table 2 and look at the quantities and prices of labor, it clearly shows that although labor pay rates remained relatively same, the hours have been going up significantly. This is something that management

should look into and address. Price recovery contributions are a result of inflationary effects on outputs and inputs. Positive price recovery suggests that there is not much more inflation on resources used that is not factored into the prices of goods or services sold. Profitability contribution is the sum of productivity and price recovery. The overall results suggest that the management needs to look at strategies for increasing revenues and lowering costs, especially labor costs.

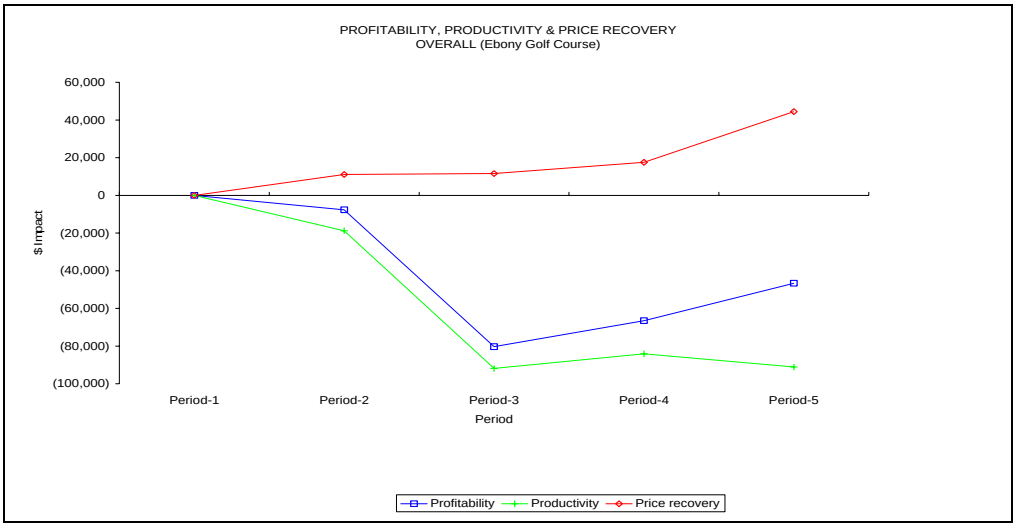

Figure 2: Overall profitability, productivity, and price recovery

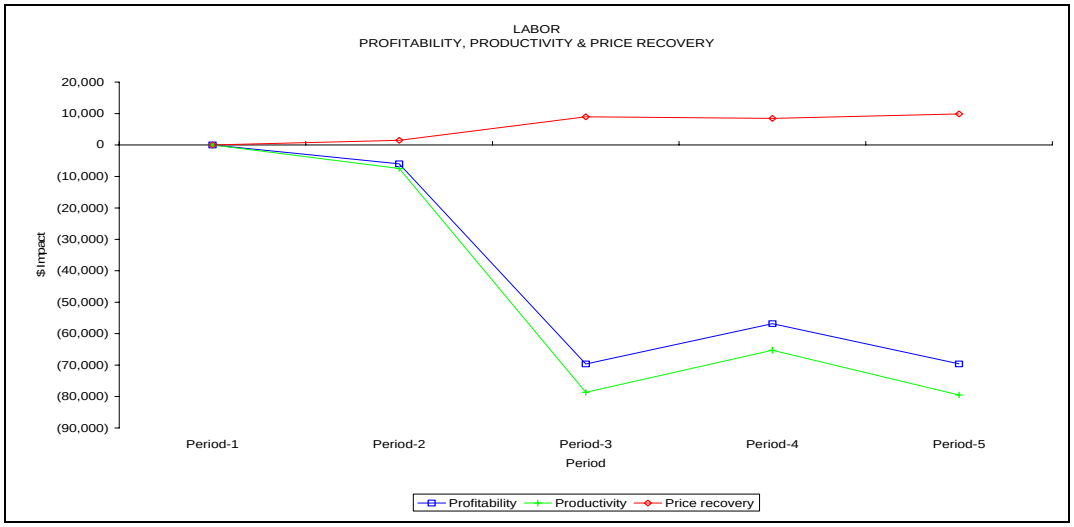

Figure 3: Labor profitability, productivity, and price recovery

SUMMARY AND CONCLUSION

Although golf is popular, many golf courses are losing money. Many of them are owned by tax payers and run by local governments. In this paper, we described the case study of a local golf course, collected data and developed a spreadsheet-based performance measurement system using the PPP model. It revealed serious problems in the areas of productivity and profitability contributions of labor. Even without the PPP model, the financial data revealed deepened losses year after year. We plotted the profit/loss figures by month for each year. This chart exposed that summer months are big losers and Winter Texans are making a significant contribution to lessen the losses.

In order to develop solutions, we conducted SWOT analysis and came up with several strategies that the management could consider. When we presented the report, representatives of the city management were impressed by the analysis, identification of problems and recommendation of possible solutions. The multi-period application of the PPP model in this case has clearly exposed labor as the main culprit for worsening losses. But laying off people is not a politically viable option at this point. They very much liked the idea of building a driving range in order to attract more customers and increased revenues.

A word about the implementation of the model. The seasonality of the data suggests that it would have been wrong to develop the PPP application using monthly or quarterly data. We used yearly data, which ignores seasonalities within a year. Finally, we hope this application will encourage others to look at the enterprises run by their own local government, collect data, analyze the results and develop solutions for the betterment of their community.

REFERENCES

Bourne, M., Neely, A., Mills, J., and Platts, K. (2003) 'Implementing performance measurement systems: a literature review', *International Journal of Business Performance Management*, Vol. 5, No. 1, pp. 1-24.

Bruce, R. (2004) 'Non-financial measures just don't add up', *Financial Times*, March 29, p. 6.

Center of Tourism Research (2003), available at: coba.panam.edu/centers/tourism.html.

City of Reno (2003) "Task Force To Study Public Golf Course Operations" http://www.cityofreno.com/news/1070493546.html, December 3, 2003

Clinton, B.D., Webber, S.A. and Hassell, J.M. (2002) 'Implementing the balanced scorecard using the analytical hierarchy process', *Management Accounting Quarterly*, Vol. 3, No. 3, pp. 1-11.

Drucker, P.F. (1992) *Managing for the Future*, New York: Truman Talley Books/ Dutton.

Frigo, M.L., and Krumwiede, K.R. (1999) 'Balanced scorecards: a rising trend in strategic performance measurement', *Journal of Strategic Performance Measurement*, February-March, p. 44.

Hardy, Terry (2004) "Golf seeks a bailout; Convention Center delays repaying loan", scabee.com, http://www.sacbee.com/content/sports/recreation/golf/story/8460665p-9389748c.html

Holloway, J. (2001) 'Investigating the impact of performance measurement', *International Journal of Business Performance Management*, Vol. 3, No. 2/3/4, pp. 167-180.

Ittner, C. D. and Larcker, D. F. (1998) 'Innovations in performance measurement: trends and research implications', *Journal of Management Accounting Research*, Vol. 10, pp. 205-238.

Ittner, C.D., Larcker, D. F. and Randall, T. (2003) 'Performance implications of strategic performance measurement in financial services firms', *Accounting, Organizations & Society*, Oct, Vol. 28 No. 7/8, pp. 715-741.

Kaplan, R.S. & Norton, D.P. (1992). The Balanced Scorecard – Measures That Drive Performance, *Harvard Business Review*, January-February, pp. 71-79.

Kueng, P. (2002) 'Performance measurement systems in the service sector: the potential of IT is not yet utilised', *International Journal of Business Performance Management*, Vol. 4, No. 1, pp. 95-114.

McGee, Brian (2004) "Hilltop Golf Course under new leadership this season", *Coshocton Tribune*, March 18, 2004, http://www.coshoctontribune.com/news/stories/20040318/localsports/102285.html

Melvin, P.C. and McCormick, R.E. (2001). "On the Demand and Supply of Golf", available at: sixmile.clemson.edu/researchtopics/golf.pdf.

Miller, D. M. (1984). Profitability = Productivity + Price Recovery. *Harvard Business Review*, 62(3), 145-153.

Miller, D. M. and Rao, P.M. (1989). Analysis of Profit-Linked Total-Factor Productivity Measurement Models at the Firm Level. *Management Science*, 35(6), 757-767.

Rao, M.P. (2000). A Simple Method to link Productivity to Profitability. *Management Accounting Quarterly*, Summer, pp.12-17

Schneiderman, A. (1999) 'Why balanced scorecards fail', *Journal of Strategic Performance Measurement*, January, pp. 6-9.

Sink, D.S., Tuttle, T.C. and DeVries, S.J. (1984). Productivity measurement and evaluation: What is available? *National Productivity Review*, 3(3) 265-287.

Smith, M.J. (2002) 'Gaming nonfinancial measures,' *Journal of Management Accounting Research*, Vol. 40, pp. 119-133.

Snell, Lisa (1999) "Getting Greens Back in the Black: Golf Course Privatization Trends and Practices" *Reason Public Policy Institute*, Policy Study no. 260, http://www.rppi.org/privatization/ps260.html

Stainer, A & Stainer, L. (2003) "Total productivity: A Stakeholder Perspective," *International Journal of Business Performance Management*, Vol. 5, No. 2/3, pp. 166-173.

Stevens, T. (1998). Chief Among us: 27th Annual CEO Survey, *Industry Week*, November, pp.24-30.

Stivers, B.P., Covin, T.J., Hall, N.G. & Smalt, S.W. (1998). How nonfinancial performance measures are used," *Management Accounting*, February, pp. 44-49.

Texas Lawyers (2002). "Winter Texas Give Valley Economy a Bit of a Boost", Jan 20, Vol. 18, Issue 47.

Viren, Sarah, (2004) "Fertitta interested in running golf course" *The Daily News*, http://galvestondailynews.com/story.lasso?ewcd=a4f5467211064bb8

Woodward, Heather (2003) "Financial Problems Strike golf course", *The Olympian*, http:/theolympian.com/home/specialsections/Golf2003/20031007/118141_Printer.sht