ABC 2: time-driven activity-based costing

MODULE 6 | PART B.2.2 | STUDENT COMPANION

Time-driven ABC in five steps



Finding the capacity cost rate

Theoretical capacity: 8 officers x 150 hours x 60 minutes	72,000 minutes
Practical capacity at 85%	61,200 minutes
Monthly cost of the team	$91,800
Capacity cost rate: $91,800 / 61,200	**$1.50 per minute**

Harbourline Bank home loan team (imagined)

Used and unused capacity - Harbourline Bank (imagined)

Activity	Minutes each	Cost each	Volume	Minutes used	Cost
Assess application	90	$135	400	36,000	$54,000
Answer query	12	$18	900	10,800	$16,200
Settlement documents	40	$60	300	12,000	$18,000
Total used				58,800	$88,200
Unused capacity				2,400	$3,600
Practical capacity				61,200	$91,800

Why TDABC? Conventional ABC relies on staff surveys and many drivers, so it is costly to build and maintain. Kaplan and Anderson's time-driven version (book, 2007) needs only the cost per time unit of capacity and the

time each activity takes, is easy to update, and shows unused capacity. Kaplan and Porter (Harvard Business Review, 2011) proposed it for costing patients' full cycle of care.

Formulas and rules

Item	Formula or rule
Theoretical capacity	All paid time (e.g. staff x hours x 60 minutes)
Practical capacity	Theoretical capacity less non-productive time (often estimated at 80-85%)
Capacity cost rate	Cost of capacity supplied / practical capacity
Activity cost	Unit time x capacity cost rate
Unused capacity	(Practical capacity - time used) x capacity cost rate
Over capacity?	Time used above practical capacity signals overtime, delays or a bottleneck

Question 1 - Bayview Council rates team (imagined)

Five officers are each paid for 140 hours a month. Practical capacity is 80%. The team costs $57,120 a month. Activities: payment arrangements 20 minutes (600 a month), rates enquiries 8 minutes (1,500), property transfers 45 minutes (150). (a) Calculate theoretical and practical capacity. (b) Calculate the capacity cost rate. (c) Cost each activity and find the cost of unused capacity.

Worked answers

MODULE 6 | PART B.2.2 | WORKED ANSWERS - ATTEMPT THE QUESTIONS FIRST

Question 1 - Worked answer

Item	Working	Result
(a) Theoretical	5 x 140 x 60	42,000 minutes
Practical	42,000 x 80%	33,600 minutes
(b) Rate	$57,120 / 33,600	$1.70 per minute
(c) Payment arrangements	20 x $1.70 = $34; 600 x 20 = 12,000 min	$20,400
Rates enquiries	8 x $1.70 = $13.60; 1,500 x 8 = 12,000 min	$20,400
Property transfers	45 x $1.70 = $76.50; 150 x 45 = 6,750 min	$11,475
Total used	30,750 minutes	$52,275
Unused capacity	33,600 - 30,750 = 2,850 minutes	$4,845
Check	$52,275 + $4,845	$57,120