Full Costing and Variable Costing 3

$p_A := 149$

$dmc_A := 60$

$dlc_A := 10$

$spc_A := 2$

$t_A := 24min$

$xp_A := 2000$

$xs_A := 1900$

$p_B := 99$

$dmc_B := 32$

$dlc_B := 8$

$spc_B := 2$

$t_B := 17min$

$xp_B := 4000$

$xs_B := 4000$

$IMCfix := 3000$

$POHfix := 70000$

$AC := 80000$

$SC := 100000$

$DMC := dmc_A \cdot xp_A + dmc_B \cdot xp_B$

$DMC = 248000$

$IMCvar := 0.03 \cdot DMC$

$IMCvar = 7440$

$pohvarpm := 0.4min^{-1}$

$POHvar := pohvarpm \cdot \left(t_A \cdot xp_A + t_B \cdot xp_B\right)$

$POHvar = 46400$

Cost per unit and result per unit (full costing)

$imcfull_A := \frac{IMCfix + IMCvar}{DMC} \cdot dmc_A$

$imcfull_A = 2.526$

$dlc_A = 10$

$pohfull_A := \frac{POHfix + POHvar}{t_A \cdot xp_A + t_B \cdot xp_B} \cdot t_A$

$pohfull_A = 24.083$

$imcfull_B := \frac{IMCfix + IMCvar}{DMC} \cdot dmc_B$

$imcfull_B = 1.347$

$dlc_B = 8$

$pohfull_B := \frac{POHfix + POHvar}{t_A \cdot xp_A + t_B \cdot xp_B} \cdot t_B$

$pohfull_B = 17.059$

Full Costing and Variable Costing 3

$spc_A = 2$ $spc_B = 2$

$mcfull_A := dmc_A + imcfull_A + dlc_A + pohfull_A + spc_A$

$mcfull_B := dmc_B + imcfull_B + dlc_B + pohfull_B + spc_B$

$mcfull_A = 98.609$ $mcfull_B = 60.406$

$MCOGSfull_A := mcfull_A \cdot xs_A$ $MCOGSfull_B := mcfull_B \cdot xs_B$

$MCOGSfull_A = 187356.274$ $MCOGSfull_B = 241622.87$

$MCOGSfull := MCOGSfull_A + MCOGSfull_B$

$MCOGSfull = 428979.143$

$ac_A := \frac{AC}{MCOGSfull} \cdot mcfull_A$ $ac_B := \frac{AC}{MCOGSfull} \cdot mcfull_B$

$ac_A = 18.389$ $ac_B = 11.265$

$sc_A := \frac{SC}{MCOGSfull} \cdot mcfull_A$ $sc_B := \frac{SC}{MCOGSfull} \cdot mcfull_B$

$sc_A = 22.987$ $sc_B = 14.081$

$tcfull_A := mcfull_A + ac_A + sc_A$ $tcfull_B := mcfull_B + ac_B + sc_B$

$tcfull_A = 139.985$ $tcfull_B = 85.752$

$r_A := p_A - tcfull_A$ $r_B := p_B - tcfull_B$

$r_A = 9.015$ $r_B = 13.248$

Cost-of-sales results accounting (full costing)

$S_A := p_A \cdot xs_A$ $S_B := p_B \cdot xs_B$

$S_A = 283100$ $S_B = 396000$

$S := S_A + S_B$

$S = 679100$

$TCOGSfull_A := tcfull_A \cdot xs_A$ $TCOGSfull_B := tcfull_B \cdot xs_B$

$TCOGSfull_A = 265971.12$ $TCOGSfull_B = 343008.024$

$$TCOGSfull := TCOGSfull_A + TCOGSfull_B$$

$$TCOGSfull = 608979.143$$

$Rfull_A := S_A - TCOGSfull_A$ $\quad$ $Rfull_B := S_B - TCOGSfull_B$

$Rfull_A = 17128.88$ $\quad$ $Rfull_B = 52991.976$

$$Rfull := Rfull_A + Rfull_B$$

$$Rfull = 70120.857$$

Total cost results accounting (full costing)

$S_A := p_A \cdot xs_A$ $\quad$ $S_B := p_B \cdot xs_B$

$S_A = 283100$ $\quad$ $S_B = 396000$

$$S := S_A + S_B$$

$$S = 679100$$

$ICfull_A := mcfull_A \cdot (xp_A - xs_A)$ $\quad$ $ICfull_B := mcfull_B \cdot (xp_B - xs_B)$

$ICfull_A = 9860.857$ $\quad$ $ICfull_B = 0$

$$ICfull := ICfull_A + ICfull_B$$

$$ICfull = 9860.857$$

$TPfull_A := S_A + ICfull_A$ $\quad$ $TPfull_B := S_B + ICfull_B$

$TPfull_A = 292960.857$ $\quad$ $TPfull_B = 396000$

$$TPfull := TPfull_A + TPfull_B$$

$$TPfull = 688960.857$$

$TCOPfull_A := TCOGSfull_A + ICfull_A$ $\quad$ $TCOPfull_B := TCOGSfull_B + ICfull_B$

$TCOPfull_A = 275831.976$ $\quad$ $TCOPfull_B = 343008.024$

$$TCOPfull := TCOPfull_A + TCOPfull_B$$

$$TCOPfull = 618840$$

$Rfull_A := TPfull_A - TCOPfull_A$ $\quad$ $Rfull_B := TPfull_B - TCOPfull_B$

$Rfull_A = 17128.88$ $\quad$ $Rfull_B = 52991.976$

Full Costing and Variable Costing 3

$$Rfull := Rfull_A + Rfull_B$$

$$Rfull = 70120.857$$

Cost per unit and result per unit (variable costing)

$dmc_A = 60$ $dmc_B = 32$

$imcvar_A := \frac{IMCvar}{DMC} \cdot dmc_A$ $imcvar_B := \frac{IMCvar}{DMC} \cdot dmc_B$

$imcvar_A = 1.8$ $imcvar_B = 0.96$

$dlc_A = 10$ $dlc_B = 8$

$pohvar_A := \frac{POHvar}{t_A \cdot xp_A + t_B \cdot xp_B} \cdot t_A$ $pohvar_B := \frac{POHvar}{t_A \cdot xp_A + t_B \cdot xp_B} \cdot t_B$

$pohvar_A = 9.6$ $pohvar_B = 6.8$

$spc_A = 2$ $spc_B = 2$

$mcvar_A := dmc_A + imcvar_A + dlc_A + pohvar_A + spc_A$

$mcvar_B := dmc_B + imcvar_B + dlc_B + pohvar_B + spc_B$

$mcvar_A = 83.4$ $mcvar_B = 49.76$

$tcvar_A := mcvar_A$ $tcvar_B := mcvar_B$

$cm_A := p_A - tcvar_A$ $cm_B := p_B - tcvar_B$

$cm_A = 65.6$ $cm_B = 49.24$

Cost-of-sales results accounting (variable costing)

$CM_A := cm_A \cdot xs_A$ $CM_B := cm_B \cdot xs_B$

$CM_A = 124640$ $CM_B = 196960$

$$CM := CM_A + CM_B$$

$$CM = 321600$$

$$Cfix := IMCfix + POHfix + AC + SC$$

$$Cfix = 253000$$

$$Rvar := CM - Cfix$$

$Rvar = 68600$

Total cost results accounting (variable costing)

$S_A := p_A \cdot xs_A$ $S_B := p_B \cdot xs_B$

$S_A = 283100$ $S_B = 396000$

$S := S_A + S_B$

$S = 679100$

$ICvar_A := mcvar_A \cdot (xp_A - xs_A)$ $ICvar_B := mcvar_B \cdot (xp_B - xs_B)$

$ICvar_A = 8340$ $ICvar_B = 0$

$ICvar := ICvar_A + ICvar_B$

$ICvar = 8340$

$TPvar_A := S_A + ICvar_A$ $TPvar_B := S_B + ICvar_B$

$TPvar_A = 291440$ $TPvar_B = 396000$

$TPvar := TPvar_A + TPvar_B$

$TPvar = 687440$

$TCOGSvar_A := tcvar_A \cdot xs_A$ $TCOGSvar_B := tcvar_B \cdot xs_B$

$TCOGSvar_A = 158460$ $TCOGSvar_B = 199040$

$TCOGSvar := TCOGSvar_A + TCOGSvar_B$

$TCOGSvar = 357500$

$TCOPvar_A := TCOGSvar_A + ICvar_A$ $TCOPvar_B := TCOGSvar_B + ICvar_B$

$TCOPvar_A = 166800$ $TCOPvar_B = 199040$

$TCOPvar := TCOPvar_A + TCOPvar_B$

$TCOPvar = 365840$

$Rvar := TPvar - TCOPvar - Cfix$

$Rvar = 68600$

Full Costing and Variable Costing 3

Legend

Subscripts A, B for products

p	= Selling price
dmc	= Direct cost of materials per unit
dlc	= Direct cost of labour per unit
spc	= Special direct production cost per unit
t	= Production time per unit
xp	= Quantity of goods produced
xs	= Quantity of goods sold
IMCfix	= Fixed indirect cost of materials
POHfix	= Fixed production overhead
AC	= Administration cost (fixed)
SC	= Sales cost (fixed)
DMC	= Direct cost of materials
IMCvar	= Variable indirect cost of materials
pohvarpm	= Variable production overhead per min
imcfull	= Fixed + variable indirect cost of materials per unit
pohfull	= Fixed + variable production overhead per unit
mcfull	= Fixed + variable manufacturing cost per unit
MCOGSfull	= Fixed + variable manufacturing cost of goods sold
ac	= Administration cost per unit
sc	= Sales cost per unit
tcfull	= Total fixed + variable cost per unit
r	= Result per unit
S	= Sales (value), turnover
TCOGSfull	= Total cost of goods sold in full costing
Rfull	= Result in full costing
ICfull	= Inventory change in full costing
TPfull	= Total performance in full costing
TCOPfull	= Total cost of goods produced in full costing
imcvar	= Indirect cost of materials per unit
pohvar	= Variable production overhead per unit
mcvar	= Variable manufacturing cost per unit
tcvar	= Total variable cost per unit
cm	= Contribution margin per unit
CM	= Contribution margin
Cfix	= Fixed cost
Rvar	= Result in variable costing
ICvar	= Inventory change in variable costing
TPvar	= Total performance in variable costing
TCOGSvar	= Total cost of goods sold in variable costing
TCOPvar	= Total cost of goods produced in variable costing