### **Scenario**

Derek Gorton is self-employed and manufactures car mats. After trading for six months he was very satisfied with the progress of his business. He produced sets of car mats at a cost of £6.00 a set, and sold them to car accessory shops for £8.00 a set.

Derek kept enough finished goods in stock to last for 30 days of trading, paid all his bills immediately, and allowed his customers 30 days credit. On January 1<sup>st</sup> his working capital situation was:

Cash	£8,000
Stock	£6,000
Debtors	£8,000

In January he produced and sold 1,000 sets of car mats (on credit) for £8,000, they cost him £6,000 to make (paid out immediately). His profit for the month was therefore £2,000. He also collected £8,000 from his December sales.

Customer feedback was favourable, and Derek could reliably forecast that sales would increase over the next few months.

Predicted Sales are forecast to be:

•	February	1,500 sets							
•	March	2,000 sets							
•	April	2,500 sets							
•	May	3,000 sets							
(sold on 30 days credit).									

In order to maintain supplies and stock levels at 30 days predicted trading, output is forecast to rise as follows:

•	February	2,000 sets
•	March	2,500 sets
•	April	3,000 sets
•	May	3,500 sets
(m	aterials paid	for immediately).

This trend is expected to continue for at least a year. Derek is encouraged that his January sales have not only made a good profit, but have increased the cash in the business. He sees this as a trend which will continue as sales increase, and would like to lease a new computer system for £2,000 a month, and now believes that there is enough cash being generated for him to commit the business to the deal for two years.

### Cash Generated by the Business in February as Compared to January

At the end of trading in January the business had a closing bank balance of £7,000 and £3,000 in February. The business had failed to generate more cash in February than January by a difference of £4,000, even though sales receipts were the same in January and February of £8,000. The reason for the difference was because output

levels had increased in February as compared to January and payment for Februarys output would not be received until March, due to the 30 days credit allowed to customers, and payment for materials were made immediately in February.

It is imperative to identify the point when cash is actually received or paid out. Hence, as customers are allowed up to 30 days credit before they need to pay for supplies, then the sales for month January will not be received until February and the sales for February will not be received until March and the cycle continues. Although it is important to be realistic, it is also wise to be prudent and not recognise receipts too early or payments too late.

CASH FLOW FORECAST Name: Derek Gorton

Period: January - February 2002

MONTH	Jan	Feb
Opening Balance	8,000	7,000
RECEIPTS		
Sales	8,000	8,000
TOTAL RECEIPTS	16,000	15,000
PAYMENTS		
Raw Materials	9,000	12,000
TOTAL PAYMENTS	9,000	12,000
CLOSING BALANCE	7,000	3,000

At the end of the period, both months had a favourable cash surplus, indicating money in the bank. Cash inflows in January were slightly higher than in February although cash outflows in February were higher than in January.

### **Cash Flow Projection for the fourth coming Months**

Derek Gorton's cash flow shows the movement of money through the business. The cash flow forecast sets out the anticipated cash inflows and cash outflows over the coming months. Each column shows money coming into and out of the business in that month.

The forecast then shows the effect of each month's cash flow upon the business's cash balance/total. One essential rule to the cash flow forecast construction is that money is shown when it is received or paid. Therefore it is important to emphasise that the profit of the business may be significantly different from the cash flow.

The cash flow forecast shows if there is sufficient cash available each month. Although the company may be profitable in the long-term, in the immediate short-term the company suffers cash flow difficulties as output continues to increase. In the short-term, cash flow plays a vital role and the business does survive without making a profit for some time. It should be noted that for future long-term survival and especially growth, profit is essential.

CASH FLOW FORECAST

Name: Derek Gorton

Period: January - December 2002

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Opening Balance RECEIPTS	8,000	7,000	3,000	0	-2,000	-3,000	-3,000	-2,000	0	3,000	7,000	12,000
Sales	8,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000
TOTAL RECEIPTS	16,000	15,000	15,000	16,000	18,000	22,000	25,000	30,000	36,000	43,000	51,000	60,000
PAYMENTS  Dow Meterials	0.000	12 000	15.000	19.000	24 000	24.000	27 000	20.000	22 000	36,000	20,000	42,000
Raw Materials  TOTAL PAYMENTS	9,000	12,000 12,000	15,000 15,000	18,000 18,000	21,000	24,000	27,000 27,000	30,000	33,000 33,000	36,000 36,000	39,000 39,000	42,000 42,000
	-	•	•	-	-	•	·	-	-	-	•	•
CLOSING BALANCE	7,000	3,000	0	-2,000	-3,000	-3,000	-2,000	0	3,000	7,000	12,000	18,000

The negative cash flow in the months, April, May, June and July indicates that the company has insufficient funds. The business requires an overdraft facility as there are insufficient funds to cope with the period of negative cash flow. Preventive action must be implemented immediately, such as:

- Obtain an overdraft facility;
- Consider an application for a loan;
- Negotiate shorter credit terms for customers;
- Negotiate longer credit terms from supplies;
- Cutting or delaying expenditure.

The surplus cash start off in January continues into February and breaks even in March. The business manages to pay off the overdraft in August and breaks even. In September there is surplus cash and this trend continues till the end of the year when the business has a closing surplus cash balance of £18,000.

The business also has capital tied up in debts due to the 30 credit facility allowed to customers. Failure to collect payments on time would leave the business with insufficient funds and halt production as payments to suppliers are made immediately upon delivery. The business could negotiate longer credit terms from suppliers in the event of difficulties occurring when collecting debts, thus, help the business through a difficult period. The healthy cash surplus from September onwards leaves the business with a favourable cash position to the end of the cash flow period.

To manage cash flow, the business needs to continually review their current and future cash position. The cash flow forecast enables the business to:

- Anticipate the timing and amounts of any cash shortages;
- Arrange financial cover for any anticipated shortages of cash;
- Review the timings and amounts of receipts and payments.

The business can review their current cash flow position by:

Comparing the actual situation with the forecast;

- Analysing when their debtors are due to pay;
- Taking any necessary measures to correct cash shortfalls.

Although cash flows are useful, cash flow forecasts are only as good as estimates they are based on. The business needs to be aware that the figures are estimates and to build on safety margins. The business needs to be aware of what would happen if:

- Sales were lower;
- Customers did not pay on time;
- Prices of materials were higher than expected.

Consideration needs to be given to its usefulness and limitations. It must be remembered that cash flow forecasts are based on estimates. These estimates are not just amounts but also timings. The business must be aware that actual figures can differ wildly from estimates.

# Advice on whether to Lease the Computer System on the basis of Working Capital providing the Cash Payments

Managing cash flow is one of the most important aspects of financial management. Without adequate availability of cash from day to day, the company could fail. As bills become due it is essential that there are sufficient funds to pay them. If the company delays paying its suppliers, they may be reluctant to deliver further supplies.

CASH FLOW FORECAST Name: Derek Gorton

Period: January - December 2002

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Opening Balance	8,000	7,000	1,000	-4,000	-8,000	-11,000	-13,000	-14,000	-12,000	-11,000	-9,000	-6,000
RECEIPTS												
Sales	8,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000
TOTAL RECEIPTS	16,000	15,000	13,000	12,000	12,000	13,000	15,000	18,000	24,000	29,000	35,000	42,000
PAYMENTS												
Raw Materials	9,000	12,000	15,000	18,000	21,000	24,000	27,000	30,000	33,000	36,000	39,000	42,000
Computer Lease		2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
TOTAL PAYMENTS	9,000	14,000	17,000	20,000	23,000	26,000	29,000	32,000	35,000	38,000	41,000	44,000
CLOSING BALANCE	7,000	1,000	-4,000	-8,000	-11,000	-13,000	-14,000	-12,000	-11,000	-9,000	-6,000	-2,000

The lease agreement on the computer system at £2,000 per month for a total period of two years would have a considerable affect on the business's flow of funds. With the lease agreement, (which would commence in February and not January as it was January's closing balance on which the decision to lease is based on), the business would clearly have insufficient cash available from March onwards to the end of the year. The negative cash flow would even continue into the beginning of the following year, although it has decreased substantially. The lease would clearly not be a viable option to consider unless additional funds are obtained. The capital expenditure seems routine and could be postponed without serious consequences. It is unlikely that the

computer system at the current situation is imprudent to postpone and needed for the development and growth of the business.

With leasing the business has the use of an asset (computer system), but pays a monthly fee for its use (£2,000) and will never own it. The business will have to pay a monthly leasing fee, which is very useful as the business does not wish to buy the computer system outright. This will free up capital, which can now be used for other purposes, although this would not be noticed until the following year in the first quarter. The lease does not however improve the business's immediate cash flow. Leasing also allows equipment to be updated on a regular basis, but it does cost more than outright purchase in the long run.

The forecast indicates a continuing cash deficit into future periods to identify the duration for which additional finance is required. Should the business decide to go ahead with the lease agreement it will not have sufficient cash to carry out its plans as the cash coming in is not sufficient to cover the cash going out. The availability of liquid funds is essential to the smooth running of the business. The business becomes overdrawn when it withdraws more money out of its account than available, this leaves a negative balance on the account.

Overdraft facilities will have to be arranged in good time so that funds are available when required. With an overdraft sufficient funds can be entered in the cash inflow to compensate for expenditure in the cash outflow. This is not often a cheap way of borrowing money and once an overdraft has been agreed with the bank the business can use as much as it needs at any time, up to the agreed overdraft limit. But, the bank will of course, charge interest on the amount overdrawn, and will only allow an overdraft if they believe the business is credit worthy i.e. is very likely to pay the money back. A bank can demand the repayment of an overdraft at any time. Otherwise the business risks running out of money.

Even so for short term borrowing, an overdraft is often the ideal solution, and the business can have a rolling (on going) overdraft agreement with the bank. This then is often the ideal solution for overcoming short term cash flow problems, e.g. purchase of the computer system, funding purchase of raw materials whilst waiting payment on goods produced.

## Alternative options available to finance the Computer System

As the lease of the computer system predicts a cash shortage the business can take actions to avoid the problem. It can do this in several ways:

### **Speeding up cash inflows:** This can be done by:

Negotiating shorter credit for customers: if customers agree to pay for the goods earlier, cash is received earlier. In a very competitive market the length of credit may be a competitive issue. Discounts can be offered to encourage early payment of bills. Often, this policy will result in a loss of goodwill and problems with customers. There will also be very little scope for speeding up payments when the credit period currently allowed to debtors is no more than

the norm for the industry. The business could suffer should customers take there business elsewhere.

CASH FLOW FORECAST

Name: Derek Gorton

Period: January - December 2002

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Opening Balance	8,000	7,000	5,000	4,000	4,000	5,000	7,000	10,000	14,000	19,000	25,000	32,000
RECEIPTS												
Sales	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000	52,000
TOTAL RECEIPTS	16,000	19,000	21,000	24,000	28,000	33,000	39,000	46,000	54,000	63,000	73,000	84,000
PAYMENTS												
Raw Materials	9,000	12,000	15,000	18,000	21,000	24,000	27,000	30,000	33,000	36,000	39,000	42,000
Computer Lease		2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
TOTAL PAYMENTS	9,000	14,000	17,000	20,000	23,000	26,000	29,000	32,000	35,000	38,000	41,000	44,000
CLOSING BALANCE	7,000	5,000	4,000	4,000	5,000	7,000	10,000	14,000	19,000	25,000	32,000	40,000

By not allowing any credit to customers and leasing the computer system monthly at £2,000, the cash flow forecast shows a cash surplus throughout the year. The business could even purchase the computer system outright in the fourth quarter. Although a positive closing balance is maintained throughout the year, it should be noted that not allowing customers the 30 day credit period, which is a standard procedure within the industry, the business could suffer losses in income. Therefore, having a detrimental affect on the business as a whole. A reduced credit payment period should be considered, i.e. 7 days instead of 30 which would also leave a positive cash surplus throughout the whole period. Again this may not be favourable with customers which would in return have a knock-on-effect on the business.

The cash flow forecast is based on the lease commencing in February and not January as it was January's closing balance on which the decision to lease is based on.

■ Credit management: businesses can improve cash flow by ensuring that payment is received on time. This is likely to involve writing reminder letters and making phone calls to persuade customers to pay promptly. Chasing debtors for early repayment may lead to long term loss of trade, as the debtors may buy from another business next time, but it can be an effective method of solving short-term cash flow problems.

**Factoring:** It may be possible to factor the debt. By factoring the company is able to receive 80% of the amount due within 24 hours of an invoice being presented. The factor then collects the money from the customer when the credit period is over. And pays the seller the remaining 20% less the factoring fees. These depend on the length of time before the payment is due, the credit rating of the creditor and current rates of interest. The fees are usually no more than 5% of the total value of the sale.

**Delaying cash outflows:** This can be done by negotiating longer credit for supplies - this postpones cash outflows, which can help the business, get through a difficult

period. The length of credit will often depend on the stability of the company. As the business currently pays all its suppliers immediately, creditors may not be reluctant to extend credit.

CASH FLOW FORECAST

Name: Derek Gorton

Period: January - December 2002

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Opening Balance	8,000	16,000	13,000	11,000	10,000	10,000	11,000	13,000	16,000	20,000	25,000	31,000
RECEIPTS												
Sales	8,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000
TOTAL RECEIPTS	16,000	24,000	25,000	27,000	30,000	34,000	39,000	45,000	52,000	60,000	69,000	79,000
PAYMENTS	0	0.000	40.000	45.000	40.000	04.000	04.000	07.000	20.000	22.000	20.000	20.000
Raw Materials Computer Lease	0	9,000 2,000	12,000 2,000	15,000 2,000	18,000 2,000	21,000 2,000	24,000 2,000	27,000 2,000	30,000 2,000	33,000 2,000	36,000 2,000	39,000 2,000
TOTAL PAYMENTS	0	11,000	14,000	17,000	20,000	23,000	26,000	29,000	32,000	35,000	38,000	41,000
CLOSING BALANCE	16.000	13.000	11.000	10.000	10.000	11.000	13,000	16.000	20,000	25,000	31.000	38.000

By obtaining 30 days credit from suppliers and leasing the computer system monthly at £2,000, the cash flow forecast shows a cash surplus throughout the year. The business could even purchase the computer system outright in the fourth quarter. Although a positive closing balance is maintained throughout the year, it should be noted that to request credit all of a sudden while previously payments were being made in full may lead suppliers to the conclusion that the company has cash flow difficulties and credit may be refused.

This is a favourable option as the business still has sufficient positive funds available in each month which could be invested into employing further assets or possible expansion. It should also be noted that payment to creditors can only be made if debtors pay on time. Should debtors not pay on time the company would be unable to pay off its creditors which could result in possible liquidity difficulties, therefore having a knock-on-effect on the whole of the business operations.

The cash flow forecast is based on the lease commencing in February and not January as it was January's closing balance on which the decision to lease is based on. The 30 day credit payment period from suppliers is based on starting as from January.

### Cutting or delaying expenditure: Ways of decreasing expenditure include:

Decreasing levels of stock: often cash flow problems arise because too much capital is tied up in stock. When we talk about stock we mean raw materials, work-in-progress and finished goods. Many firms are now implementing practices such as Just-in Time, and Kan Ban, which are designed to reduce capital tied up in stock and allow it to be used in more effective ways within the business;

- Cutting costs;
- Postponing expenditure: extending a credit period will help short term cash flow, this could be done by delaying paying bills for an extra 30 days, meaning there will be more cash in the bank for this period. Unfortunately this type of action may upset the businesses suppliers, after all they have their own cash flows to think of.

## CASH FLOW FORECAST

Name: Derek Gorton

Period: January - December 2002

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Opening Balance	8,000	10,000	7,000	5,000	4,000	4,000	5,000	7,000	10,000	14,000	19,000	25,000
RECEIPTS												
Sales	8,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000
TOTAL RECEIPTS	16,000	18,000	19,000	21,000	24,000	28,000	33,000	39,000	46,000	54,000	63,000	73,000
PAYMENTS Raw Materials	6,000	9,000	12,000	15,000	18,000	21,000	24,000	27,000	30,000	33,000	36,000	39,000
Computer Lease		2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
TOTAL PAYMENTS	6,000	11,000	14,000	17,000	20,000	23,000	26,000	29,000	32,000	35,000	38,000	41,000
CLOSING BALANCE	10,000	7,000	5000	4,000	4,000	5,000	7,000	10,000	14,000	19,000	25,000	32,000

By decreasing the levels of stock and no longer holding finished goods to last 30 days and leasing the computer system monthly at £2,000, the cash flow forecast shows a cash surplus throughout the year. Again the business could even purchase the computer system outright in the fourth quarter. This is another favourable option as the business still has sufficient positive funds available in each month which could be invested into employing further assets or possible expansion. There is the risk of stock levels being reduced to an all low.

The cash flow forecast is based on the lease commencing in February and not January as it was January's closing balance on which the decision to lease is based on. As from January stocks will not be held to last up to 30 days. Stock required for each month will be produced in their respective months, additional stocks will not be held.

### Finding additional funding to cover cash shortages: This can be done by:

• Using an overdraft - an overdraft is arranged with a bank. It allows the business to overdraw up to an agreed limit negotiated in advance. Overdrafts usually incur high rates of interest. As much as 6% - over base rate. An overdraft ensures the business only borrows money on the days it really needs it. It is a very flexible form of borrowing. This makes it suitable for small or short-term shortages of cash. Although it should only be used to fund short-term problems. A risky aspect of an overdraft is that the bank can withdraw the facility at any time and demand instant repayment. So, when a business needs it most, such as in a recession, it may find the bank has withdrawn it.

CASH FLOW FORECAST

Name: Derek Gorton

Period: January - December 2002

MONTH	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Opening Balance	8,000	7,000	1,000	16,000	11,000	7,000	4,000	2,000	1,000	1,000	1,000	2,000
RECEIPTS												
Sales	8,000	8,000	12,000	16,000	20,000	24,000	28,000	32,000	36,000	40,000	44,000	48,000
Overdraft			20,000									
TOTAL RECEIPTS	16,000	15,000	33,000	32,000	31,000	31,000	32,000	34,000	37,000	41,000	45,000	50,000
PAYMENTS												
Raw Materials	9,000	12,000	15,000	18,000	21,000	24,000	27,000	30,000	33,000	36,000	39,000	42,000
Computer Lease		2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Overdraft Re-payments				1,000	1,000	1,000	1,000	1,000	1,000	2,000	2,000	2,000
TOTAL PAYMENTS	9,000	14,000	17,000	21,000	24,000	27,000	30,000	33,000	36,000	40,000	43,000	46,000
	•	•					•		•	•	•	
CLOSING BALANCE	7,000	1,000	16,000	11,000	7,000	4,000	2,000	1,000	1,000	1,000	2,000	4,000

By obtaining a £20,000 overdraft in March and leasing the computer system monthly at £2,000, the cash flow forecast shows a cash surplus throughout the year. The business would make the overdraft repayments from April at £1,000 a month up till October when they would increase to £2,000 a month. The overdraft repayments would have to continue into the following year into the second quarter. This is another favourable option as the business still has sufficient positive funds available in each month, although they have been reduced dramatically.

The cash flow forecast is based on the lease commencing in February and not January as it was January's closing balance on which the decision to lease is based on. The overdraft will be taken out in March and repayments will continue into the second quarter of the following year.

- Taking out a short-term loan this incurs a lower rate of interest than an overdraft. Although less flexible than an overdraft, short-term loans offer more security and are cheaper. Again the cash flow projection would be similar to the one with the overdraft facility. The only advantage to this is that the interest re-payments will be much lower than that of an overdraft.
- Taking out a long-term loan this is more appropriate when the financial need is for a longer term, for example a two-year loan to help fund the new computer system. Again the cash flow projection would be similar to the one with the overdraft facility but repayments would be spread over a much longer period. Possibly even after the lease of the computer system has expired. Unfortunately rates will be much higher as compared to an overdraft and a short-term loan.

### **Summary**

The cash flow forecast helps the business to predict the amounts and timings of the likely sources and uses of cash in the future and which is the sum of the inflows minus the sum of the outflows.

### Cash inflows:

- cash sales
- debtors paying up
- interest received
- disposal of Assets.

#### Cash outflows:

- cash purchases
- settling creditors
- paying overheads
- buying raw materials and stocks
- asset purchases.

### Cash flow forecasts can be used for:

- planning and control
- assessing the financial results of plans before making the definite commitments - an essential management tool for business planning
- shows possible future needs to raise more capital which might take several months to arrange
- helps spot where resources are under used e.g. may detect an accumulation of cash - need to balance cash as a margin of safety against the opportunity costs of holding too much cash.

### Reasons for cash flow problems:

- overtrading
- investing too much in fixed assets
- stockpiling
- allowing too much credit
- taking too much credit
- over borrowing
- underestimating inflation
- unforeseen expenditure
- unexpected changes in demand
- seasonal factors/external factors.

### Perils of cash flow forecasting:

It is really tricky to predict the future!

- Competition pressures may need to spend more or cut prices
- Workforce may demand higher wages
- Market condition may change; interest rates; inflation; low growth
- Receipts are subject to error
- Payments difficult to estimate.

## How to resolve a liquidity crisis:

Measure	Result	Drawback
stimulate sales for cash - e.g. discount	increase sales reduce stock generate cash	may undermine pricing structure may leave stock low
sell off stocks of raw materials	reduces stocks	may leave low stocks
sell of any fixed assets that are not vital	releases cash	assets no longer available
sell off fixed assets and lease them back	releases cash assets still available reduces tax liability	increase costs company no longer owns assets
chase overdue accounts	gets payments in sooner	may upset customers
sell debts to a factoring company	generate cash proportion of income guaranteed	reduces income from sales cost can be high
only make essential purchases	cuts down on expenditure	may leave business without means to continue
extend credit with selected suppliers	allows time to pay	may tarnish credit reputation
negotiate extra short term loans	provides cash interest payments add to expenditure	has to be repaid.

The business is showing a positive cash flow, although not noticeable until the fourth quarter. The business does not have any liabilities and has a positive cash flow holding. The business could clearly finance the computer system through a wide range of actions mentioned and would not encounter any difficulty in obtaining finance by means of an overdraft, a short-term or long-term loan.

If the business was to reduce the credit period to its customers in order to subsidise payments for the computer system, this policy will result in a loss of goodwill and problems with customers and even loss of trade. Obtaining credit from suppliers could damage the reputation of the business. An overdraft or loan would result in the business having liabilities and having to pay unnecessary interest charges on the amount borrowed. The business would end up paying far greater than the other latter options.

Therefore, the most viable option the business should select in order to finance the lease on the computer system would be to reduce the number of stock holdings. If the business was to not hold 30 days stock in which cash is tied up, the business could release the tied up cash and use it to finance the computer system. This way the company would not have to borrow any cash from external sources and pay unnecessary interest in addition to admin charges in the event of late payment. In the event of sales increasing, the cash flow should be able to sustain any output increase.