



BA (Hons.) Supply Chain Management SCM6003

Logistics and Operations MODULE GUIDE

2017/2018
SEMESTER 1

LEVEL
HE6

University of Bolton Off Campus International Division

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1. Overview

Module Tutor: Dr. Joseph Gazdula
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Office Availability: N/A
Level: HE6
Credits: 20
Module Pre-requisites: None
Weblink to Module Specification: <https://modules.bolton.ac.uk/SCM6003>
Weblink to Moodle Class:
<http://moodle2.bolton.ac.uk/course/view.php?id=3482#section-0>

2. Learning and Teaching Strategy

The module will be delivered in two blocks of one and a half days with the Module Tutor delivering the first and the Local Tutor the second. The time spent with a tutor during formally timetabled classes is only a small part of the learning time identified for the module. In addition to the contact time with lecturers, a significant amount of personal study should be undertaken. Each module (20 credits) should equate to approximately 200 learning hours. This personal study time should be spent, for example, engaging in general background reading, preparing for seminar/online activities and working on assignments.

To enable ease of understanding about the subject area and develop research skills, various group activities have been designed. You can enrich your knowledge and test your understanding through these activities and are encouraged to participate in them fully.

3. **Module Communications - IMPORTANT**

The Module Tutor's contact details are provided at the head of the contents page of this handbook. You must check your **University email address** and the **'Moodle'** area dedicated to this module regularly as many module communications are channelled through these mediums.

You must use your University of Bolton e-mail address when communicating with your tutors. Also, please include your student ID number in all correspondence.

4. **Module Description**

This module will introduce you to the principles of logistics and logistics management and help you to understand its role in the supply chain. You will develop the knowledge to manage and plan a range of logistic operations from one-off projects to high volume distribution. The programme uses a range of real world and simulated situations to encourage you to develop solutions to contemporary logistics problems. This module is highly relevant to industry, aiming to ensure that materials and goods arrive on-time, in the right quantity and in a cost-effective manner. Key topics include reducing uncertainty and lead time, helping to increase competitiveness in a global marketplace

5. **Learning Outcomes and Assessment**

Learning Outcomes	Assessment
1. Plan a logistics system implementation project.	Assignment 1
2. Select and apply appropriate analytical tools to solve complex problems in facility location and fleet composition and sizing.	Assignment 1,2
3. Select and apply appropriate analytical tools to solve problems in warehousing and distribution route planning.	Assignment 1,2

6. **Items of Assessment and Deadlines**

Assessment item		Due Date	Weight
1	Assignment 2 – Project Planning	4.12.17	30%
2	Assignment 1 - Logistics	5.2.18	70%

All dates are provided on the Moodle site for the module, along with links for uploading your work. The assessments are at the end of this handbook.

Note that all work must be submitted electronically as the system automatically detects cases where the work of others is plagiarised.

7. **Assessment Feedback**

Feedback on items of assessment can be formal (such as on a signed feedback form) or informal (such as advice from a tutor in a tutorial). Feedback is therefore not just your grade or the comments written on your feedback form, it is advice you get from your tutor and sometimes your peers about how your work is progressing, how well you have done, what further actions you might take.

We recognise the value of prompt feedback on work submitted. Other than in exceptional circumstances (such as might be caused by staff illness), you can expect your assignment work to be marked and feedback provided not less than 21 working days from the deadline date. However, please note that that such feedback will be provisional and unconfirmed until the Assessment Board has met and may therefore be subject to change.

Please take time you read/listen to your assessment feedback. This can be very useful in determining your strengths and key areas for development, and can therefore help you improve on future grades.

8. Module Calendar

First Workshop

Saturday 9/9/17	
<i>Time</i>	<i>Topic</i>
1.00 – 2.00	Introductions and Module Overview
2.00 – 3.30	Assignment 1 overview
3.45 – 6.00	Key Techniques for Assignment 1 - Introduction to Project Management
Sunday 10/09.17	
<i>Time</i>	<i>Topic</i>
9.00 – 10.00	Key techniques for Assignment 1 - Gantt Charts and Network Diagrams
10.00 -11.00	Key techniques for Assignment 1 - Introduction to Open Project
11.00 – 1.30	Key techniques for Assignment 1 - Introduction to Open Project
	Lunch
2.00 – 2.30	Assignment 2 overview
2.00 – 3.30	Key techniques for Assignment 2 - Facility Location
3.30 – 5.30	Key techniques for Assignment 2 - Truck Fleet Composition
5.30 – 6.00	Questions and Answer Session

Your programme learning is broken down into weekly sections on your moodle programme VLE site.

Second Workshop

The local tutor workshops is an important part of the course. During the workshop you will have the opportunity to go into more detail and to participate in discussions.

Discussions are an important element of the learning process and you are encouraged to join in. Assessment ideas may also be covered in this session.

9. Formative assessment

It is designed to provide you with feedback on your progress and inform development. It can be used to identify any areas which would benefit from extra attention on your part, or extra support from your tutor. It does not contribute to the overall formal assessment for the unit.

Informal formative assessment is provided in this module through:

- Class discussions
- Guided Independent Learning Tasks
- Online forums
- Tutor feedback

10. GILTs

In addition to workshops, we offer GILT activities. These are Guided Independent learning Tasks, and provide a structured way for you to undertake the additional study that is required to cover the material. Some of the GILTs require you to engage with

other students via the forums, while others are more independent. All of the GILTs are designed to build on the content of the workshops and while they are not assessed, your participation in them may be taken into consideration if the question of reassessment arises.

11. Indicative Reading

The following sources have been identified as being useful when studying this module. (You may well be able to find others that you also find useful.)

Core Text: Lock, D. (2007) Project management, Aldershot, Gower, eBook Collection (mylibrary) <http://elearning.bolton.ac.uk/mod/resource/view.php?id=126719>

- Wild, Ray, (2002) *Essentials of Operations Management*, Continuum.
- Waller, Derek L., (2003) *Operations Management: a supply chain approach*, Thomson.
- Gattorna, John L., (ed., 1994) *Handbook of Logistics and Distribution Management*, Gower (Updated 2010)
- Stevenson, William J., (2004) *Operations management*, McGraw-Hill/Irwin.
- (Update) Stevenson, W. J. (2011) *Operations Management: Theory and Practice, Global Edition* McGraw Hill
- Bowersox, D. J., Closs, D. J., Bixby Cooper, M., (2007) *Supply chain logistics management*, McGraw-Hill.
- Morton, Thomas E., (1999) *Production & Operations Management*, South Western College.
- Rushton, A. Croucher, P. Baker, P. (2010) *Handbook of Logistics and Distribution Management 4th Ed.* CILT

Also please utilise MyLibrary and search for publications and “Project Management”, “Operations Management” and “Logistics”

<http://lib.mylibrary.com/Login.aspx?ReturnUrl=%2fOpen.aspx%3fid%3d109870&id=109870>

Useful University of Bolton Study Skills Sources

- Rudd, D. (2005) Cite Me, I'm Yours – Harvard Version: References, Bibliographies, Notes, Quotations, etc. Bolton: Learning Support and Development, University of Bolton. Also available on-line: <http://www.bolton.ac.uk/learning/helpguides/studyskills/harvard.pdf>
- Rudd, D. (2004) Report Writing: A Guide to Organisation and Style. Bolton: Learning Support and Development, University of Bolton. Also available on-line: <http://www.bolton.ac.uk/learning/helpguides/studyskills/reportw.pdf>
- Rudd, D. (2005) Preparing for Dissertations and Projects, Bolton: Learning Support and Development, University of Bolton. Also available on-line: <http://www.bolton.ac.uk/library/LibraryPublications/StudySkills/dissertations.pdf>.

Useful Websites

- <http://www.pmi.org/About-Us/About-Us-What-is-Project-Management.aspx>
- <https://www.apm.org.uk/WhatIsPM>
- <https://www.openproject.org/>

12. Guidelines for the preparation and submission of assignments

Assignments should be word-processed in Arial 12 point font, be double-spaced, on A4 size paper. Writing should appear on only one side of the paper, be fully justified and with each page being numbered in the footer, numbering to be centred.

There should be a title page detailing the programme, module title, assignment title, student number, marking tutor and date of submission. It is good practice to put your student number in the top left hand side of the header of each page, and the date of submission in the top right.

Word Count

Word Count. You are expected to revise and edit your assignment to remain within +/- 10% of the allocated word limit for that piece of work. In order to ensure that word counts can easily be checked you should include a note of the word count as identified by your word processing package. A deduction should be made from this figure for all tables, figures, quotations, appendices and references which DO NOT COUNT towards the overall word limit.

Students who exceed a specified indicative word length for a written assignment will be subject to the following penalty system:

- Up to 10% over the specified indicative word length = no penalty
- 10 – 20% over the specified indicative word length = 5 marks subtracted (However if the assignment would normally gain a pass mark, then the final mark will be not be less than 40%).
- More than 20% over the indicative word length = maximum 40%.

Assignments shorter than the indicative word length will not have marks deducted (even if these are more than 10% short). However, it is likely to be an exceptional piece of work that covers the assignment requirements fully in much less than the set word count less 10%.

Referencing

All written work must be referenced using the Harvard System, full details of which are available from the Library website: <http://www.bolton.ac.uk/bissto/Finding-Information/Referencing/Home.aspx>

Electronic copies of assignments will usually be requested via 'Turn-it-in'. Please ensure you follow the instructions provided by your module tutor and on the assessment brief.

Penalty for Late Submission

Submission of assessments may be done on or before the published submission date. Assignments not available (without an extension being granted or without

accepted Mitigating Circumstances) at this time will be considered late unless an extension has been previously agreed.

Please note that it is your responsibility to ensure that the assignment is submitted in the format/s specified in the Module Guide or on the Assessment Brief.

YOU SHOULD ALWAYS ENSURE YOU KEEP A COPY OF ANY ASSIGNMENT SUBMITTED BY WHATEVER METHOD

In the case of exceptional and unforeseen circumstances, an extension of up to 5 days after the assessment submission deadline may be granted by your Programme Leader. You should complete an Extension Form available from the School Office and attach documentary evidence of your circumstances, prior to the published submission deadline.

Requests for extensions for periods longer than 5 days must be made using the Mitigating Circumstances procedures. Please see your Programme Handbook for further details.

13. General Assessment Criteria Level HE6

		Relevance	Knowledge	Argument/Analysis	Structure	Presentation	Written English	Research/Referencing
	80%+	As for Class I (70-79%) but exceptional work that makes a contribution to the development of knowledge and understanding in the subject area						
Class I (Exceptional Quality)	70-79%	Directly relevant to title. Addresses most or all of the implications and assumptions of the title.	Demonstrates a comprehensive knowledge of theory and practice for this level. Demonstrates ability in the manipulation and transfer of subject material to demonstrate a solid understanding of the issues.	Makes creative use of appropriate arguments and/or theoretical models. Contains some distinctive or independent thinking. A comprehensive evaluation of the material resulting in clear, logical and illuminating conclusions.	Coherently articulated and logically structured. An appropriate format is used.	The presentational style & layout is correct for the type of assignment. Effective inclusion of figures, tables, plates (FTP).	A very well written answer with standard spelling and grammar. Style is clear, resourceful and academic.	All sources accurately cited in the text and a very extensive reference list in Harvard Style is provided.
Class IIj (Very Good Quality)	60-69%	Directly relevant to title. Addresses some of the implications of the issues addressed by the title.	Demonstrates a sound knowledge of theory and practice for this level. Manipulates and transfers some material to demonstrate a clear grasp of the themes, questions and issues.	Uses appropriate arguments or theoretical models. A sound evaluation of the material resulting in clear and logical conclusions.	For the most part coherently articulated and logically constructed. An appropriate format is used.	The presentational style & layout is correct for the type of assignment. Effective inclusion of FTP.	Well written with standard spelling and grammar. Style is clear and academic.	All sources accurately cited in the text and an appropriate reference list in Harvard Style is provided.
Class IIi (Good Quality)	50-59%	Generally addresses the title and its implications, but sometimes addresses irrelevant issues.	Demonstrates an adequate knowledge of theory and practice for this level, with evidence of an appreciation of its significance.	Provides a coherent argument, but some loss of focus and consistency. Some issues lack clarity, or theoretical models expressed in simplistic terms. Adequate critique, with some descriptive or narrative passages. Conclusions are fairly clear and logical.	Adequate attempt at articulation and logical structure. An acceptable format is used.	The presentational style & layout is correct for the type of assignment. Inclusion of FTP but lacks selectivity.	Competently written with minor lapses in spelling and grammar. Style is readable and mainly academic.	Most sources accurately cited in the text and a good reference list in Harvard Style is provided.
Class III (Satisfactory Quality)	40-49%	Some degree of irrelevance to the title. Superficial consideration of the issues.	Demonstrates limited knowledge of theory and practice for this level, with intermittent evidence of an appreciation of its significance.	An argument is evident but lacks clarity and coherence in places. Issues are only broadly stated. Some analysis with descriptive or narrative passages. Conclusions are not always clear or logical.	Some attempt at articulation and logical structure. An acceptable format is used.	The presentational style & layout is largely correct for the type of assignment. Inappropriate use of FTP or not used where clearly needed to aid understanding.	Generally competent writing although intermittent lapses in grammar and spelling pose obstacles for the reader. Style limits communication and tends not to be academic.	Some relevant sources cited. Some weaknesses in referencing technique.
Borderline Fail	35-39%	Some significant degree of irrelevance to the title is common. Only the most obvious issues are addressed at a superficial level and in unchallenging terms.	Demonstrates weaknesses in knowledge of theory and practice for this level, with little evidence of an appreciation of its significance.	A basic argument is presented, but largely descriptive or narrative in style with contradictory analysis. Conclusions are neither clear or logical.	Poorly structured. Lack of articulation. Format deficient.	For the type of assignment the presentational style &/or layout is lacking. FTP ignored in text or not used where clearly needed.	Deficiencies in spelling and grammar makes reading difficult. Simplistic or repetitious style impairs clarity.	Limited sources and weak referencing.
Fail	<34%	Relevance to the title is intermittent or missing. The topic is reduced to its vaguest and least challenging terms.	Demonstrates a lack of basic knowledge of either theory or practice for this level, with little evidence of understanding.	Severely limited arguments. Descriptive or narrative in style with no evidence of critique. Conclusions are sparse.	Unstructured. Lack of articulation. Format deficient.	For the type of assignment the presentational style &/or layout is lacking. FTP as above.	Poorly written with numerous deficiencies in grammar, spelling, expression and style.	An absence of academic sources and poor referencing technique.

14. Your Assignments

Assessment (One): Project Planning

Assessment Number (1):	Project Planning
Assessment Title:	Project Planning Report
Assessment Length:	1500 words maximum
Component Weight:	30% of the total marks for this module
Submission Deadline:	4/12/17

1. Learning outcomes

This assignment is designed to test the extent to which you have achieved the following learning outcomes of the module:-

<ul style="list-style-type: none">• Be able to plan projects
<ul style="list-style-type: none">• Appreciate a variety of supply chain operational requirements
<ul style="list-style-type: none">• Utilise tools and techniques to control operations in supply chains
<ul style="list-style-type: none">• Make strategic operational decisions
<ul style="list-style-type: none">• Present ideas and proposals

You will also gain the knowledge and skills to enable you to:

- Appreciated the main principles of project planning
- Demonstrated an ability to perform network analysis, cost estimation and resource scheduling in a project environment.
- Understood the functions of a popular piece of project planning software
- Demonstrated an ability to generate a professionally-structured and presented report.

2. Assignment overview

Scenario - Kang Light Air Cargo

You have been appointed Project Manager to a light aircraft cargo carrier, **Kang Light Air Cargo (KLAC)**, who are looking to re-new their aging fleet of aircraft with 10 single engine planes and 6 twin engine planes. The management have asked you for an informal report into the planning and implications of the renewal.

You will find the **Guidance Notes** below and **The Project Schedule** below gives you all the information you need to complete the task successfully.

Your report will contain **the following sections:**

A Title Page – A title and make it for the Board of KLAC.

Section 1: A brief **Introduction** to the report and its purpose.

Here say what the report is about and what its purpose is.

Section 2: Advises the management of the **Principles of Projects and Project Planning**.

Here clearly define your role as the project manager and any key terms or information you feel is important.

Section 3: Provide a brief **manual analysis** of this project using CPA methodology
Use a Node and Arrow diagram and explain your findings

Section 4: Using **project planning software** (Open Project or MS Project), capture the project and its tasks on a computer. Then model the project for efficiency using appropriate software.
Here you'll find a comparison of the project using CPA diagrams useful if you alter the number of planners allocated to the project. Include the before and after diagrams.

Section 5: A brief conclusion giving the advantages of using computer packages for modelling and any resource implications you see fit.

Appendices: As you deem appropriate

A Reference List: Of those you have used

Guidance Notes: *The task on Moodle for the first 3 weeks will help you gain important underpinning knowledge and understanding and post on the forums. Use your study skills to find out some key facts about projects and their planning processes.*

The Project Schedule						
Workpack- age or Task ID	Workpackage or Task Description	Durati on (Days)	Precede nt (s)	Resource Name (If blank then not resource constrained)	Resource Quantities (Use 1 unless otherwise noted)	Comments
1	Begin Renewal Project	0	-			
10	Scoping of new Aircraft	1				
11	Investigate single engine short haul aircraft.	2	1	Planner, Buyer		
12	Investigate Twin engine medium haul aircraft.	2	1	Planner, Buyer		
13	Determine Fleet Composition	5	11, 12	Planner	2	
14	Determine purchase and operating costs	2	13	Planner	2	
20	Order Aircraft		10			
21	Order single engine short haul aircraft.	60	10	Buyer		
22	Order Twin engine medium haul aircraft.	30	10	Buyer		
23	Order new Tractor Tugs	60	10	Buyer		
30	Design and Build Hanger		10			
31	Find site	30	10	Planner	2	
32	Agree Design	60	31	Planner		
33	Commission and Build Hanger	300	32			
40	Raise Finance		10			
41	Identify investment sources	60	10	Finance director		
42	Prepare financial justification	10	10	Operations Director		
43	Make presentation to investors	5	41,42	Finance Director		
44	Agree Contracts	30	43	Finance Director		
45	Transfer money	5	44			
50	Receive and commission planes		20			
51	Receive planes	5	20	Pilot	See Comments	Need 1 pilot per aircraft
52	Upgrade pilots	30	51	Trainer	See Comments	Need 1 trainer per pilot
53	Commission planes	5	52	Mechanics	See Comments	Need 2 mechanics per aircraft
60	Release Finance for equipment		40			
61	Draw finance from bank	2	40			
62	Complete payments	5	61	Buyer		

70	Determine route delivery times		50			
71	Determine test routes	10	50	Planner		
72	Monitor times on test routes.	10	71	Planner		
80	Roll out new services		30,60,70			
81	Publicise new service	30	30,60,70	Marketing Manager		
82	Run test operation	30	70	Operations Manager, Driver	See Comments	Need 1 driver per truck.
999	Complete the air fleet renewal	0				

Notes:

1. The project can be broken down into a number of sub-projects known as workpackages. Each workpackage (or "rolled-up task") is self-contained and consists of a number of inter-related tasks.
2. Tasks 1 and 999 are zero-duration activities signifying project start and end - "Milestone events".
3. Tasks 10, 20, 30...80 are work packages that can be broken down into smaller tasks.
4. A precedent of, for example, "10" or "30" indicates that the task cannot start until the whole of the relevant work package has completed.
4. The duration of a work package is determined by the durations and relationships between the tasks within the work package.

End of Assignment

Assignment 2: Logistics

Assessment Number (2):	Logistics Report
Assessment Title:	Logistics
Assessment Length:	3000
Component Weight:	70% of the total marks for this module
Submission Deadline:	5/2/18

1. Learning outcomes

- Appreciate a variety of supply chain operational requirements
- Utilise tools and techniques to control operations in supply chains
- Present ideas and proposals

2. Assignment overview

This is a *Learning Assignment* in which you are being asked to advise the management of BM Manufacturing and Distribution (BMDD) on the logistics operations.

You will need to do 3 things:

- Study a range of techniques related to Logistics and Operations Management selected from: **facility location**, **fleet composition**, and **warehousing**
- Apply those principles to part of a case study.
- Prepare a scoping paper in the form of an informal report advising the company

Firstly, take a look at the **Appendix** to this Assignment giving information on BM Manufacturing and Distribution (BMDD), and perform the tasks set out below.

Notes:

1) For all the tasks, use the information that is available in this document first of all, then use information from external sources (and cite them as references!), and finally, if you cannot find reliable information in either place, make assumptions **but be sure to state and justify them!**

2) Where the method of tackling a task is not explicitly stated in this document, use your study skills to determine an appropriate technique and then apply it as best you can. Use self-built spreadsheet models, simple calculations, textbooks, etc. – whatever you determine to be appropriate.

Your Tasks

Select **two** of the following **tasks 1-3**.

Task 1 – Facility Location

Using the table of distribution centres in the Case Study in Appendix One.

- i. Using a conventional road map or a Web resource such as Google Earth or Multimap, determine the road distances between these places.
- ii. Use the distances between the manufacturing plant and the distribution centres, and the annual demand for product at each centre, estimate the annual cost of transporting containerised product. You will need to conduct research or make assumptions regarding road vehicle running cost per distance travelled.
- iii. Using your own local geographical knowledge, comment on the wisdom of having these distribution centres, and suggest improvements – more/fewer, different, etc. – with quantified benefits in each case.

Task 2 – Fleet composition

Looking at the tables in the Appendix, and make an estimate of the volume of product (container loads) to be transported annually to each Distribution Centre. Then tackle these tasks:

- Convert the annual volume into weekly demand from each distribution centre, and taking into account appropriate (and available) modes of transport, Malaysian traffic conditions, distances and journey times, make a recommendation for the means by which the loads should be transported to the distribution centres.
- Where you are recommending road vehicles, estimate the number of rigid trucks, trailers and tractor units needed.
- Conduct research into the likely costs of buying or leasing vehicles and trailers equipment, and estimate the costs of buying or leasing the fleet that you think will be needed to handle domestic distribution from the manufacturing base.

Task 3 – Warehousing

Now, considering the information in the Appendix, look at the KL Distribution Centre.

- Determine, as far as you can from the information available:
- The number of loading bays needed for containers to discharge their palletised loads
- The number and mix of rigid (small and medium) and trailer curtainsiders needed for local distribution to the retailers
- The volume of storage space needed to accommodate the target stockholding
- The number of loading bays needed for discharge of consignments on to local distribution vehicles
- Conduct some background research into methods of controlling warehouse operations, then describe, using flowcharts, words or other means, how the KL Distribution Centre might operate. You may refer to other relevant cases if necessary and cite these in your report.

Appendix One

BM Manufacturing and Distribution (BMDD)

Background

BM Manufacturing and Distribution (BMDD) is a company in Malaysia specialising in the manufacture and distribution of consumer electronic products – mp3 players, TVs, small- and medium-sized kitchen appliances, etc. The company has a manufacturing plant in KL and distributes its products worldwide and within Malaysia. In an attempt to reduce costs and improve delivery times, it is reviewing its business logistics, and several areas are under review – facility location, transport fleet composition, route planning and warehousing. It also wishes to review the means by which it transports private physical materials between its facilities within the country.

Details of the company's operations

Products and production rates

The company makes three main types of electronic product, which can be classified according to size. The sizes and proportion of sales that the different product types represent can be summarised as:

Product type	Size (cube)	Proportion
Small entertainment	< 0.2 m	20%
Medium entertainment	< 0.5 m	75%
Domestic	< 1 m	5%

Table 1 – Product types, sizes and mix

All the products are made at the KL manufacturing site. All products leaving the site are palletised according to product type (e.g. one 1200mm x 1000mm x 1m pallet load will be made up entirely of Small, Medium or Domestic product – no pallet contains mixed product types as it leaves the plant). All output from the site is via “ISO 40” container, regardless of destination (export or domestic). Total annual output of the plant is 20,000 containers per year, working a 50-week year. The average gross weight of a loaded container is 20 tonnes. Within each container, the composition is typically in the average proportions shown in the table above.

Internal and external markets

The output from the plant is split between domestic and export markets. Typically 70% of the output goes to markets in the USA, Japan and Europe. The remainder is distributed through centres around Malaysia and then on to retail and mail order outlets. All export containers go through Kelang Port.

Location of existing domestic facilities

As well as the manufacturing plant in Kuala Lumpur and use of the port at Kelang, BMDD has 7 domestic Malaysian distribution centres, located as shown in the table below.

The same table indicates the proportion of total production that goes to each distribution centre (as a percentage of total container loads per year).

Distribution Centre	Proportion of Total Annual Production (container loads)
KL	10%
Ipoh	5%
Johor Baharu	3%
Kota Baharu	5%
Melaka	5%
George Town (Penang)	1%
Kuching (Sarawak)	1%
TOTAL	30%

Table 2 – Distribution Centres and Demand Proportions

Inter-facility communications

As a large organisation, BMMD needs to support communications between all of its facilities. Where rapid spoken or visual communication is needed, it uses phone and videoconferencing. If hard documents need to be sent and hard copy is not necessary, e-mail is used. However, there are cases where physical transportation is the only way to ensure that confidential or high-value material assets are moved securely between sites. To support this, BMMD proposes to use a secure “inter-site postal system”. At each site, secure materials destined for the other sites are to be collected weekly in one package per destination, each of up to 10kg. At each site, up to 6 packages may be collected for forwarding, one to each of the other sites. This proposed private postal system is not related in any way to the main container transport system between KL and the distribution sites.

The KL Distribution Centre

At the KL distribution centre, containers are received only from the KL manufacturing site. Each container holds a mix of product (see Table 1 above), with several pallets in each container. Each “input” pallet holds only one type of product. A container can typically be unloaded in 2 hours (i.e. 2 hours elapse between the container arriving full and departing empty). The warehouse serves retailers that are within 50km of KL and accessible by road. It discharges pallets containing orders specific to retailers. So, an “output” pallet may contain several different types of product, depending on the destination. A given customer may order anything from a single mixed pallet up to a full trailer load of single-type pallets. Multiple orders are grouped into truck loads. Small loads are transported using rigid “curtainside” trucks of 3.5 or 7.5 tonnes, while large orders for major retailer are transported on curtainside trailers of up to 10m/15 tonnes. In urgent cases, single pallets may be transported by courier in small vans. On the loading bay, a small curtainsider can typically be loaded in 60 minutes, and a large curtainsider can be loaded in 90 minutes. A small van can be in and out in 10 minutes. The warehouse operation may be represented as a simple block diagram:

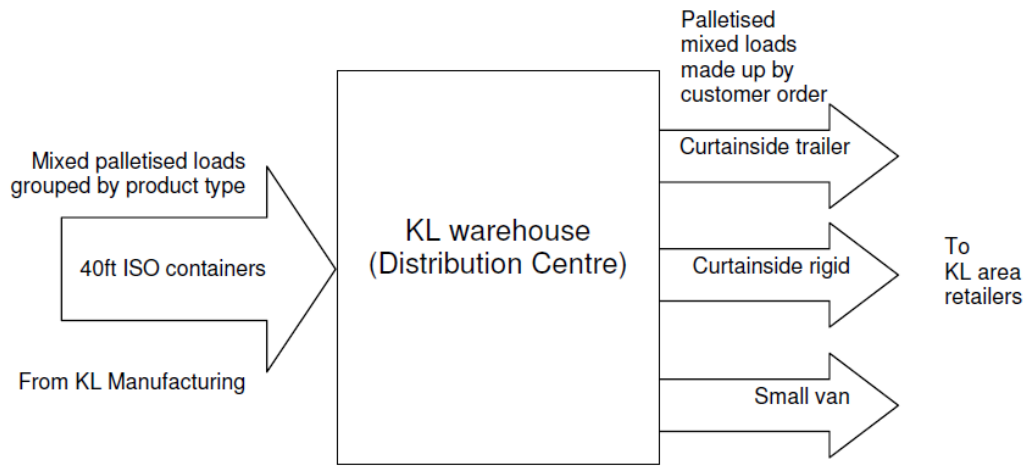


Figure 1 – Warehouse Schematic – Top Level

The KL Distribution Centre aims to hold between one and two weeks' average stock of all product types, ready for compilation into a palletised customer order within one day of receipt of the order.

Presenting Your Information

Your report should have 3 main sections:

1. Introduction
2. Main Body
3. Conclusions/Recommendations

In addition you should have an appropriate **title page** at the beginning and a **reference list** identifying the references you used at the end and a **word count**.

Make sure it is clear:

- *Which 2 tasks you attempted.*
- *What methods and techniques you used.*
- *What results you obtained – in terms of the financial and other features of the operation under study.*
- *A clear set of conclusions and recommendations for improving the company's logistics and operations.*

End of Appendix and Assignment Detail.
