

MOD003553 Systems and Operations Management

2021-22 Tri 2

Assessment

4.1. How this Module is Assessed: What You Need to Do and When

The assessment for this module consists of two elements. Final submission dates for elements of assessment vary.

Element	Type of assessment	Word or time limit	% of Total Mark	Submission method	Final Submission Date
010	Face to Face delivery: GROUP PRESENTATION HAND-IN AS A VIDEO Group Presentation focused on IT structure of one of the following: 1) network and security; 2) database design and relationships; 3) querying the database; or 4) database user interface.	6-8 minutes video	25%	Group Leader: Submit Video to Canvas Submit Slides to TurnitinUK	NO LATER THAN 2PM ON: 29 Mar 2022
011	ASSIGNMENT: 2000 WORDS	2,000 words	75%	Submit to TurnitinUK	NO LATER THAN 2PM ON: 01 May 2022

Assessment Case Study: Elite Print Services¹

Background

Elite Print Services (EPS) is a member of The Elite Group, a company in the pre-press and print technology market, with a mission:

'to become a world-class company providing complete production service for corporations, enhancing the perceived values of their products and services by improving the quality and efficiency of the communication process.'

The Elite Group operates in a wide range of communication-related sectors including imaging networks, advertising, promotional print, corporate literature, academic journals, rigid and flexible packaging, and labels. EPS, a business employing around 250 people, specialises in the colour printing of greeting cards, gift wrap, posters, calendars, book jackets and folders. Their customers are mainly creative publishers, supplying retailers.

Greeting cards

The largest part of the business is the production of cards, which are of three types: Christmas cards, everyday cards (including birthday cards), and special days' cards (Valentine's Day, Mother's Day, Father's Day, Easter, etc.). Although EPS is the preferred supplier of many publishers, each order is typically quite small, but with many different designs. Until recently the card market mainly comprised specialist publishers who sold to all sizes of retail outlets such as newsagents, gift shops, card shops, etc. However, the situation had begun to change. More and more cards were being sold through larger retailers including supermarkets, which had begun to take a greater interest in the highly profitable card market.

EPS had always been a company that wanted to be at the leading edge of the market and technology developments. If there was a market out there for supplying the larger retailers, they certainly planned to be part of it. Both as a result of their excellent reputation for quality and responsiveness, and as a result of considerable sales effort, it seemed that in the summer of 2017 they had their first real chance to supply a big retailer – F&C Supermarket Corporation. Kate Wilson, one of the account managers, had for some time been talking, via a publisher, to A&B and she now seemed to be close to actually getting the first order. She had already outlined the preliminary requirements to some of the technical specialists and several managers within the company.

Orders

The vast majority of the orders were for print runs of between 5000 and 10 000 sheets, the average being about 8000. The most popular size of the cards was around 175 × 125mm. A sheet was a piece of thick paper printed in the lithographic printing machines, normally with standard sizes of up to 720 × 1020mm, and with typically 12 to 16 cards printed on it. However A&B had specified a smaller size of sheet, with smaller cards, very carefully arranged so that almost no paper would be wasted. They were asking for just five design variants. The delivery requirements were also unusual in that they would be precisely scheduled over several weeks, in contrast to the single delivery for most normal orders. If they were to get the order from A&B, it would mean processing a single order of 600 000 sheets, so Kate was somewhat concerned about their ability to deliver on time and to preserve their excellent reputation in the market. However, she had recently been in a meeting with the management team, where Martin Johnston, the Managing Director, had made the case for pursuing the order:

¹ This case is adapted from Stuart Chambers and Tammy Helander, but data have been changed for reasons of commercial confidentiality

'Our market is changing. We know now that the big retailers and supermarkets will play a larger part in the future of selling cards, as well as the specialist publishers, which have made up our traditional customer base. We must do *all* we can in order to be in that market when these changes take place. We don't want to lose our first-place position. I urge you all to ensure that you really have done everything you can to get these new accounts. As you all know we are totally committed and determined for EPS to grow with the developing market.'

Martin was, however, aware that Kate was close to getting the contract with A&B and specifically urged her:

'Come back to me on that order, we could do with this business! If we can prove ourselves this time we might be able to win more of their work in the future. Check with the manufacturing and technical side once again to see that there aren't any issues we've overlooked, and come back to me as soon as possible. Because the prices will be tight, we cannot afford to have any problems with this one!'

The Factory

Although Kate had been through the factory many times since she joined the company six months earlier, she paid particular attention to what Jerry Winter, the Technical Director, had to say about the manufacturing details when they made a factory tour with some customers. They always started in the gallery, where the whole of the huge factory could be viewed from above through glass windows. It was always impressive to see the busy plant with its many separate operations.

They started at the beginning of the process by the printing machines, and walked past the stacks of printed card sheets being stored before going into the bindery, where they would be cut on the 'guillotines'. While the customers were being shown some details by one of the supervisors, Jerry and Kate started to discuss the A&B order. Jerry reassured Kate of their capabilities to handle the order, but admitted that capacity could be a problem:

'Of course there will be a strain on our capacity, because we already have a fairly full order book for the next two months. We work two eight-hour shifts now in the printing, bindery and packing sections. But we can always put on overtime or, if necessary, put on an extra shift on Saturdays and Sundays. We normally print several million cards a day, and most of these are small orders that take around a couple of hours to do. On average we print between 5000 and 6000 sheets per hour.'

'How about the set-up times?', Kate asked.

'Oh, that is not really a problem, a litho print set-up takes about two hours for normal cards but changing to smaller sheets can take a little longer; perhaps about three hours – but that isn't too much of a problem. So, as for the printing, there is absolutely no need to worry! Set-ups are very fast both for guillotining and folding: around 10 minutes each for a typical job. It is possible to outsource die-cutting as well as the embossing, but it is more difficult with the folding and packaging. We could use homeworkers, but it would take some time, and this takes a lot of organising and transport. If outsourced, this must also meet our very specific standards in order to meet the customers' quality demands.'

Die-cutting means that the edges of the cards are not cut straight, but into shapes, and embossing means that the paper surface is pressed between profiled plates to create an interesting surface.

'How about the quality?', asked Kate. 'Can we hold the standards for such a large order – as that is one of the main reasons we would win the order? I am concerned that if something were to go wrong it might be the last order we will see!'

Jerry Winter was just as concerned, as this order certainly was a big challenge:

'Of course there shouldn't be any problems. Our quality checks are rigorous and are built into the process. After each 500 sheets (about every six minutes) we take a sample and check it against the agreed specification, and we have other checks both at the beginning and the end of the process. On the rare occasions that we have had technical problems, such as in meeting an unusually difficult specification, we have been prepared to completely reprint an order to get the appearance the customers want. Only high quality, on-spec products will be sent out, and it is because of this that the customers trust us with their most demanding work. I am sure that we will be able to satisfy the A&B order without any problem, but we will certainly be extra careful as well!'

While they were continuing through the factory with the customer, they came across Alex Wu, the Planning Manager:

'Kate, I just wanted to tell you that the special paper you were asking about for the A&B order has proved easy to get delivered quickly should it be needed. I checked it with the suppliers, and they reassured us that they would be able to make it.'

Later on, Kate read a memo from one of the production schedulers about capacity. Although Jerry had tried to reassure her, she had been anxious to have some more details. The note read:

Dear Kate,

Concerning the questions on capacity you asked for, we do have somewhat different capacities on the different machines. The normal output rate for the printers using standard materials is 6000 sheets/hour, for the guillotines 4000 sheets/hour on average, and for the folders 24 000 cards/hour. As you know, we have 5 printing machines, 3 guillotines, and 5 folders – which gives us a lot of capacity, so we shouldn't have any problem with fitting in your job for A&B. Should you need any more details on capacity effects you should ask Alex Wu. He used to do detailed capacity scheduling, before he was put in charge of the reorganisation of the academic publications area.

Best regards, Will

Kate would remember to ask Alex during the day, but the scenario did not look too bad, and she trusted the judgement of Jerry, who had been in the company for a long time, and knew everything worth knowing about the printing business and technology. The factory certainly worked very smoothly and was good at keeping delivery promises, producing high quality cards at short notice.

On her way back from the factory she passed the Customer Services and Pre-press room. Here the graphics were finalised before being checked by the customers and company specialists, before being made into printing plates. The staff here were among the best in the industry at ensuring that the artistic details in the card designs were reproduced accurately and to the required colour standards – routinely improving the customers' artwork using the latest computer imaging technologies, as well as using the staff's own design skills. Kate had confidence in these technical skills, but also knew that the customers valued the department's organized approach to getting this work completed quickly. There could be no better supplier for A&B, she was sure of that! She had done absolutely everything to accommodate them, but she clearly understood that, with these huge volumes, the customer could be very particular with regard to quality and delivery performance.

She had earlier asked one of the supervisors about the issue of extra personnel, should they be forced to put on an extra shift. She dialled his internal number again; the reply was, again, positive:

'Yes, I have checked it with personnel as well, and there should be no problems. You know, it is quite easy for us to hire extra people when required, both students and others

on a short-term basis, but only for the labour-intensive jobs such as packing. We usually put them in teams of two: one experienced and one new. It usually works out very well.’

The A&B Christmas cards

The set of cards that A&B had ordered did not really appear so different from many past orders. All the cards were embossed, and the colours were mainly warm reds and greens, with some use of metallic inks and gold foil blocking, which had not often been required on this type of paper. The designs comprised simple, eye-catching images including Christmas trees, tartan teddy bears, nostalgic images of children, and a winter rabbit – they were really very charming. The publisher’s graphics skills had been used very effectively, and the final designs were to be diecut to give a more interesting shape. The quality of the special paper gave an unusually matt finish to the sample printing, and so the cards would have a very sophisticated, up-market appearance. Combined with EPS’s manufacturing skills, this design concept would be a winner, and so Kate felt sure that this would be the beginning of a successful long-term relationship with A&B.

The special paper could be obtained from one of the usual paper suppliers, but for the metallic inks and gold-blocking, they would have to use a relatively new supplier of whom they had little experience. The die-cutting and gold-blocking would be outsourced, as the factory did not have suitable equipment for the job. It seemed that there were no technical problems with the card or any unusual features that would have to be solved. In fact, it was not one of the most difficult cards they had tackled in terms of design or production. But with Christmas approaching, time was getting tight. The order should be received before the beginning of October, for delivery by mid-November – an unusually short lead-time considering the size and special requirements of the order.

010 – PRESENTATION (25%)

		Mark	Learning Outcome
1.	Preparation well-structured presentation, familiarity with material, depth of analysis team-work	20%	LO3
2.	Presentation and Content understanding of IT concepts, focus on the organisation, application of ideas to the organisation, ability to focus on the key points in the short time available	40%	LO3
3.	Timing and Approach good use of time available, appropriate amount of depth for time allowed, clear explanation of the topic – using screen or visual aid, presented in the right tone/approach for a management pitch	20%	LO3
4.	Delivery well paced, audibility/fluency, correct use of terms, handovers between speakers, posture/gestures, eye contact/ confidence	20%	LO3
	TOTAL MARKS:	100%	

Presentation Task Details

EPS knows they have to update their systems in order to manage their operations more effectively and efficiently. You will work in groups to design a database prototype to help them manage the business processes better. A prototype means that the system does not need to be fully functional. The workshops will focus on the conceptual design of the network infrastructure and security; database table design and relationships; queries; forms (used as the user interface) and reports. Initially the database would support the business processes, with a view to further development.

You will then work together in a group to prepare a professional 6-8 minute presentation for EPS. It should be presented as if you are business analysts, updating the senior management team on their progress as business analysis consultants to improve the systems and operations at EPS for the A&B order. You should make sure that you present it professionally and convincingly, otherwise, EPS may hire a different analyst to work for the company. The presentation should focus on how **one** of the following topics could be implemented in EPS:

1) network and security	The design of the basic network to support the different departments and their customers and suppliers. Explain clearly why the network is required, the security needed and the benefits for the organisation.
2) database design and relationships	The design of the tables that would be needed in a database for EPS. Explain how the tables will store customer details; improve efficiency; improve co-ordination and reduce data duplication.
3) querying the database	Explain how EPS can run queries to track stock levels, analyse customer sales, and analyse product popularity. Highlight the benefits of the database versus how they operate currently for getting information.
4) database user interface	Demonstrate how staff can use the system: user interface (form) for direct entry of order details and/or updating stock information. Explain the advantages of the system for the users. For example, automating invoice production; mailing labels; etc.

011 – ASSIGNMENT: 2000 WORDS (75%)

	Mark	Learning Outcome
<p>1. Specialism Topic Select one from the following three options and write 600 word summary topic</p> <p>Option 1: Describe the role of information systems in careers in one of the following areas: accounting/finance, human resources, marketing, and operations management, and explain how careers in information systems have been affected by new technologies and outsourcing.</p> <p>Option 2: Explain the role of human resource management in operations. The discussion should look at the strategic importance of managing people in operations settings. You can use chapter 9, entitled People; Jobs and Organisation from Slack et al. (2014) Operations Management the 7th edition as a starting point.</p> <p>Option 3: For an organisation of your choice, write a 600 word short case that summarises how they have strategically harnessed the use of operations and/or information systems.</p>	30%	LO1
<p>2. Apply relevant models to EPS to analyse the potential risks and rewards of accepting the order from A&B. This could include one or more theoretical modules: the input-process-output model; the value chain model and business process mapping. Evaluate how should EPS’s management introduce any special or different practices in the factory to handle the A&B order, if it is received? (800 words)</p>	30%	LO1, LO2, LO3
<p>3. Complete a mind map/rich picture to identify and explore the potential people; management and technology issues of accepting the order from A&B. at EPS. Analyse how to improve the operations at EPS considering the potential issues. (800 words)</p>	30%	LO4
<p>4. Academic Rigour Your assignment should be written in good business English and be well structured and presented. Your assignment should clearly include the academic insight, i.e. the concepts and the supporting references involved, indicated in the assignment and listed in the references and bibliography</p>	10%	N/A
TOTAL MARKS	100%	