### Activity 1

1. **Having read the various scenarios, you note that Mr. Cook needs a monthly report providing information on the computer equipment purchased on Match Lighting. Using the characteristics of data you met in the last topic, and again in Table 3.2, produce a specification of the requirements of this monthly report.**

Here's a specification for the monthly report that Mr. Cook would need for tracking computer equipment purchases at Match Lighting:

Monthly Report on Computer Equipment Purchases for Match Lighting

1. Timeliness & Frequency of Reporting

- Specification: The report should be generated on the first day of each month, covering purchases from the previous month. This ensures the most recent data is always available for analysis.

2. Information Retrieval

- Specification: The system should be capable of pulling historical data for comparative purposes, ensuring Mr. Cook can track trends over time.

3. Appropriateness

- Specification: The report should only include data related to computer equipment. It should display details such as model, manufacturer, quantity purchased, date of purchase, and price.

4. Accuracy

- Specification: Include validation controls to prevent incorrect data entry. Verification controls should cross-check data with purchase orders and supplier confirmations to ensure the data's correctness.

5. Brevity

- Specification: Provide both a detailed view (for a deep dive) and a summary view (for a quick overview). The summary should highlight total spend, number of units purchased, and any significant changes from the previous month.

6. Rarity

- Specification: The system should set alerts for any unusual purchases, like exceptionally high quantities or prices outside the typical range. This would allow Mr. Cook to quickly identify and investigate anomalies.

7. Understandability

- Specification: The report should use clear language, simple graphics, and standard data conventions. The option to customize views should be available, letting Mr. Cook tailor the report to his needs.

8. Action

- Specification: Once the report is generated, it should be automatically emailed to Mr. Cook and any other stakeholders he deems necessary. An option to download or print the report should also be available.

9. Presentation

- Specification: Data visualization tools, like charts and graphs, should be used to make the report more engaging. The report should adapt to both digital views (on devices) and printed formats. Any user preferences for font size, color schemes, or layout should be customizable.

Given this specification, Mr. Cook would be well-equipped to understand and manage the computer equipment purchases of Match Lighting effectively.

Here is a mock-up report using fictional data, incorporating the characteristics implicitly:

**MATCH LIGHTING**

**Monthly Computer Equipment Purchases**

August 1 - August 31, 2023

Generated: September 1, 2023

**Summary**

Total Units Purchased: 85

Total Expenditure: £92,000

Comparison to July 2023: Increase of 7% in expenditure

A screenshot of a computer screen

Description automatically generated

**Alerts:**

- Unusual Purchase: On August 15, 2023, 15 Apple iMacs were ordered, which deviates from the usual order quantity.

**Distributions:**

Emailed to: Mr. Cook, Mr. Alvis (Director), Mrs. Ellis (Finance Manager)

Download & Print Options: Available through the Match Lighting internal portal.

Graphics:

- Attached pie chart showcases brand-based expenditure.

- Line graph attached displays the monthly expenditure trend for 2023.

This report encapsulates the data for computer equipment purchases at Match Lighting for August 2023 and implicitly incorporates the given characteristics.

1. **Develop an information life cycle for information relating to IT equipment purchased by Match Lighting. Map the use of IT to each event in the life cycle to show how IT can be used to manage the information.**

Let's map out the information life cycle for IT equipment purchased by Match Lighting, making sure to specifically address the stages of capture, store, retrieve, use, generate, share, maintain, secure, archive, and destroy.

**1. Capture**

Description: This is where information regarding IT equipment purchases, such as model, cost, vendor details, and warranty terms, are initially collected.

Use of IT:

- Digital Forms: Use online forms to capture purchase details, warranty information, and vendor contracts.

- Barcode Scanners: Scan equipment details directly into inventory systems.

**2. Store**

Description: Once captured, the details are stored in an organized manner for future access.

Use of IT:

- Database Management Systems (DBMS): Centralize storage of equipment details like purchase date, warranty expiration, and vendor contact.

- Cloud Storage: Use encrypted cloud solutions for storing related digital documents like invoices.

**3. Retrieve**

Description: Information is accessed or pulled from storage for various purposes.

Use of IT:

- Inventory Management Systems: Facilitate the quick search and retrieval of equipment details.

- Query Tools: Allow users to extract specific data points as needed.

**4. Use**

Description: Actively utilizing the data for operations such as scheduling maintenance or budgeting.

Use of IT:

- Enterprise Resource Planning (ERP) Systems: Facilitate the operational use of equipment data across various company functions.

- Data Analytics Platforms: Provide insights for future purchasing decisions.

**5. Generate**

Description: Producing new data or insights from the stored information.

Use of IT:

- Reporting Tools: Generate monthly or annual reports on IT equipment status, costs, or maintenance schedules.

- Predictive Analytics: Use past purchase data to forecast future needs.

**6. Share**

Description: Dissemination of data to relevant stakeholders.

Use of IT:

- Internal Collaboration Platforms: Share equipment reports or insights with departments.

- Electronic Data Interchange (EDI): Transmit equipment-related data to external vendors or partners when necessary.

**7. Maintain**

Description: Ensure the integrity, accuracy, and relevance of the stored data.

Use of IT:

- Database Maintenance Tools: Regularly clean and optimize databases to ensure data accuracy.

- Automated Update Notifications: Notify relevant stakeholders when data needs updating or verification.

**8. Secure**

Description: Protect the data from unauthorized access or breaches.

Use of IT:

- Encryption Tools: Encrypt sensitive data, such as cost details.

- Access Control Systems: Restrict access to only authorized personnel.

**9. Archive**

Description: Shift older data from active systems to long-term storage.

Use of IT:

- Data Warehousing Solutions: Store older, less frequently accessed data.

- Cloud Archive Solutions: For cost-effective, long-term storage.

**10. Destroy**

Description: Once the data has reached its end-of-life or is no longer relevant, it's securely disposed of.

Use of IT:

- Secure Deletion Software: Permanently remove data without leaving traces.

- Data Destruction Certificates: Document and certify the secure disposal of data.

This life cycle gives a comprehensive view of how IT tools and systems can manage information related to IT equipment purchases throughout each stage of its existence at Match Lighting.

3. Section 3.7.2 listed a number of ways that IS and IT can contribute to establishing competitive advantage. Provide an example of each to show Mr. Alvis the potential value of IT to Match Lighting.

**1. Increasing the cost for a customer to switch suppliers.**

Example: By integrating Match Lighting's IT system with those of their major customers, such as Bright Spark, you create a seamless ordering, inventory, and billing process. Once integrated, the hassle and costs associated with switching to a different supplier, who may not offer such integration, become significant.

**2. Reducing dependence on a single supplier by reducing the cost of switching suppliers.**

Example: Use an advanced Supplier Management System that can quickly onboard and compare multiple suppliers. This ensures Match Lighting is never overly reliant on a single supplier and can quickly pivot if needed.

**3. Identifying the potentially most profitable customers.**

Example: Implement a Customer Relationship Management (CRM) system with analytics capabilities. This tool can analyze order history, frequency, and preferences to pinpoint which customers are the most valuable, allowing targeted marketing and loyalty incentives.

**4. Supporting product innovation.**

Example: Use IT for advanced product design and prototyping. Software like CAD (Computer-Aided Design) can help design new innovative lighting fixtures. Additionally, gathering customer feedback through digital channels can fuel new product ideas.

**5. Sharing information and IT with rivals.**

Example: Collaborate on an industry-wide platform or portal for sustainability standards in lighting production. While Match Lighting and rivals both contribute knowledge, all parties benefit from a unified, more sustainable approach, raising the industry's overall reputation.

**6. Reducing production and distribution costs.**

Example: Implement an Inventory Management System that utilizes AI. This could optimize stock levels, reduce waste, and predict optimal manufacturing schedules. Additionally, using IT to streamline distribution routes and schedules can save on transportation costs.

**7. Gaining greater appreciation of customer base.**

Example: Use Data Analytics to analyze customer reviews, feedback, and buying patterns. This not only offers insights into what customers appreciate but also uncovers areas for improvement, helping Match Lighting to better cater to customer needs.

**8. Providing barriers for new entrants into the market.**

Example: Develop a proprietary online portal where Match Lighting's customers can visualize how different lighting fixtures affect room aesthetics in real-time. Such unique and advanced tools can deter new entrants as they'd need substantial resources to develop something comparable.

By providing these real-world applications of how IS and IT can contribute, Mr. Alvis can better grasp the tangible benefits and value IT offers to Match Lighting in maintaining a competitive edge.

1. **Map the example IS’s identified in the previous question to the appropriate rungs in the IS evaluation ladder shown in Figure 3.17.**