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Organizational Information Systems and Their Impact

Hierarchical perspective

- Decision making and activities in organizations occur at different levels
- Individuals
 - Have different responsibilities
 - Make different types of decisions
 - Carry out different types of activities
- Having the correct information is important

Activity	Time horizon	Hierarchical level	Characteristics
Strategic	Long term	General management Functional management	<ul style="list-style-type: none">• Externally focused• Ad-hoc• Highly unstructured
Tactical	Mid term	Middle management	<ul style="list-style-type: none">• Repeatable• Semi-structured• Recurrent
Operational	Short term	Front line employees	<ul style="list-style-type: none">• Low discretion• Highly structured• Transaction focused

Highly unstructured

- Have to consider lots of variables
- No recipe
- Not always same process

Operational Activities (operational level)

- Concerned with short-term activities, typically those that occur in the immediate term
- Operational personnel are focused on performing the day-to-day activities that deliver the firm's value proposition
- Decision making at the operational level is typically highly structured by means of detailed procedures
- Eg. Replace items in supermarket
- Everything follows same guide
- Difficult to get wrong
- Information systems that support this organizational level are referred to as transaction processing systems

Operation Examples

Atomicity

- Complete transaction in its full form or not at all
- Eg. ATM withdrawal

Consistency

- Only valid data is committed to long term memory and stored in the system
- Eg. if the airline seat assignment system requires only letters in the first name field, no transaction with numbers in the field is accepted

Isolation

- Transactions are non-concurrent
- If the system has yet to store the results of a transaction while writing the results of a second transaction, its database may end up holding invalid data
- Eg. if you are withdrawing money from an ATM while your sister at home is moving money electronically, the resulting balance may be invalid unless the system maintains isolation of the two transactions

Durability

- Transactions are durable when they can be recovered in the face of system failure
- Once the system has successfully processed the transaction, it will no longer lose it
- Eg. once the agent has changed your seat, the change is recorded in a transaction log → it'll still be there even if something goes wrong with database

Tactical activities (managerial level)

- Activities performed tend to be semi structured
- Well known components and some degree of uncertainty when making decisions
- Eg. Store manager of grocery store – store managers in large chains are typically responsible for selecting that portion of inventory that experiences regional and local demand – the store manager must therefore be able to monitor demand for these products, forecast future demand and make inventory management decisions
- Decision making at this level is typically semi structured, but characterized by repeatable patterns and established methods
- The objective is to improve the effectiveness of the organization, or one of its functions, within the broad strategic guidelines set by the executive team
- Information systems that support this organizational level are typically called decision support systems
- DSS – help make decisions eg. Input data in system for medical – system gives suggestion about what to do

Strategic activities (executive level)

- Decision making at this level is highly unstructured
- Concerned with high level, long range decisions
- Focus on making decisions by evaluating trends eg. If certain line sells well – keep doing what we're doing now