



“The Truth Is Out There?” : A Survey of Business Objects

Kitty Hung

PhD Student

Department of Computer Science

The University of Sheffield, UK



Agenda

- Introduction
- Definitions
- Some Examples
- Why Survey
- Survey Methods
- Survey Findings
- Evaluation
- Conclusion & Further Survey
- Question Time

Introduction

- Determination to promote the concept of Business Objects by OMG's Business Object Management Special Interest Group (BOMSIG) in 1994
- Establishment of OMG's Business Object Domain Task Force (BODTF) in 1995
- Aim to deliver software + business solutions

What is Business Object?

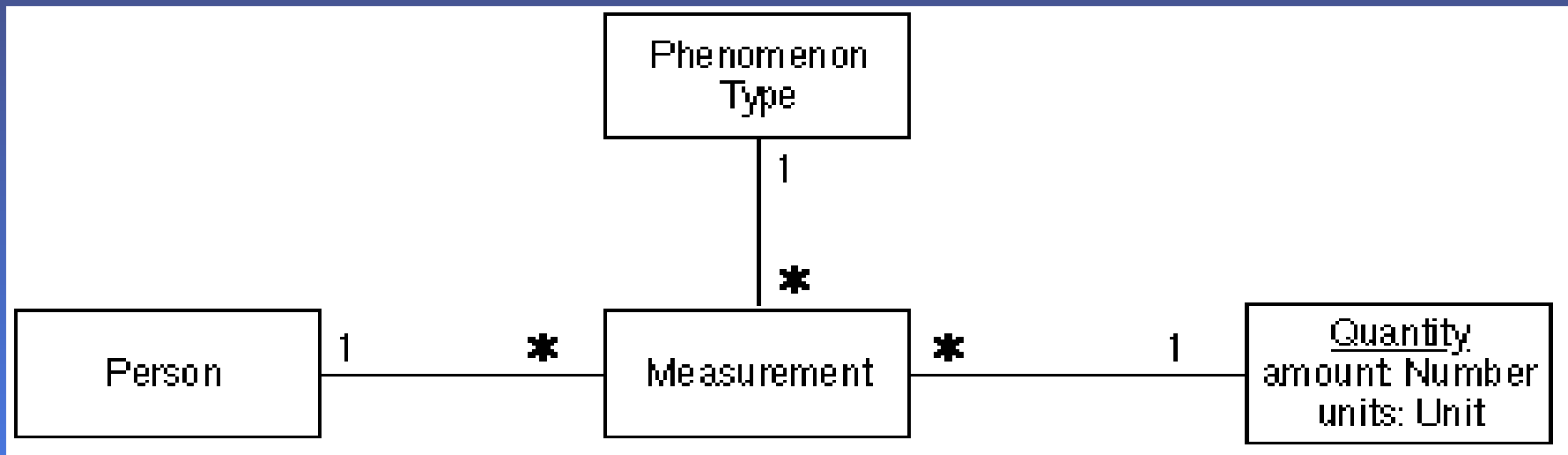
- A Concept?
- A Product?
- A Language?
- A Methodology?
- A Specification?
- An application?
- A Tool?

Definitions

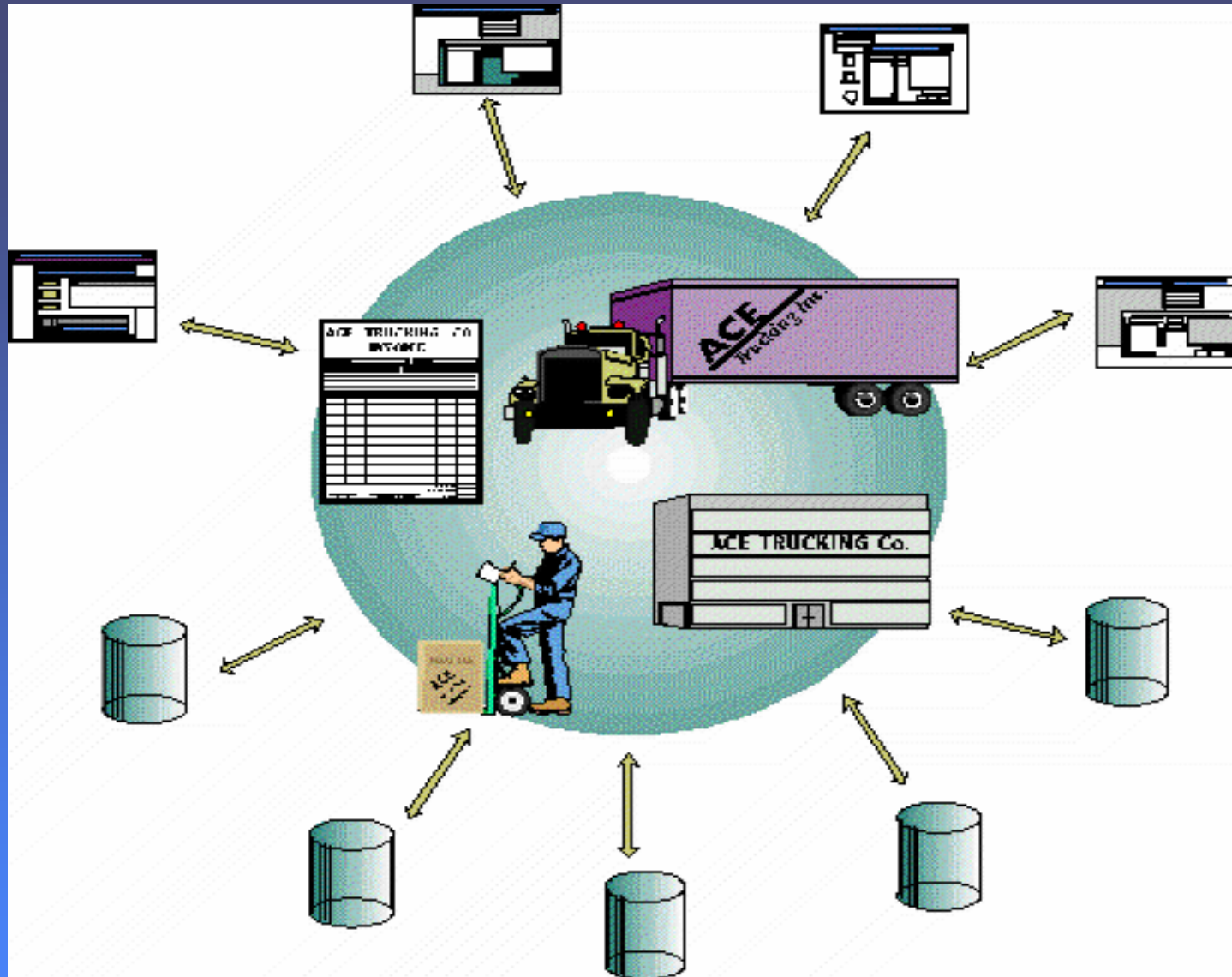
- *“A representation of a thing active in the business domain, including its business name and definition, attributes, behaviour, relationships and constraints. It may represent a person, place or concept and may be in natural language, modelling language or programming language.” [OMG]*
- *“The data structure gathered by an event or enquiry from several objects for display at the user interface. The response is a kind of database view with a representation layer thing which is often a block of data displayed on a screen that users see as one coherent thing.” [Ivar Jacobson]*
- *“Encapsulates traditional lower-level objects that implement a business process (i.e., they are a collection of lower-level objects that behave as single, reusable objects.” [Jeff Sutherland]*

- *“Directly represents the model of the business and this model becomes part of the information system where every person, place, thing, event, transaction or process in the business can be represented by an active object.”* [**Cory Casanave**]
- *“Modelling constructs that are useful in requirement capture, business process reengineering and reuse.”* [**Ian Graham**]
- *“Corresponds to high-level application components, which appear as icons in the interface of an application and can be assembled to build applications that implement some particular business processes.”* [**Oliver Sims**]

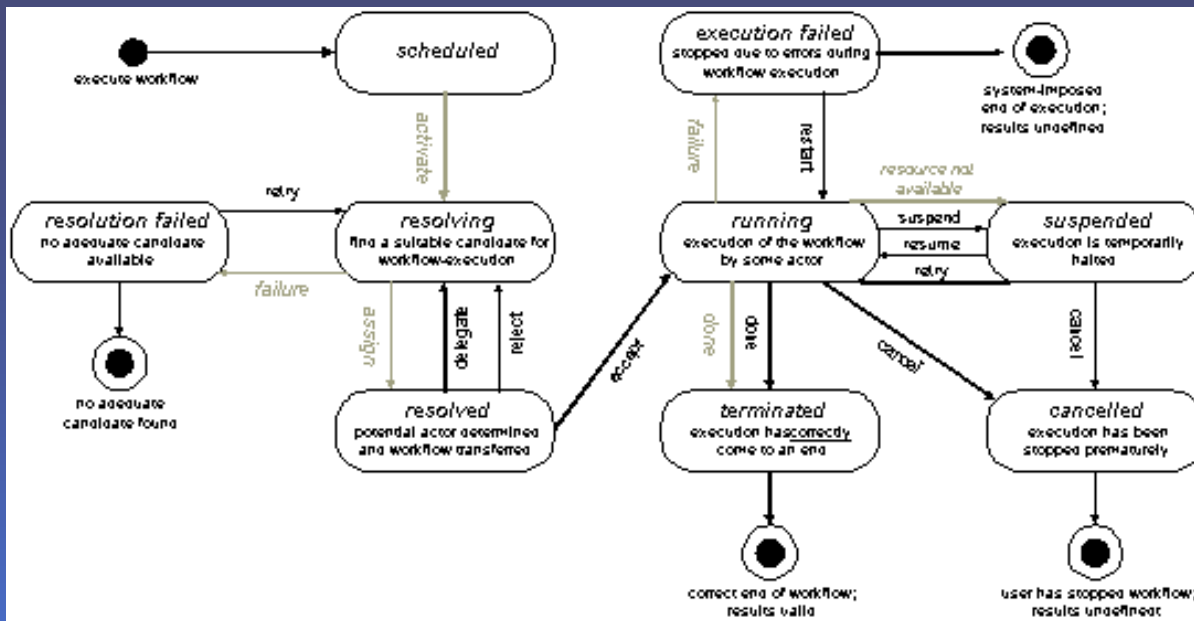
Some Examples



Martin Fowler's Business Object and Analysis Patterns



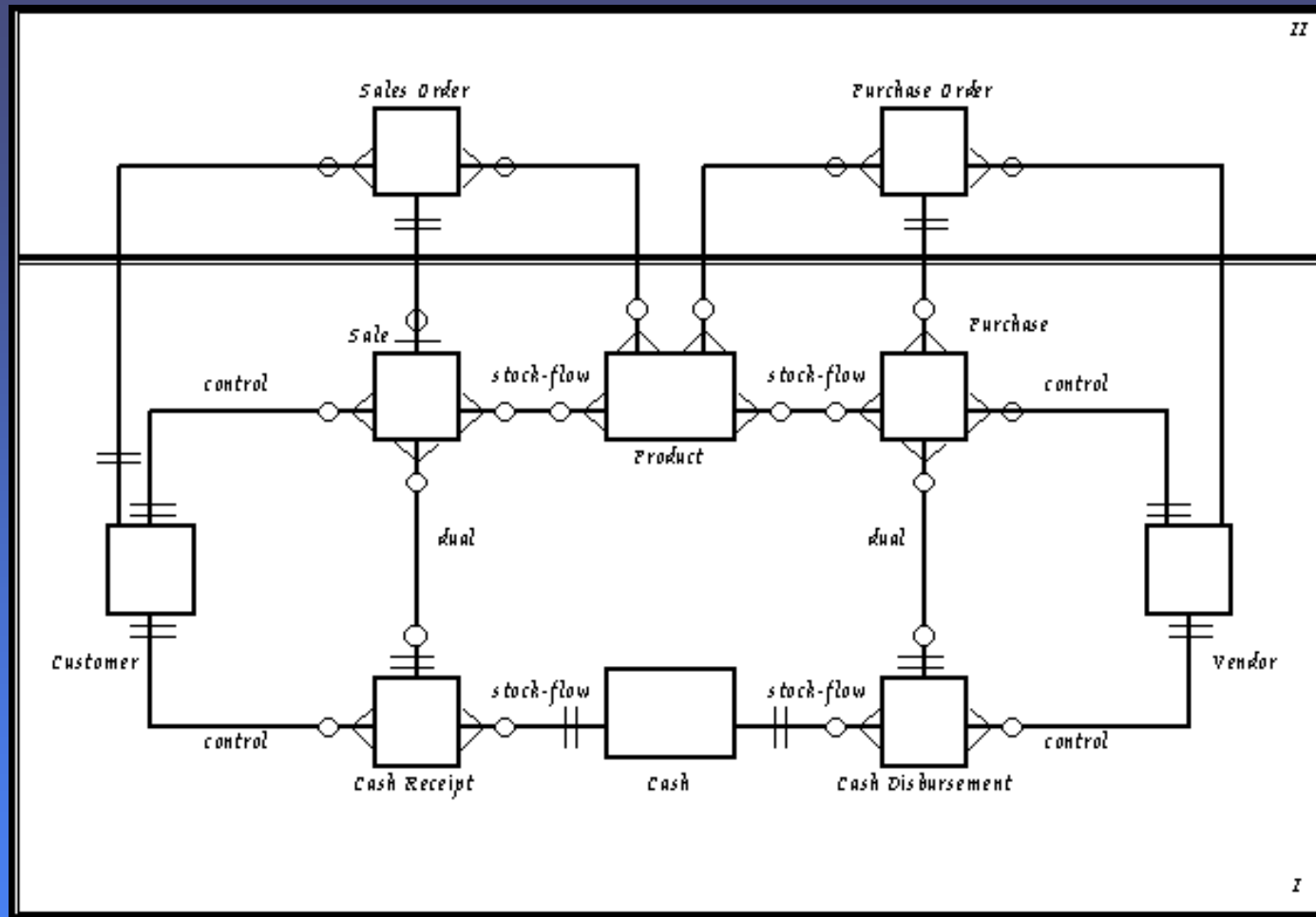
**Jeff Sutherland (OOPSLA Business Object Workshop
Chairman)'s Business Object**



Wolfgang Schulze (Dresden University of Technology)'s Business Object for Workflow Management

| layer | content | architectural component | component functions |
|----------------|---|--|-----------------------------|
| meta-metamodel | MOF meta-metamodel | Meta Object Facility | manipulate metamodels |
| metamodel | Workflow Mgt. Facility workflow metamodel | Workflow Mgt. Facility Workflow Type Repository | manipulate workflow schemas |
| model | workflow schema | implementation of the workflow schema | manipulate workflow objects |
| instance | workflow object | | |

↔ corresponds ← - - - defines and manages [] instance [] component



Guido Geets (Michigan State University)'s Business Object for Resource-Event-Agent

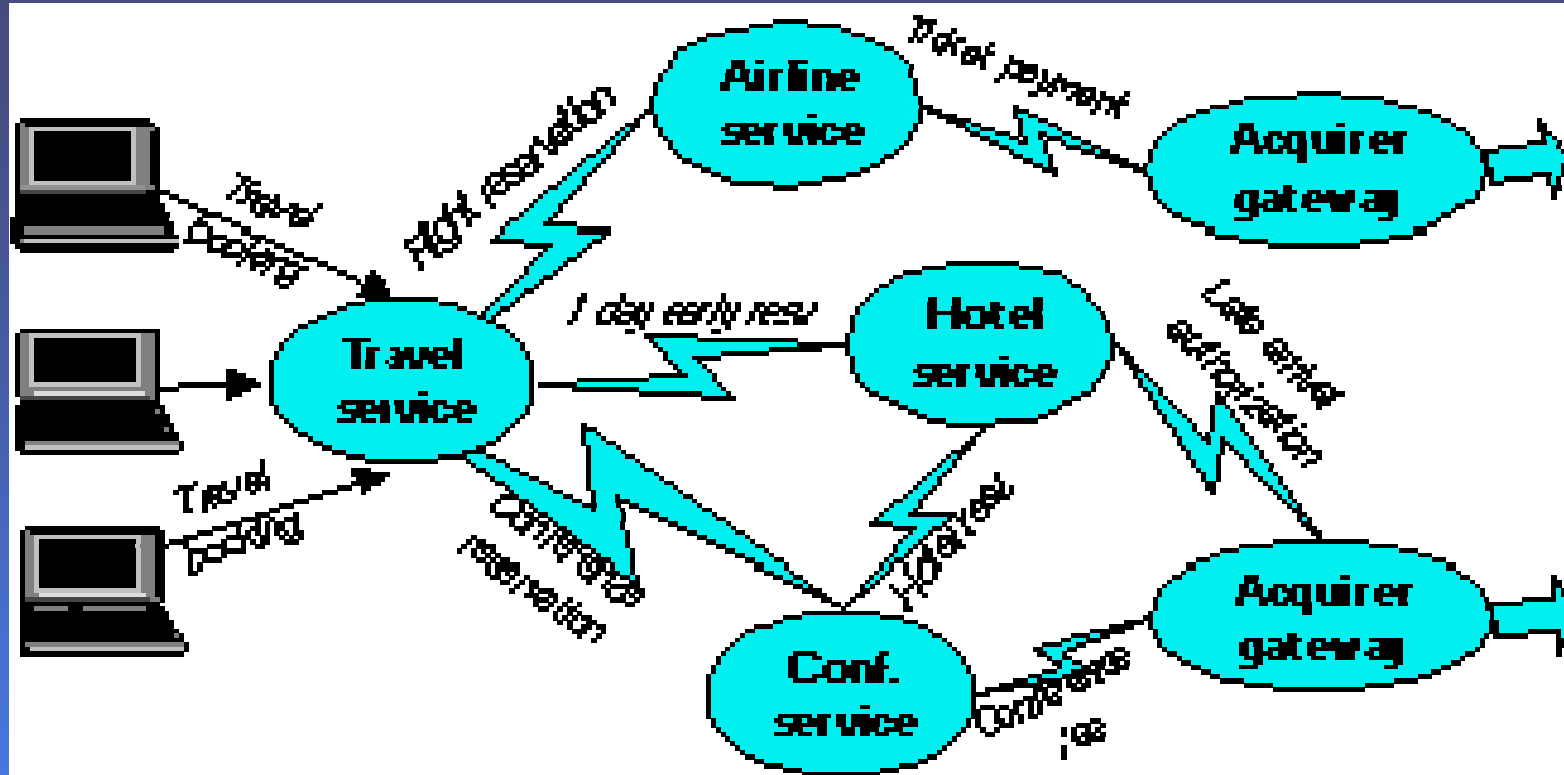
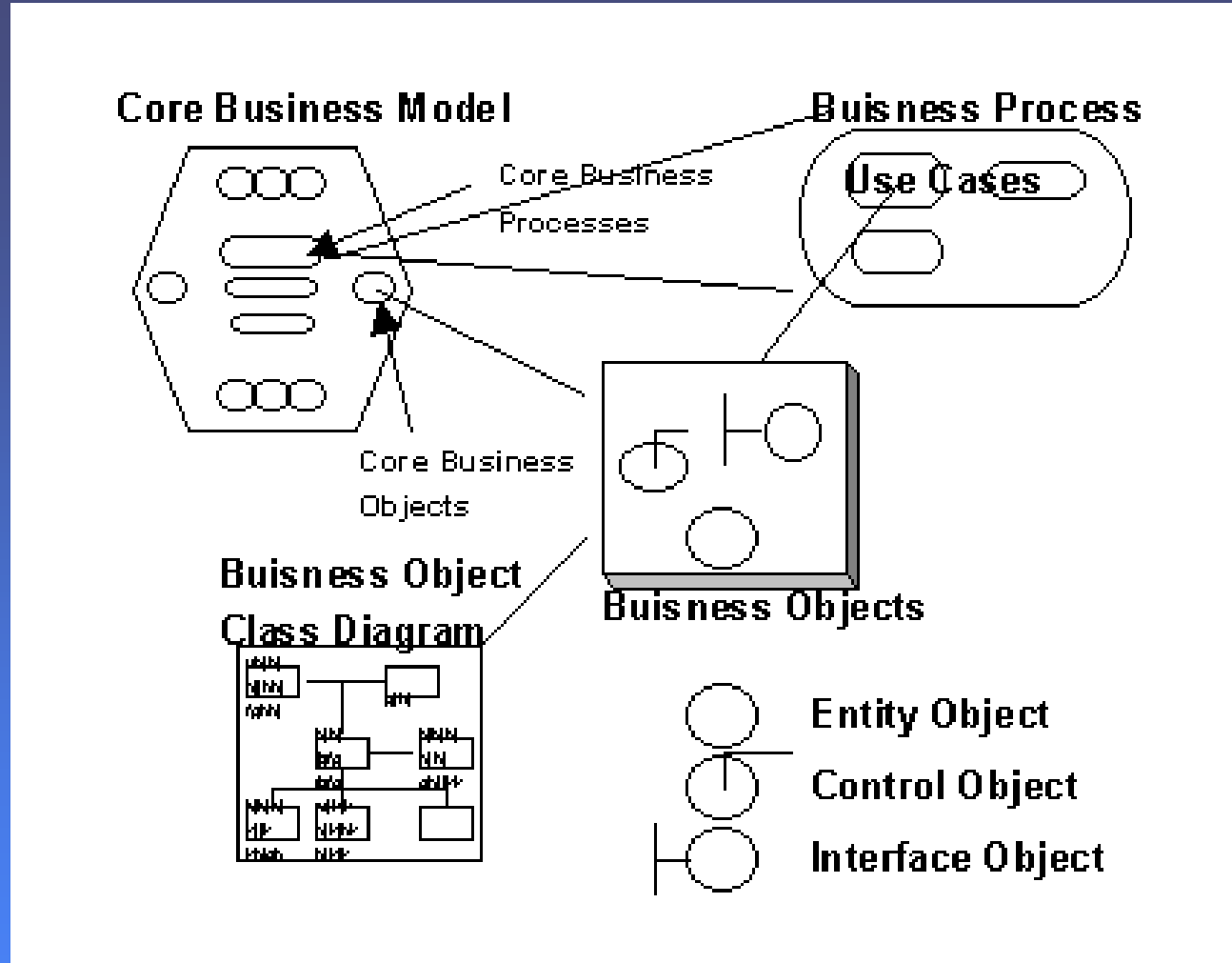
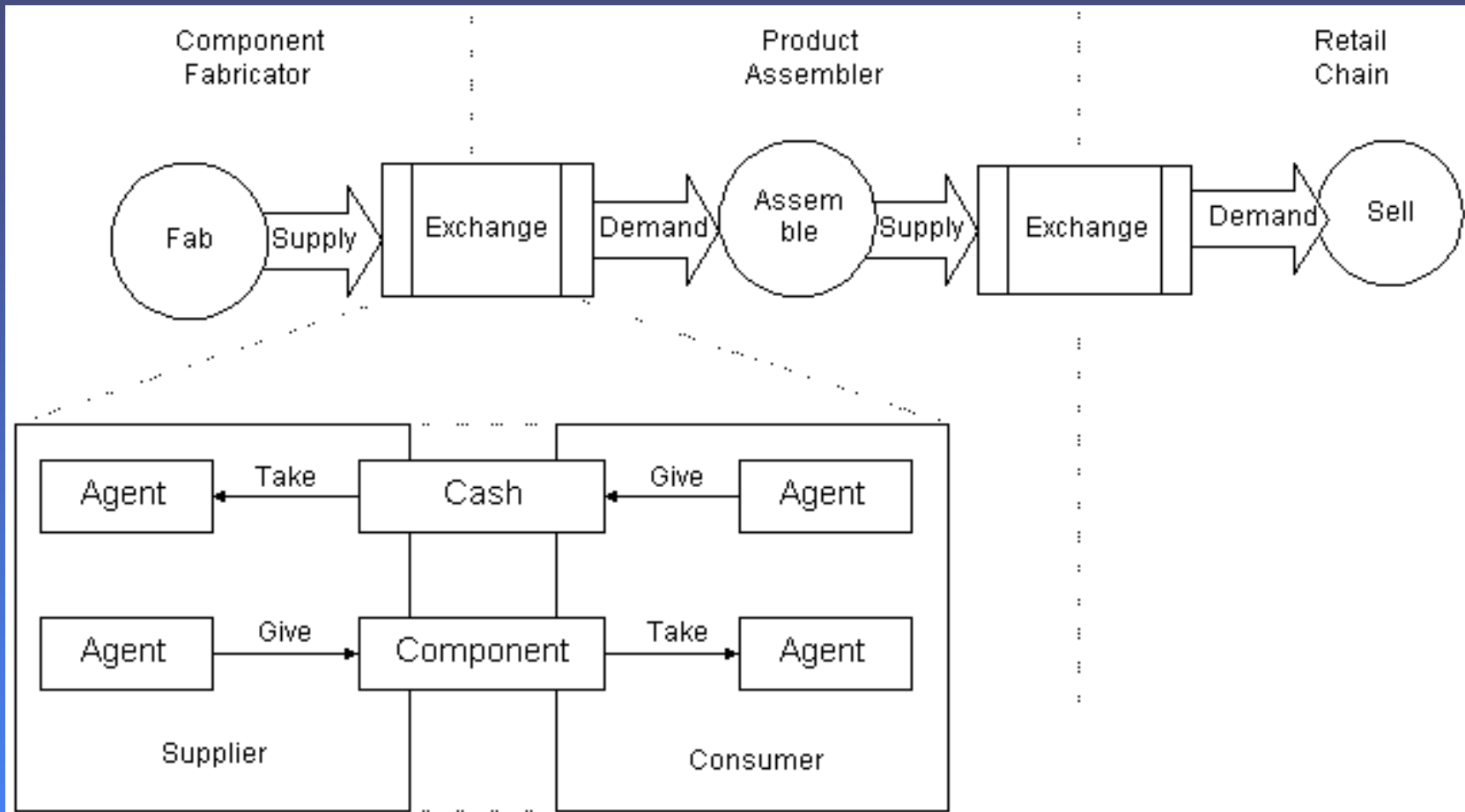


Figure 2: Conference registration application

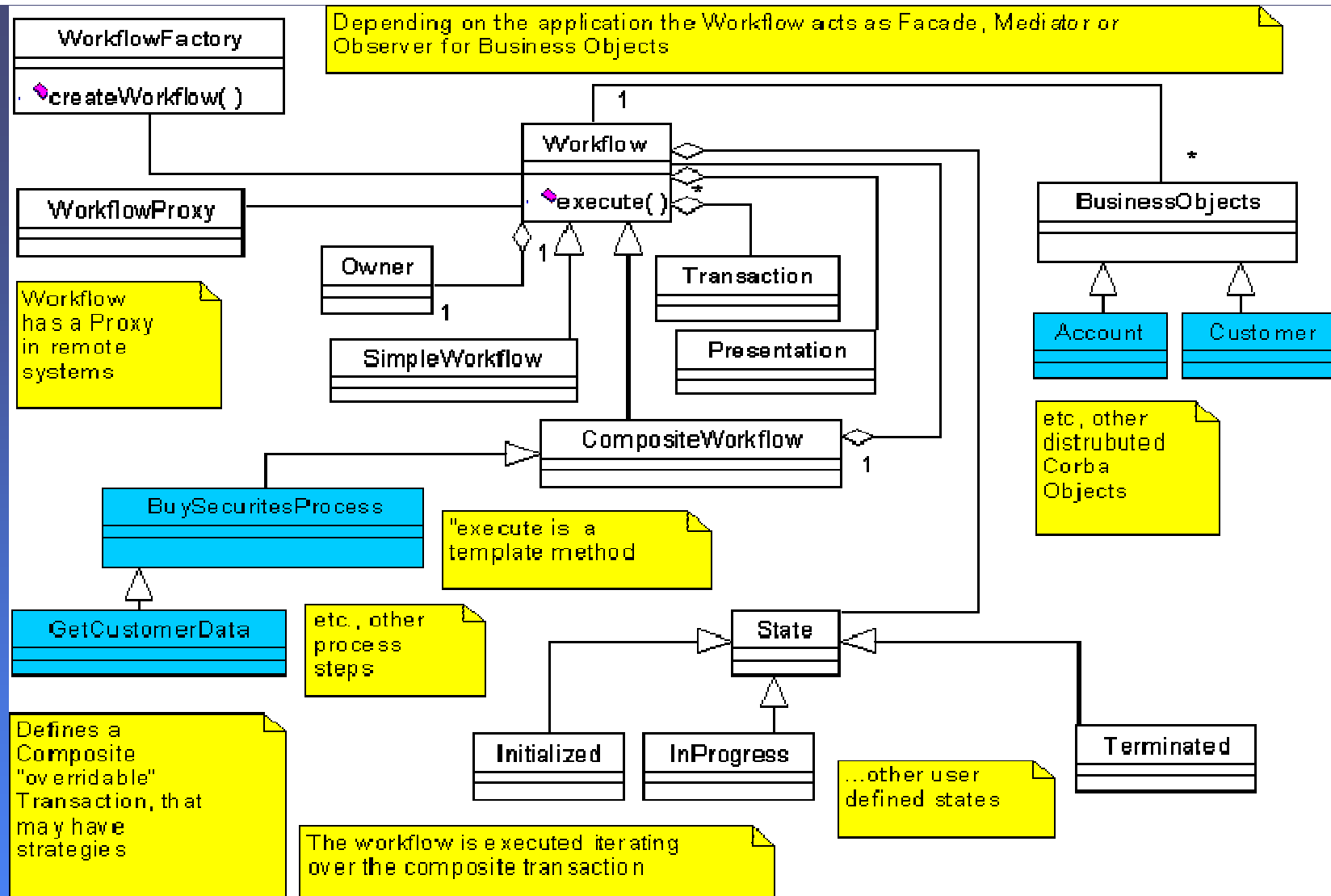
Asit Dan (IBM)'s Business Object for Network Centric Business Service Applications



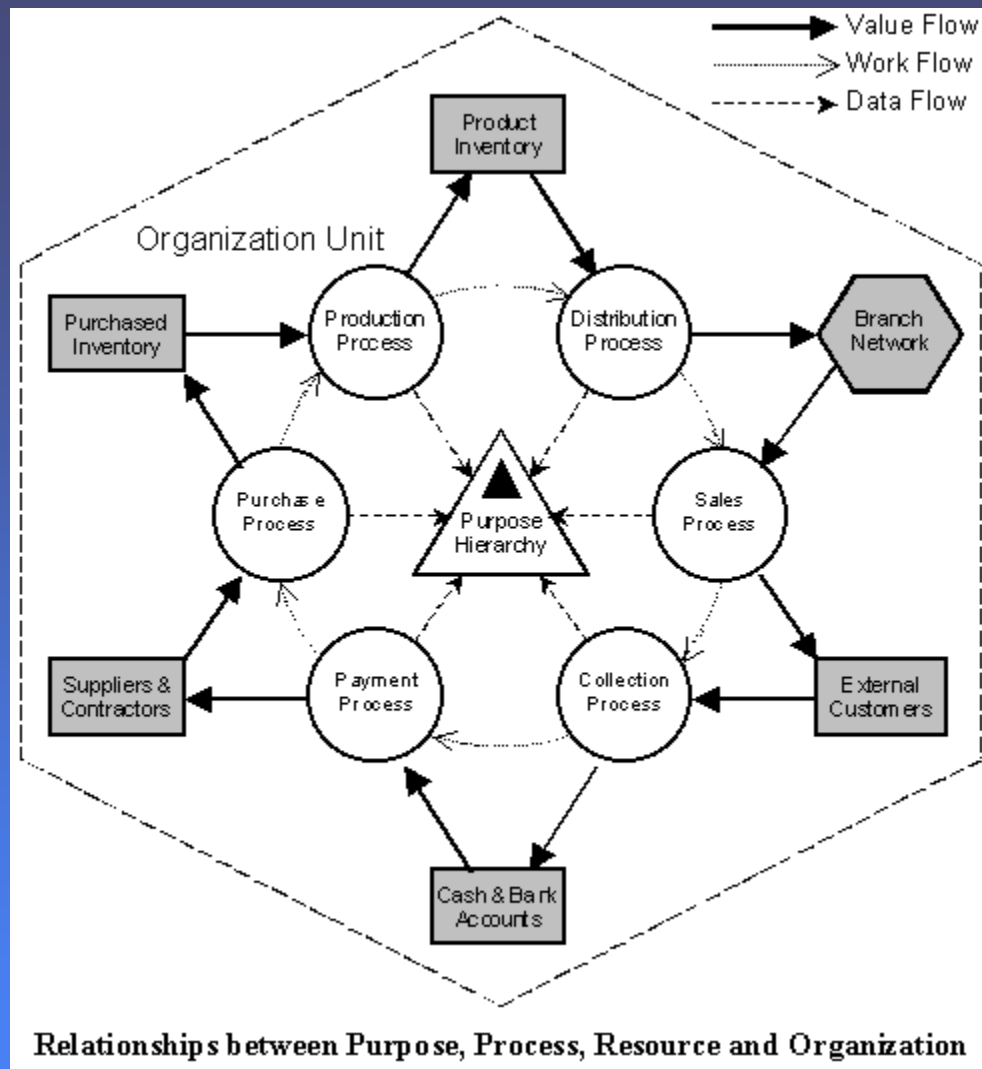
Islam Choudhury (South Bank University)'s Business Object for Reusable Domain Framework



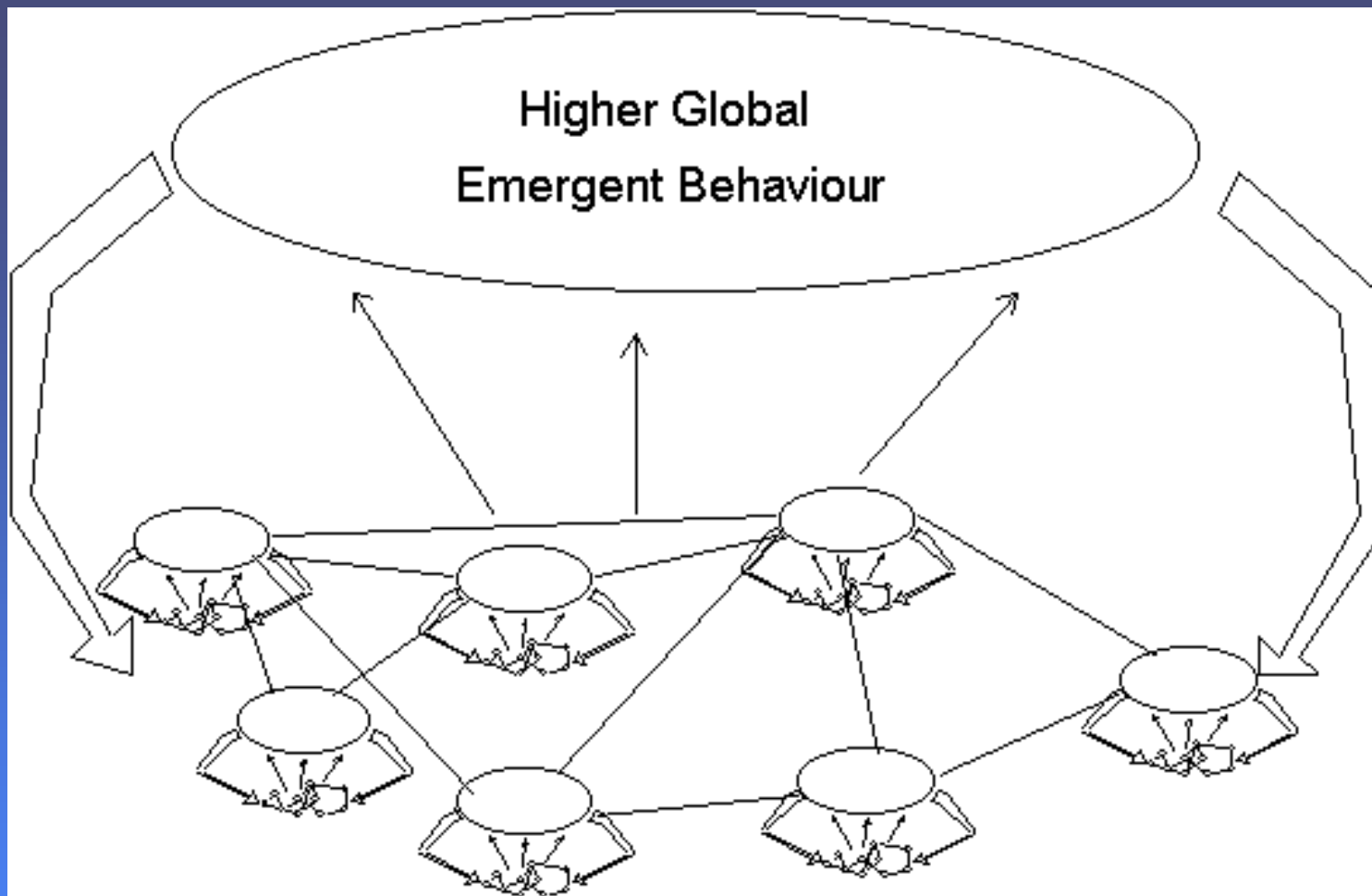
Robert Haugen (Interaccess)'s Business Object for Distributed Supply Chain Systems



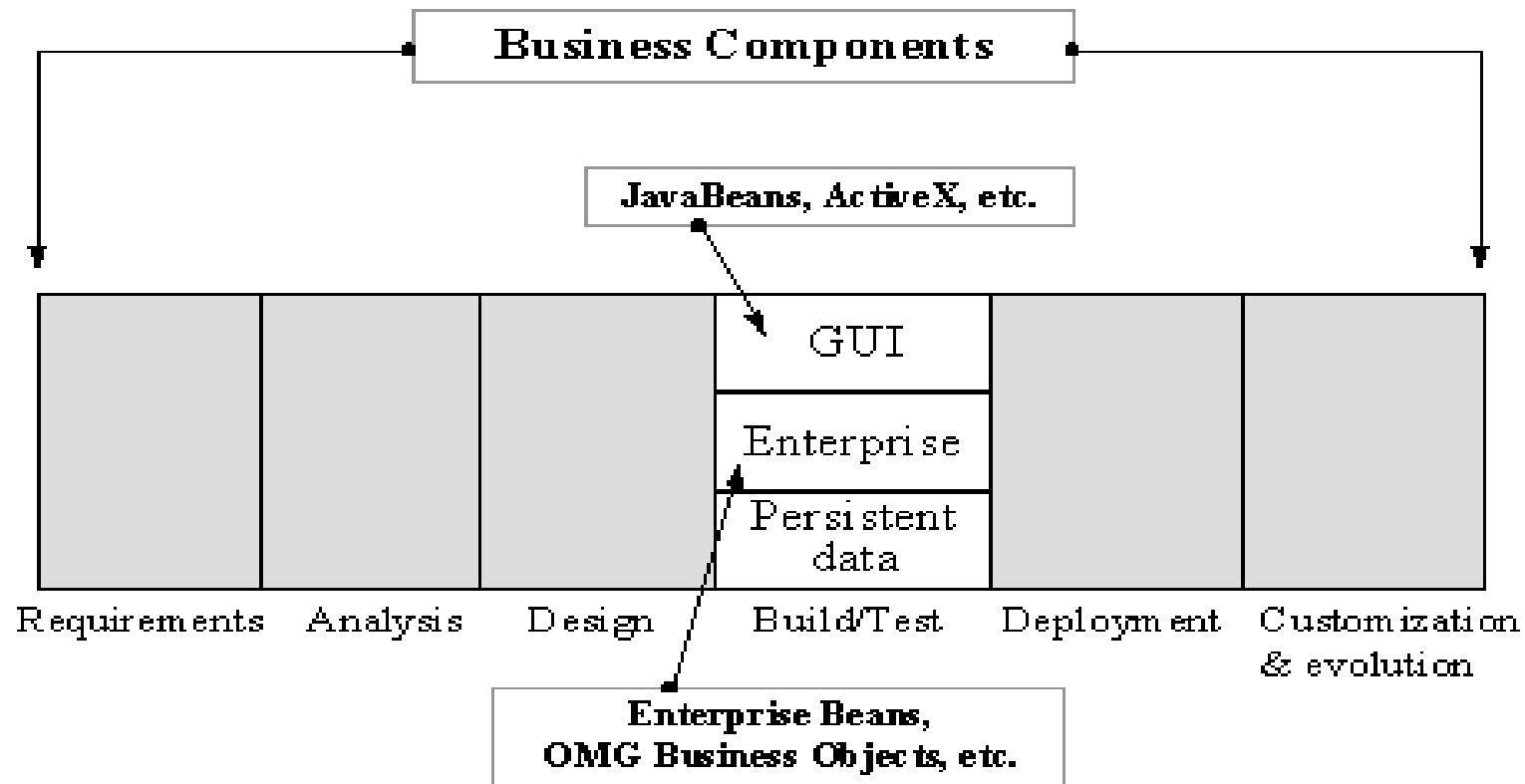
Michael Beedle (Framework Technology)'s Business Object for Workflow Management in BPR



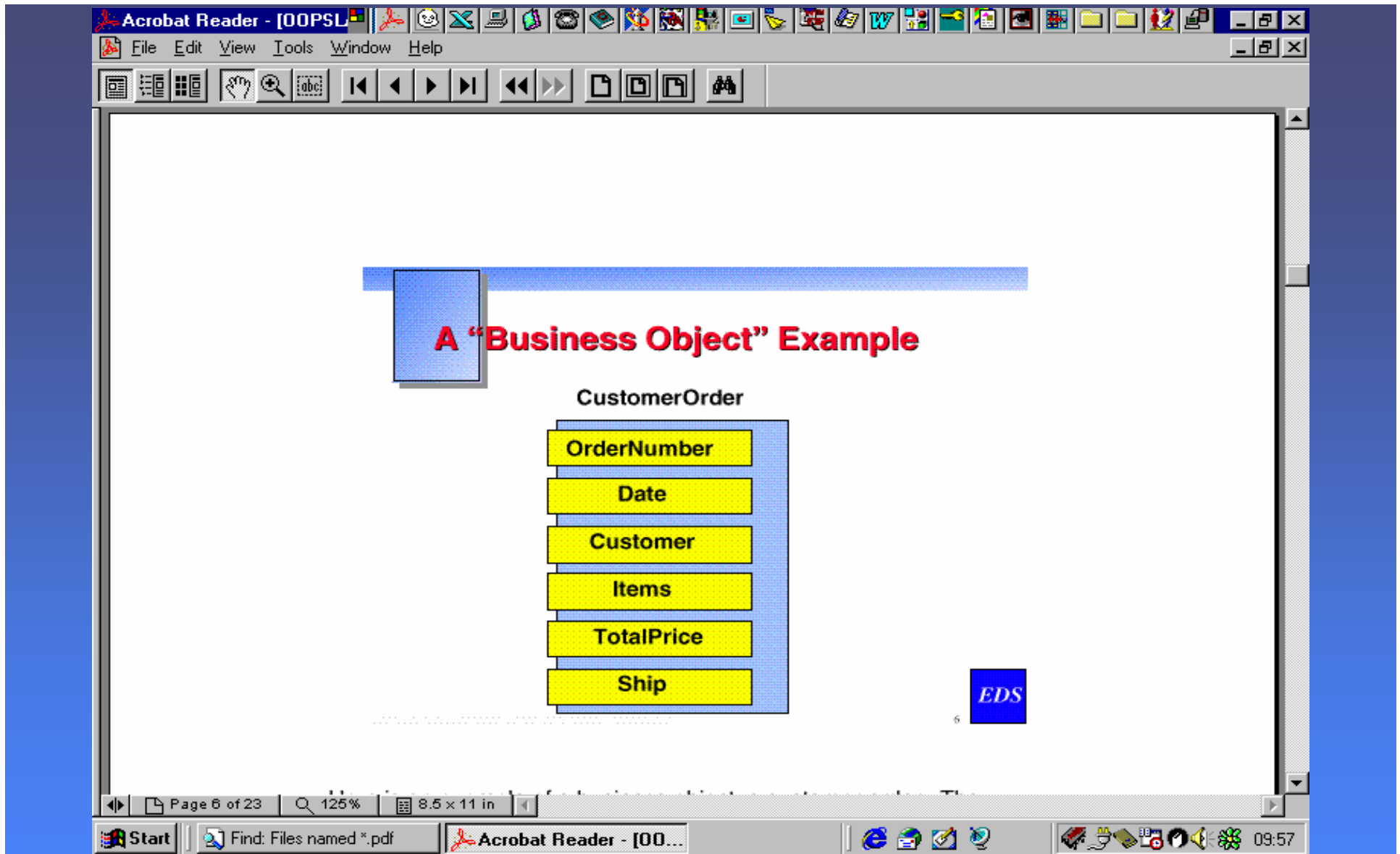
Chris Marshall (SESH)'s Business Object Management Architecture



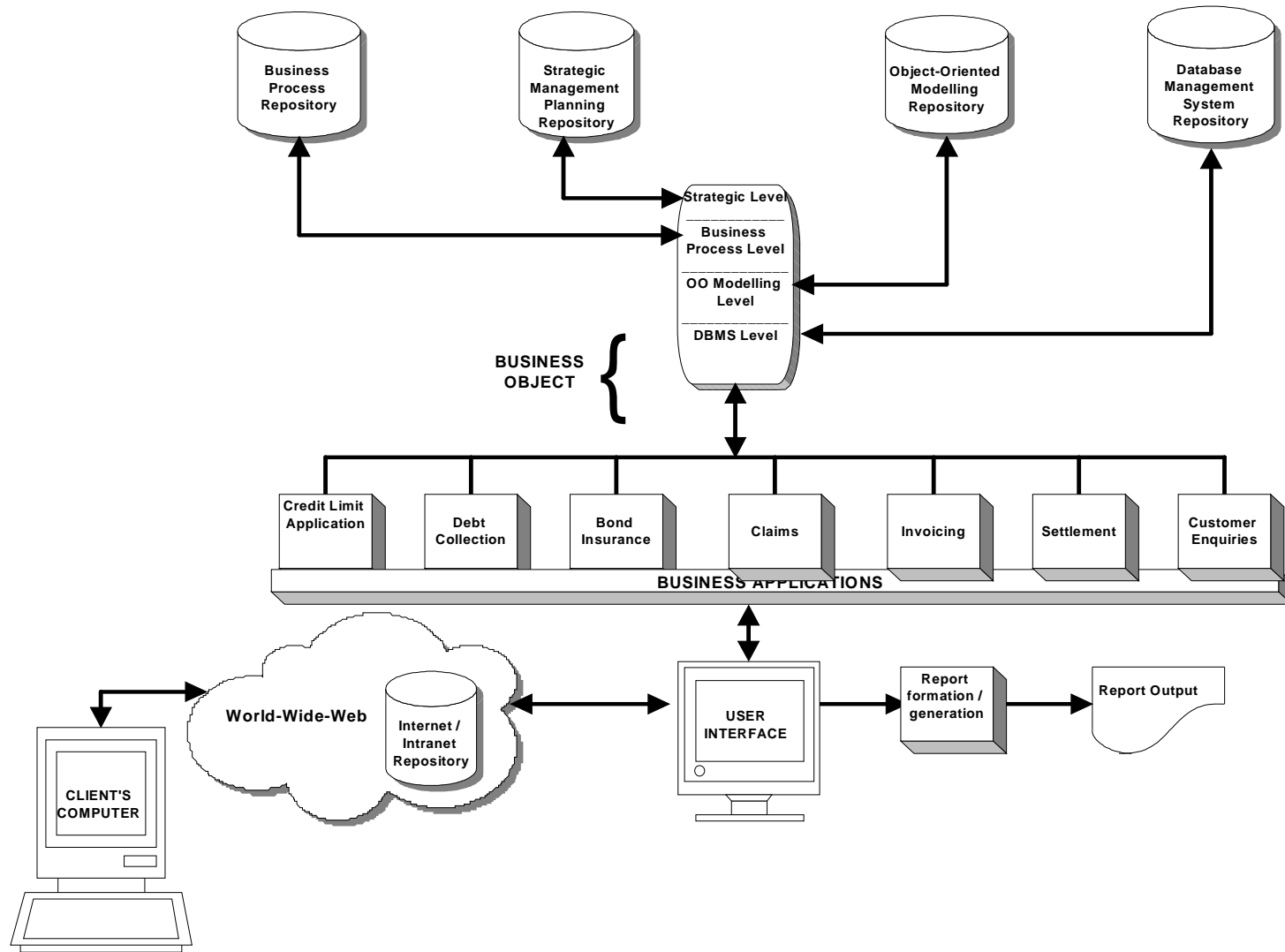
**Nigel Phillips (South Bank University)'s Business Object
adopting the concept of Complex Adaptive Systems**



Peter Herzum & Oliver Sims' Business Object Component Approach



Fred Cummins (EDS)'s Business Object Example



Kitty Hung's (the University of Sheffield) Business Object Architecture for Strategic Management Planning

Why Survey?

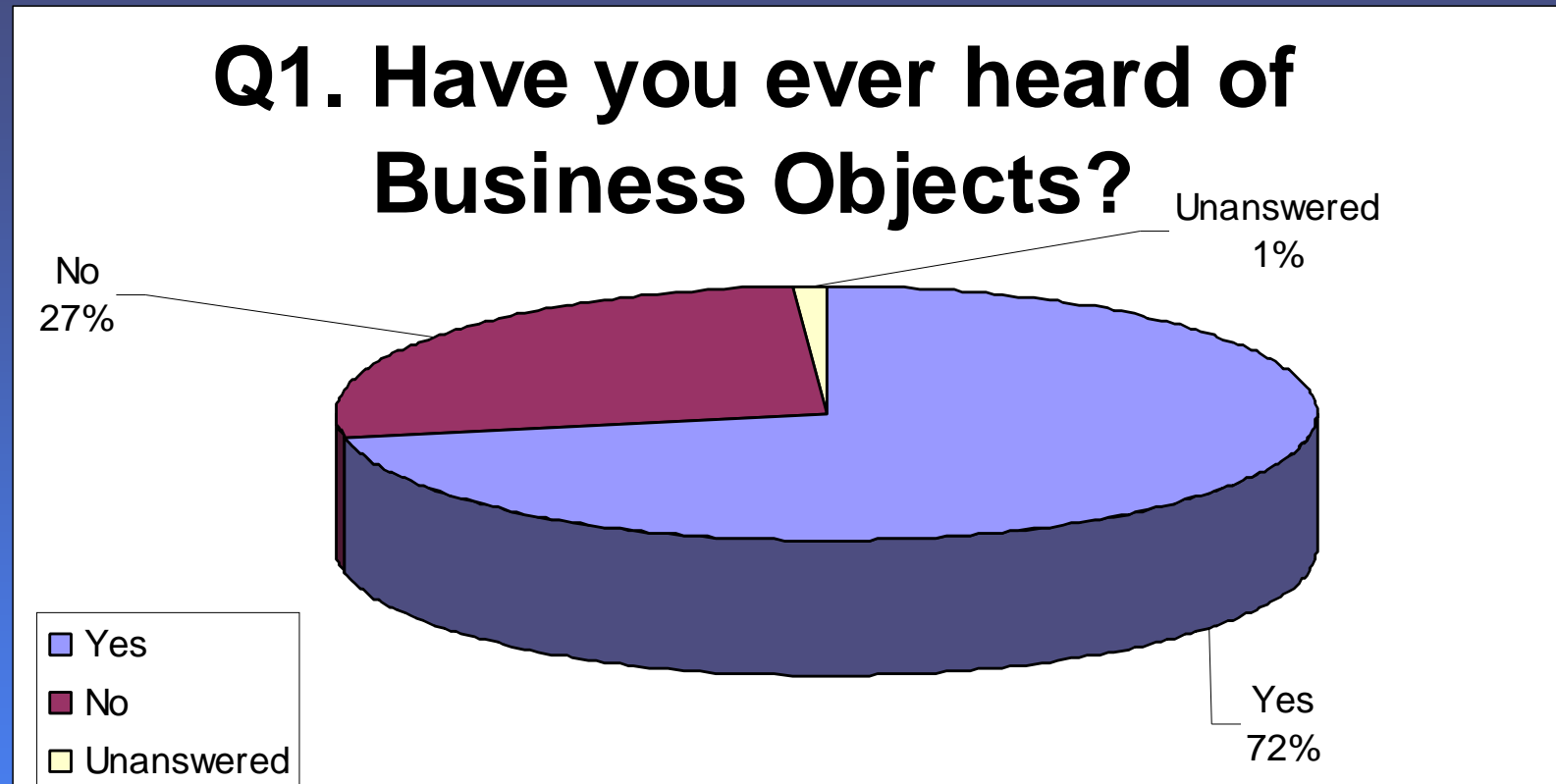
- Gather opinions from IT professionals and user communities on BO's:
 - value
 - recognition
 - status
 - usefulness
 - potential
 - future direction

Survey Method

- Survey held in OOPSLA'97 - Atlanta, USA
- Gartner Group's method
 - **subject matter**
 - **history of adoption**
 - **views & experiences**
 - **comments on future prospects**
 - **job title, company name, company turnover**
 - **contact details**
- 1,500 forms distributed
- 201 forms returned

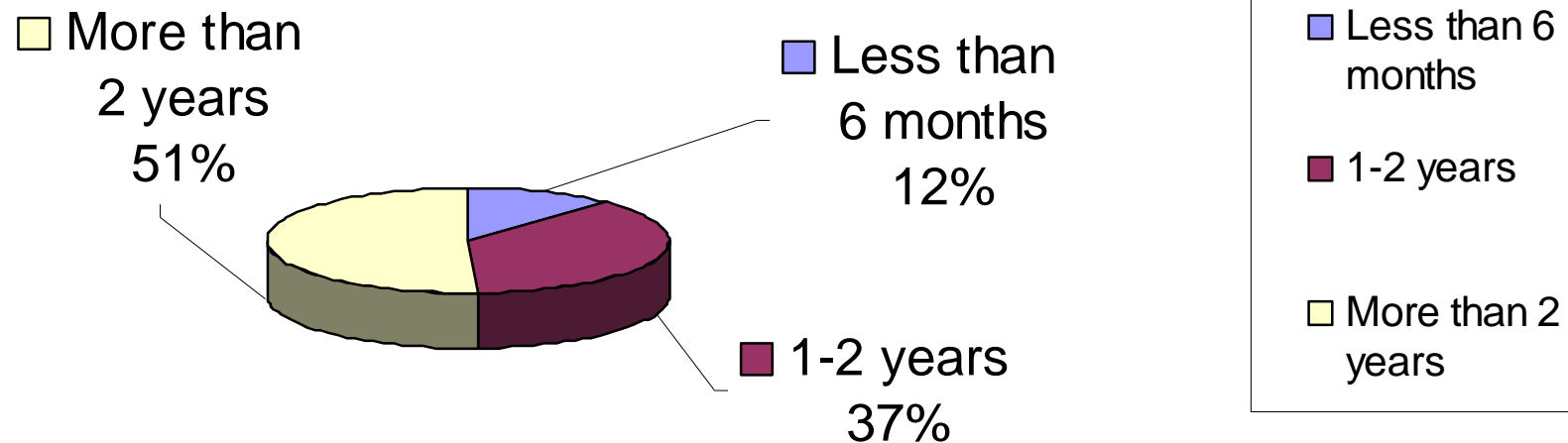
Survey Findings

Q1. Have you ever heard of Business Objects?



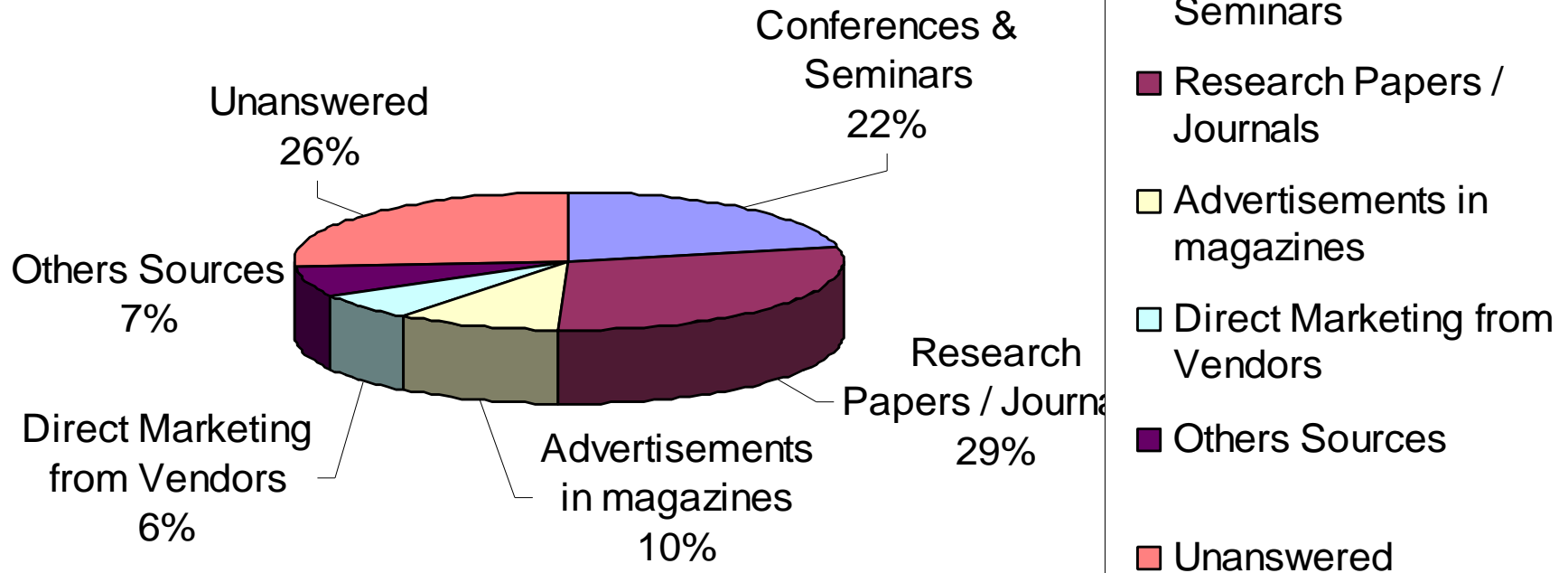
- Over 2/3 of respondents had heard of Business Objects

Q2. If your answer is yes in Q1, how long have you heard of Business Objects?



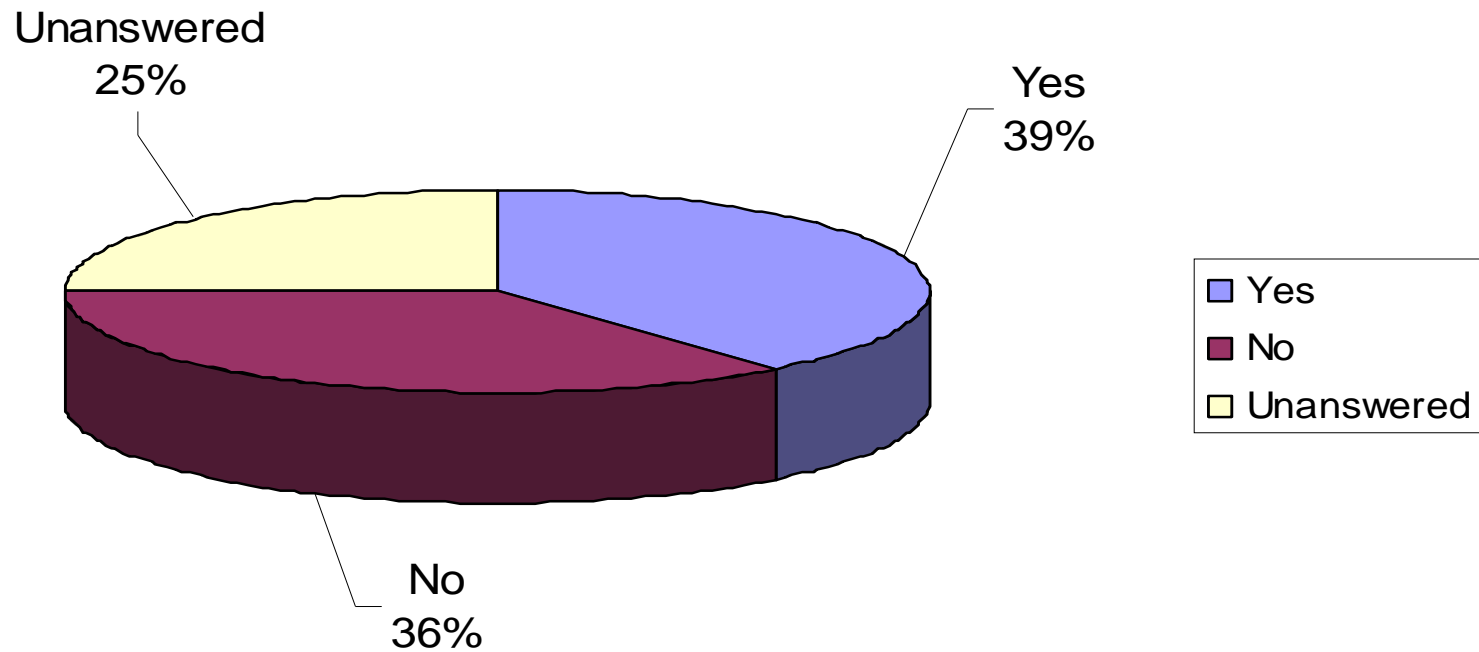
- The growth rate is falling (growth rate is slower than the average growth rate)

Q3. Where did you hear about Business Objects?



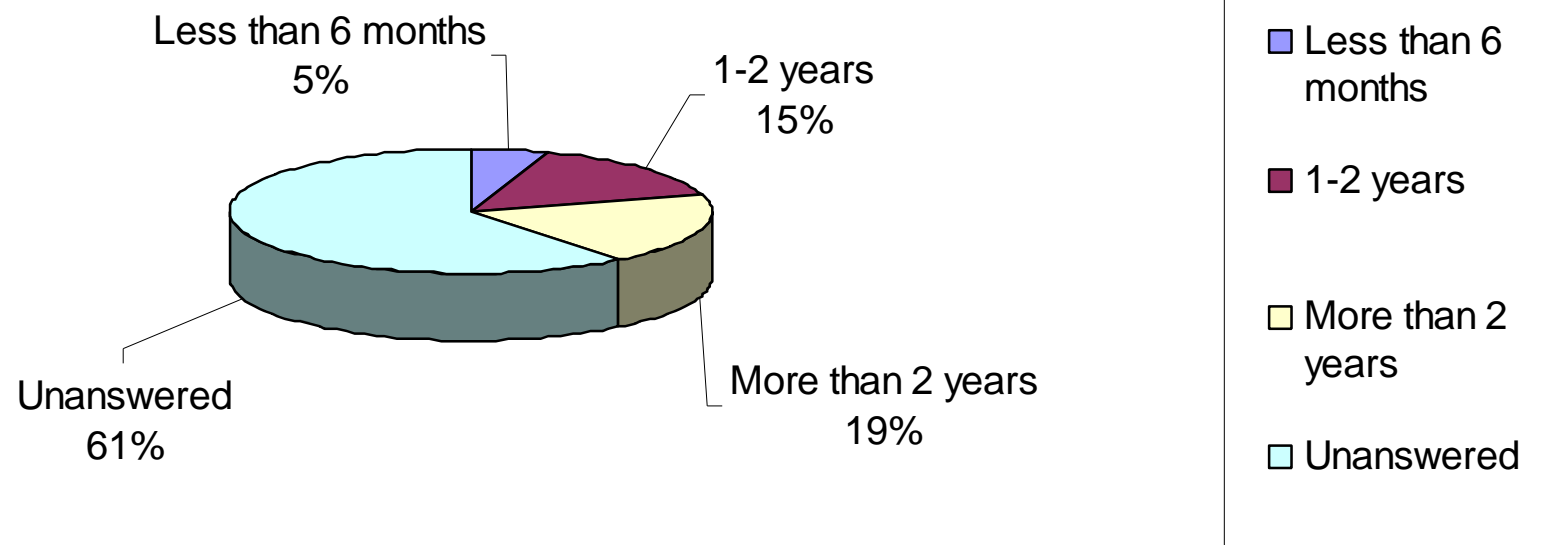
- Half of the resources came from Research Paper / Journal and Conferences / Seminars
- Academic driven, concept is still under research

Q4. Have you started using Business Objects in your organisation?



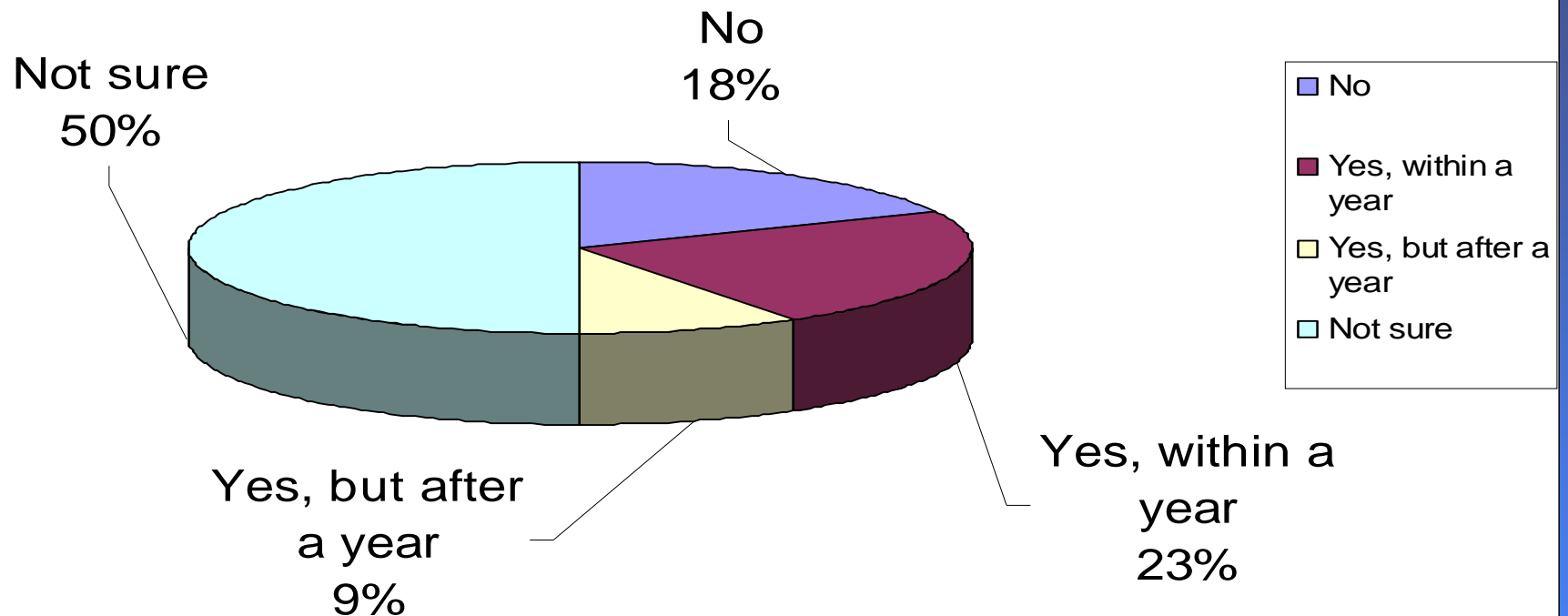
- Only 1/3 had started using Business Objects

Q5. If your answer to Q4 is yes, how long have you started using Business Objects?



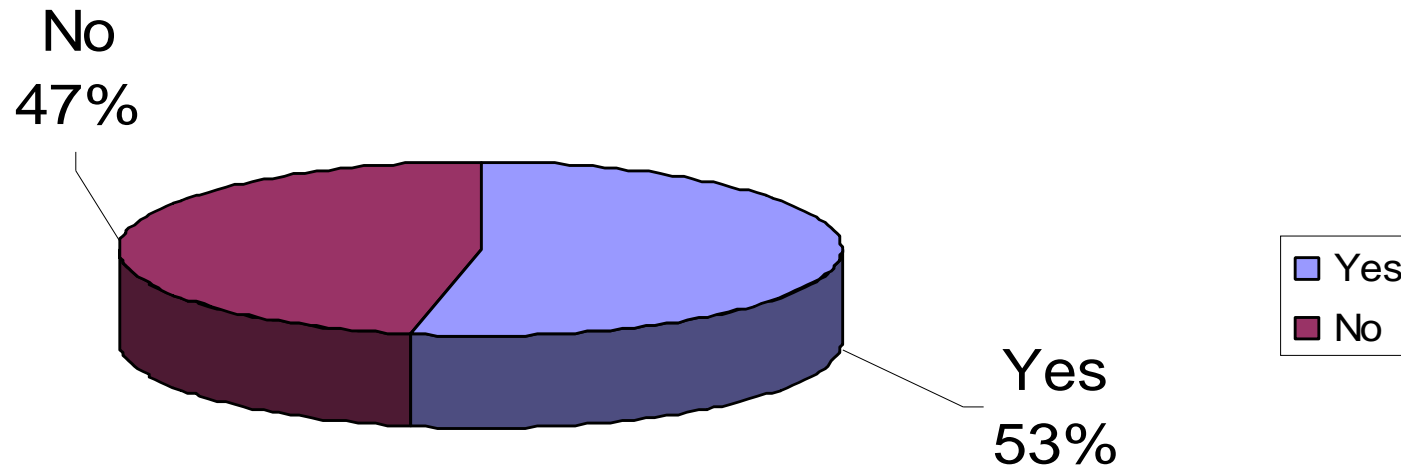
- Number of new adopters was falling
- Potential threat to future development

Q6. If your answer to Q4 is no, will you plan to use Business objects in the future?



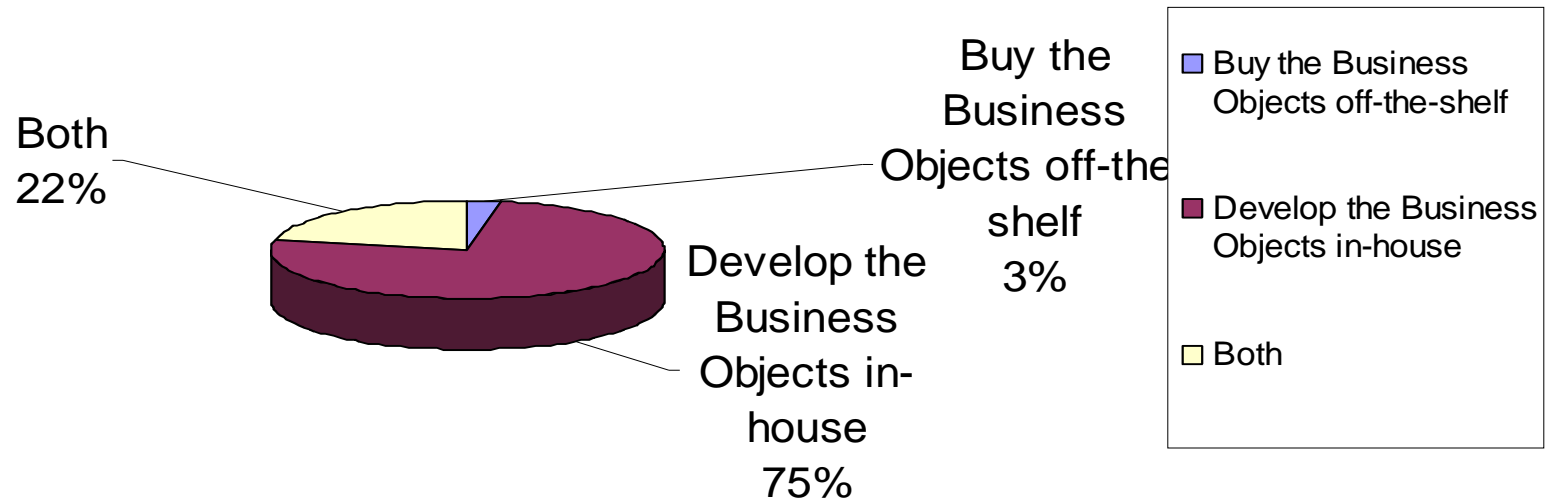
- Less than 1/3 had a definite plan to start using Business Objects

Q7. If you are currently using Business Objects, are you using any CASE tools to support?



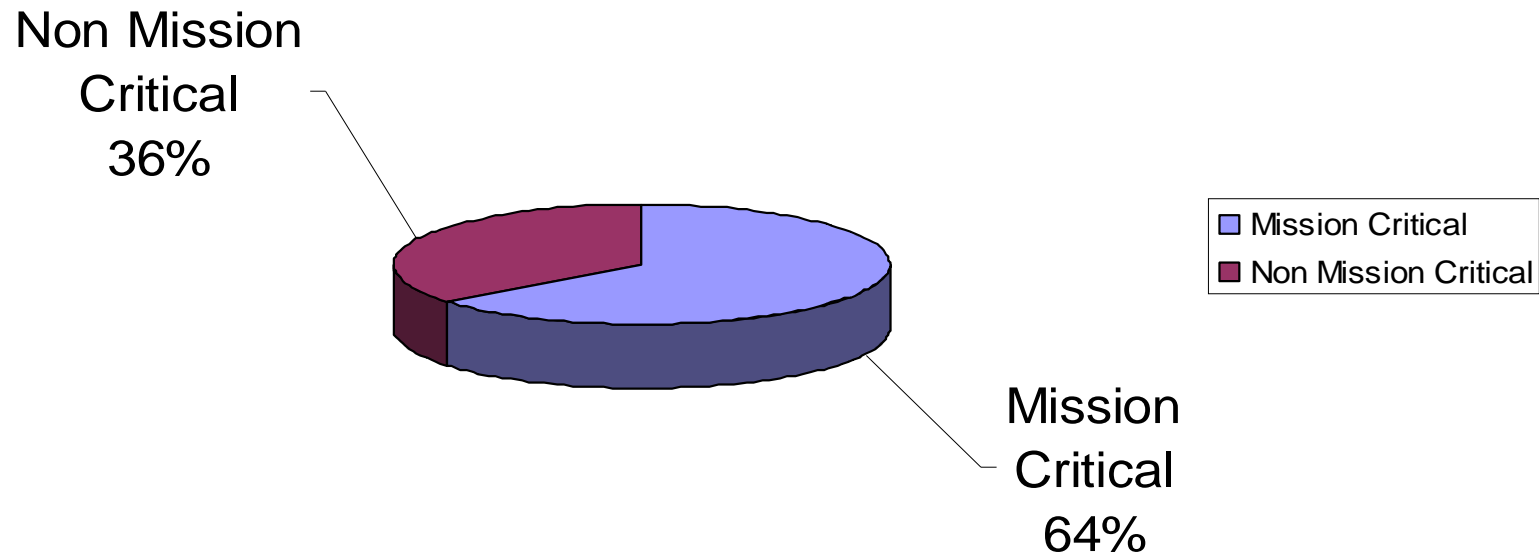
- Reliance on CASE tools due to complexity of Business Objects
- Expenses on purchase, consultancy and training have discouraged use of Business Objects
- Hard to justify return of investment

Q8. If you are already using Business Objects, did you:



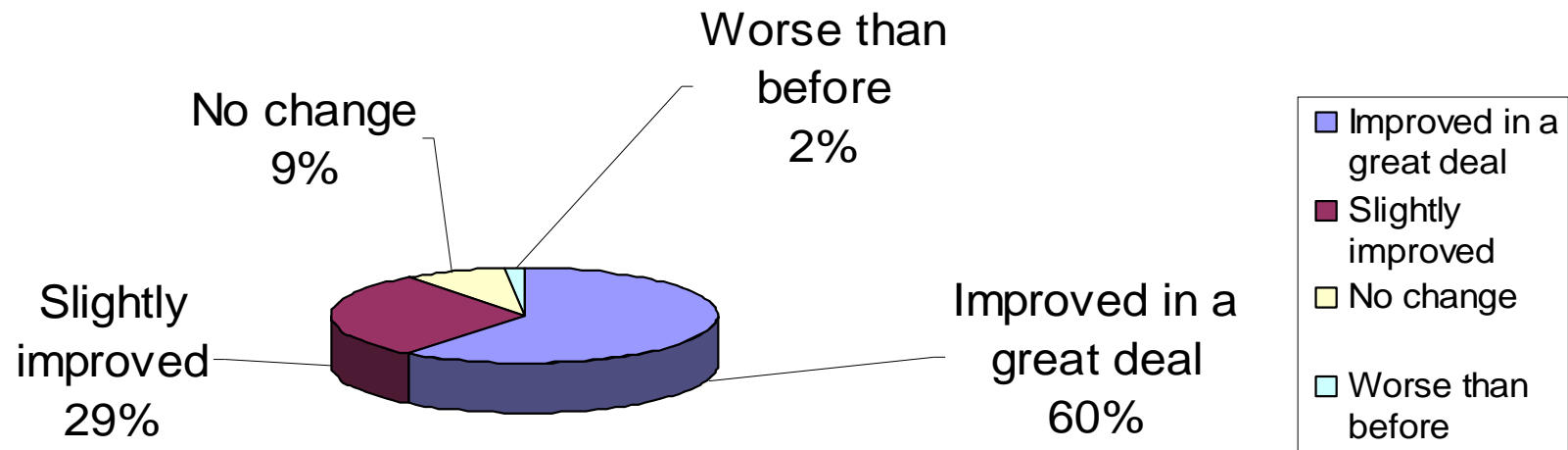
- Difficult to locate commercial packages
- Even available, too expensive
- ‘DIY’ Business Objects
- Different standards of BOs make it highly unlikely to integrate. Therefore, difficult to reuse

Q.9 What projects are you adopting Business Objects for?



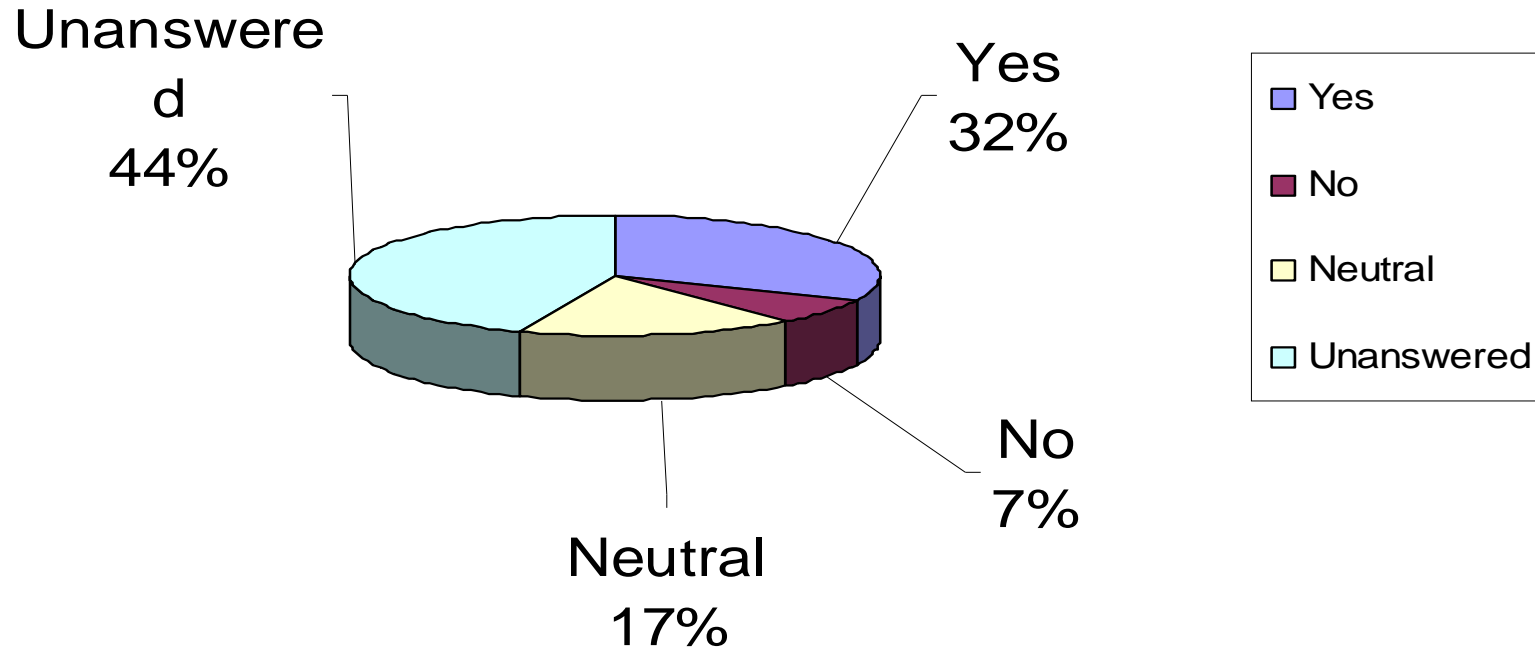
- Nearly 1/3 had confidence in using Business Objects in mission critical projects

Q.10 If you are using Business Objects in your projects, did you find your systems:



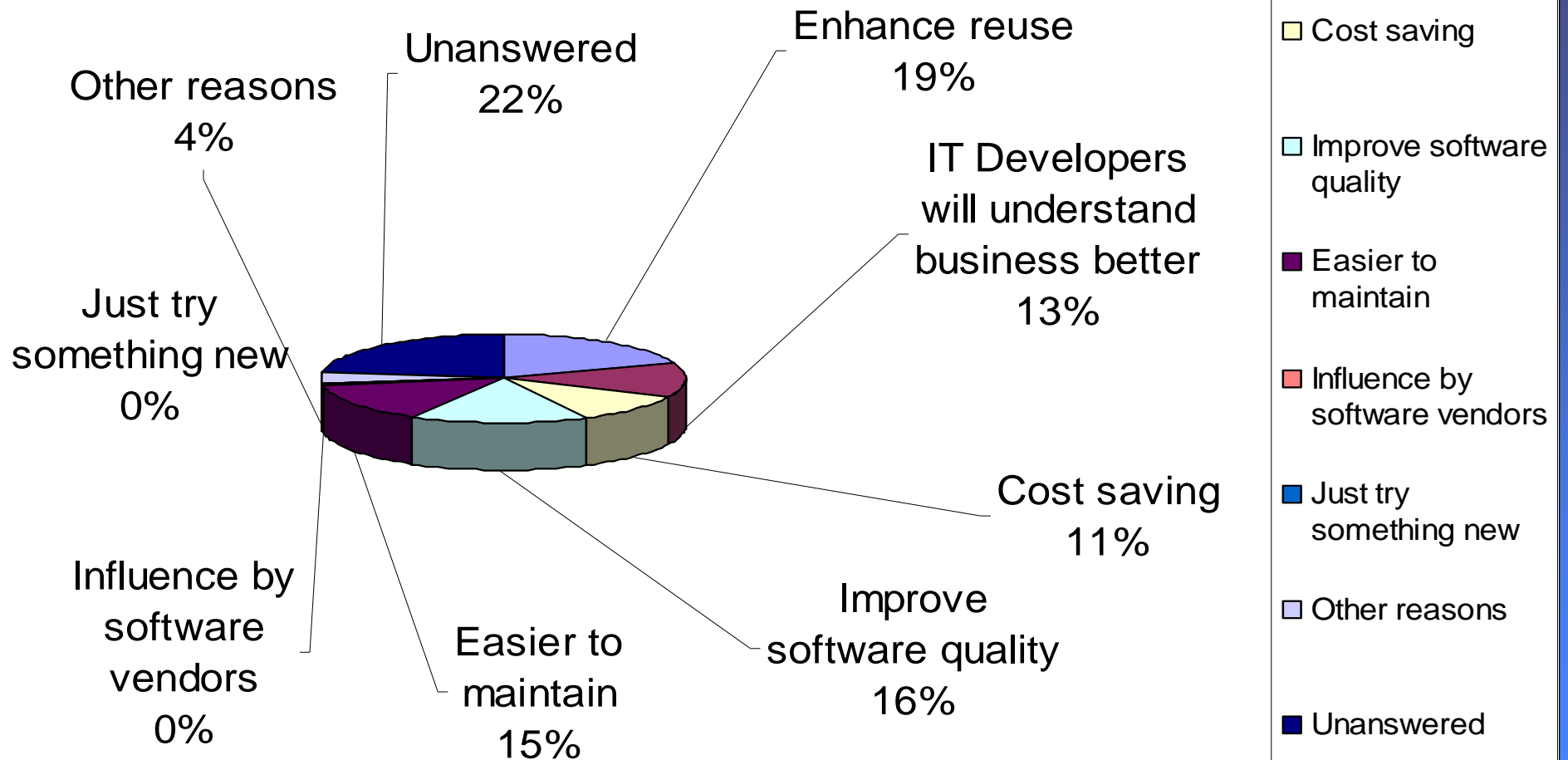
- Nearly 2/3 said the systems had improved a great deal
- Good potential

Q.11 Do you support the standardisation of Business Objects?



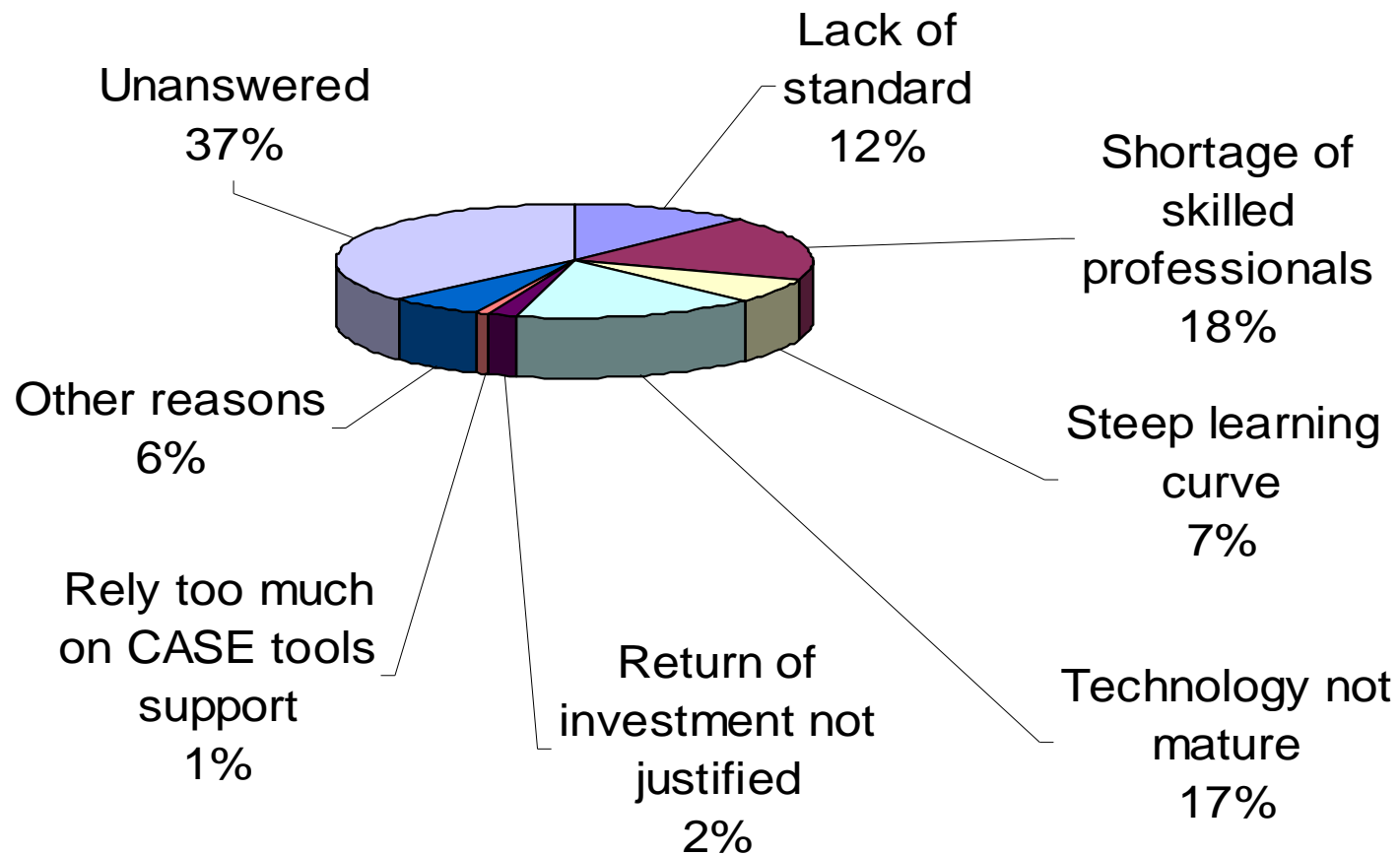
- Nearly 1/2 were not sure what the benefits would bring from standardisation
- Contrary to OMG's BODTF's goal of Business Object Standardisation

Q.12 What reasons make you adopt Business Objects?



- *“Increase direct participation of domain experts”*
- *“Greater capability”*
- *“Reduce development time”*
- *“Better design”*
- *“Convenient place to put information for display”*
- *“Currently developing corporate engineering application architecture for future”*
- *“Mental hygiene”*
- *“We sell them”*
- *“Business analysts understand software better”*
- *“Support enterprise-scale architectures”*
- *“Closer to real world mode”*
- *“COTS vendor products have Business Objects and Sales Objects”*
- *“Faster development”*
- *“Shorten learning curve”*
- *“Better interface”*

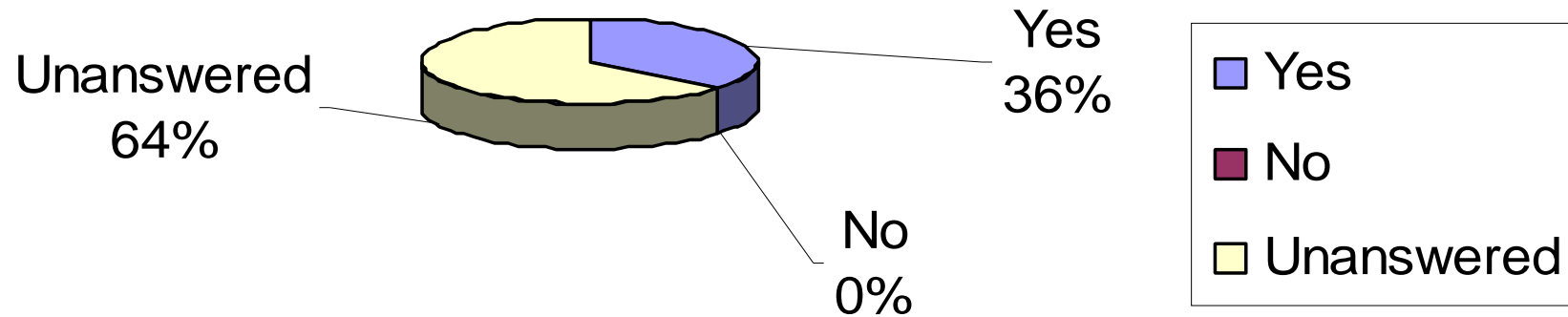
Q.13 What are the main obstacles you are facing in using Business Objects?



- Lack of standard
- Shortage of skilled professionals
- Steep learning curve
- Technology not mature
- Return of investment not justified
- Rely too much on CASE tools support
- Other reasons
- Unanswered

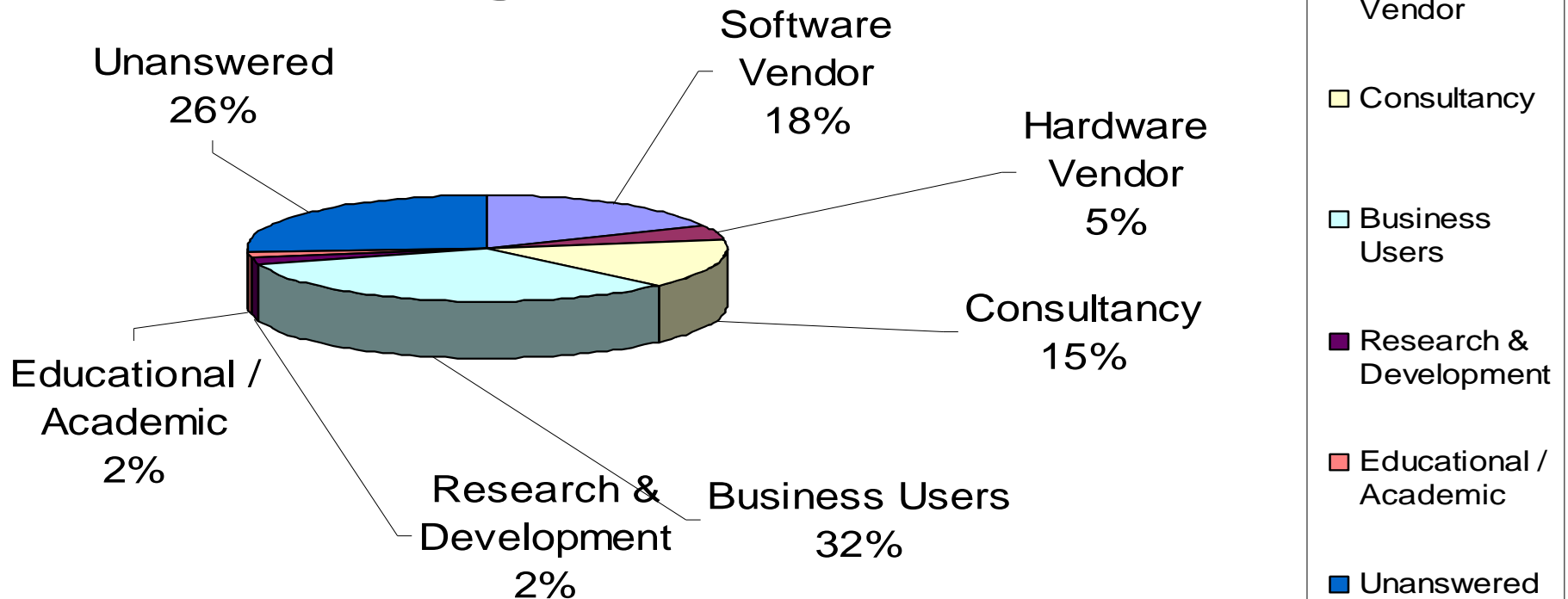
- *“Performance impact uncertainties”*
- *“Lack of funding”*
- *“Implementation to diverse systems”*
- *“Building & deploying quickly”*
- *“Management don’t understand”*
- *“Management ignorance”*
- *“Very hard to get business domain experts aware developers”*
- *“Management buy off”*
- *“Understanding real business needs / requirements”*
- *“Process methodology support vs. vendor COTS”*
- *“Business objects are not the natural way we do business and consequently IS is routine the business comments into a computer section”*
- *“Initially - steep learning curve, after learning it is shorter”*
- *“Skills level of the developers is varied”*

Q.14 If you are already using Business Objects, will you continue to use them in the future?



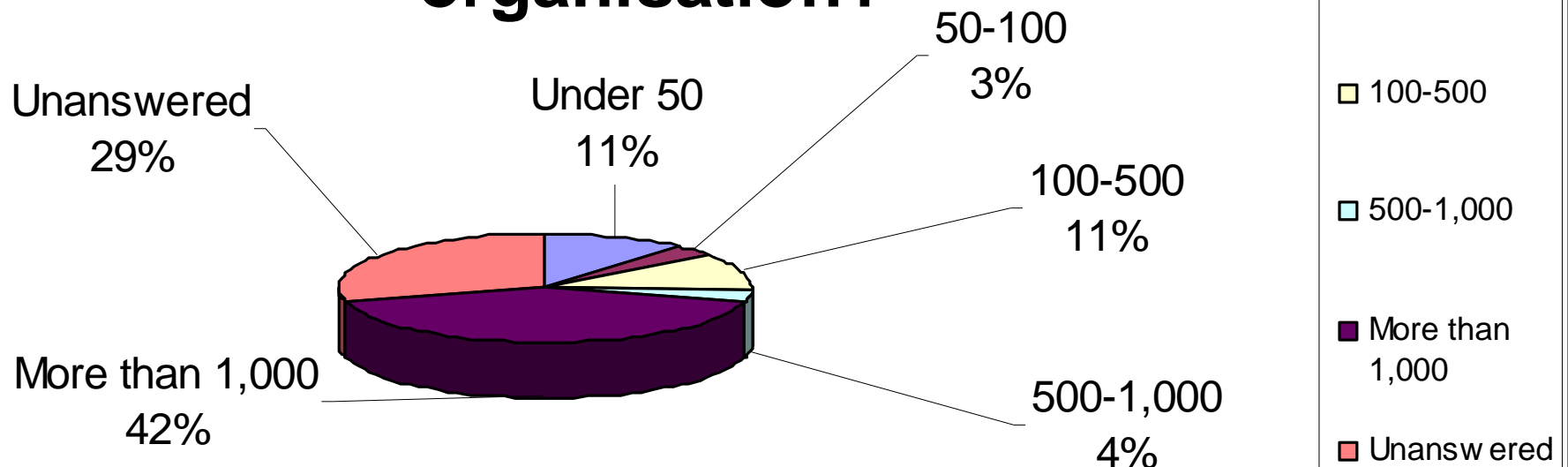
- Nearly 2/3 were still on “Trial-And-Test” stage
- Only 1/3 felt any degree of certainty
- But no one said they would discontinue

Q.15 What is the nature of your organisation?



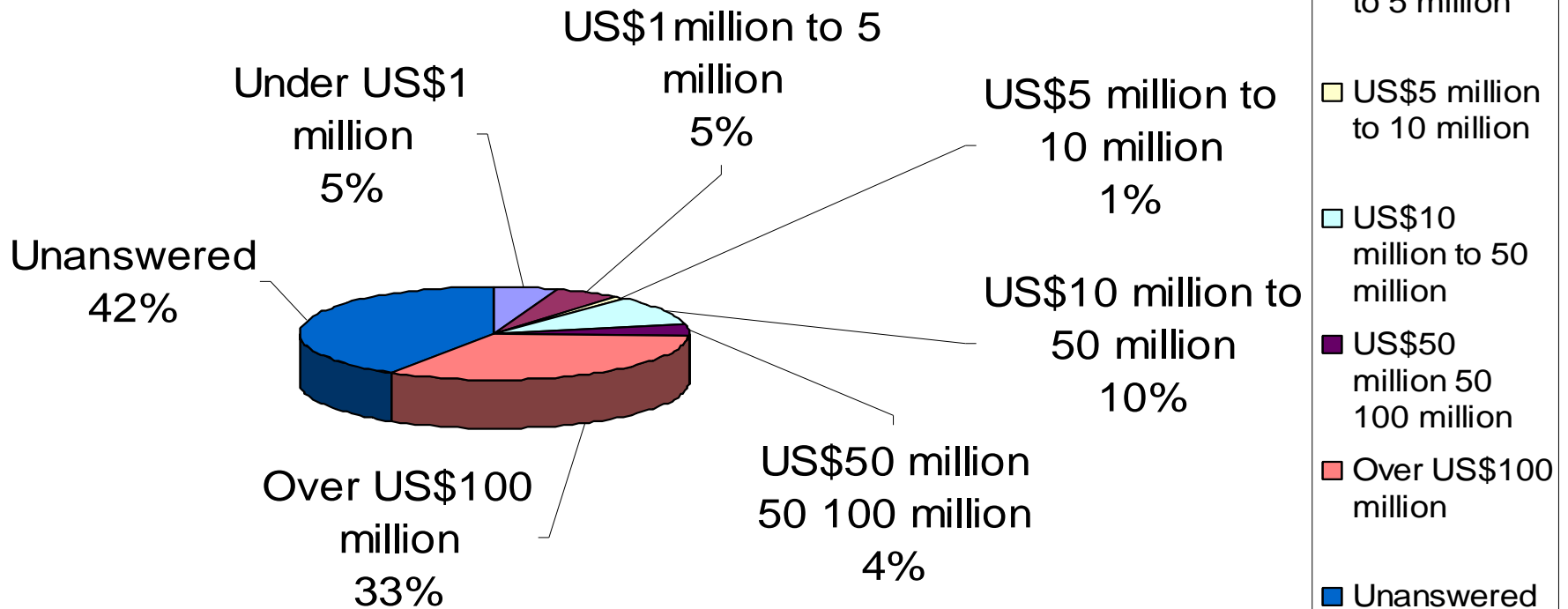
- 1/3 of respondents were business users
- Nearly 1/2 IT related

Q. 16 How many employees in your organisation?



- Nearly 1/2 were from big organisations with 1,000+ employees

Q. 17 What is your organisation's annual revenue?



- 1/3 companies with turnover over US\$100M
- Major industrial players
- Play influential role in the advancement of software technology

Evaluation

- **Potentials**

- **Business Object has the value and usefulness to become a widely adopted technology**
- **Most respondents believe that it can bridge the communication gap between the software developers and the business end users**
- **Software developed using Business Object will reflect better the real business concern thus is a way to improve quality of software**

- **Obstacles**

- **Definition is still vague**
- **Most respondents lack knowledge of business object and do not know how to use it**
- **Immaturity of the technology**
- **Shortage of skilled professionals**
- **Lack of industrial standards**

Conclusion & Further Survey

- 4 major elements need to be taken into consideration
 - *Consistency*
 - *Completeness*
 - *Modularization*
 - *Adaptation*
- Standardise definition and development process
- More research and development
- More training to combat skill shortage
- Further Survey in OOPSLA'98 to see how attitudes have changed over one year

Questions?

