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## Clarifying the Role of Worker Tenure & Composition on Organizational Knowledge

*A Research in Progress*

**Jeff Crawford, Ph.D., PMP**  
Assistant Professor of MIS  
Collins College of Business  
The University of Tulsa  
e-mail: [jeff-crawford@utulsa.edu](mailto:jeff-crawford@utulsa.edu)  
web: <http://jeff.themicrawfords.com/>

**Lori N.K. Leonard, Ph.D.**  
Collins Professor of MIS  
Collins College of Business  
The University of Tulsa  
e-mail: [lori.leonard@utulsa.edu](mailto:lori.leonard@utulsa.edu)

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Tulsa, OK

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## Agenda for Discussion

1. Problem Background
  - What’s the motivation for this study?
2. Study Details
  - Focus on worker tenure and composition
  - Description of the organization being examined
3. Discussion of worker tenure
4. Discussion of worker composition
5. Study implications

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## Our Motivation for this Study

1. How does IT matter to an organization? IT research suggests the following:
 

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graph LR
    subgraph IT_Comp [IT Competence]
        IT_Inf[IT Infrastructure]
    end
    subgraph IT_Biz_Rel [IT-Business Relationships]
        IBR[IT-Business Relationships]
    end
    subgraph IT_Biz_K [IT-Business Knowledge]
        IBK[IT-Business Knowledge]
    end
    subgraph DC [Dynamic Capability]
        DC[Dynamic Capability]
    end
    subgraph CA [Competitive Actions]
        CA[Competitive Actions]
    end
    subgraph FP [Firm Performance]
        FP[Firm Performance]
    end
    IT_Inf <--> IBR
    IBR --> IBK
    IBK --> DC
    DC --> CA
    CA --> FP
      
```
2. **Our concern:** what about the role of the worker in this model?
  - a) IT workers have skills that are fairly mobile
  - b) Organizations often utilize contract workers for IT functions
  - c) Organizations must deal with IT worker attrition over time (retirement, mergers and acquisitions, layoffs, firings, etc.)

***IT Competence = f(IT artifact, IT human resource)***

1. Problem Background    2. Study Details    3. Worker Tenure    4. Worker Composition    5. Implications

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### Considering Worker Tenure and Composition

1. How do variations in IT **worker tenure** impact an organization's IT competence over time?
2. How do variations in IT **worker composition** (employee / contract) impact an organization's IT competence over time?

**Our approach:**  
*The impact of worker tenure and composition on IT competence should be examined through their impact on knowledge retention / loss*

1. Problem Background   2. Study Details   3. Worker Tenure   4. Worker Composition   5. Implications

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### What is Organizational Knowledge?

Two dimensions as proposed by Nonaka (1994)

1. Knowledge Type
  - Knowledge that is transmittable in formal, systematic language
  - Explicit (codified) Knowledge
  - Implicit (tacit) Knowledge
  - Knowledge that is difficult to verbalize and transfer ("sticky")
2. Knowledge Location
  - Individual
  - Group
  - Organizational
  - Inter-organizational

1. Problem Background   2. Study Details   3. Worker Tenure   4. Worker Composition   5. Implications

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### Description of Organization Under Examination

Data came from the software development group in one organization (assets > \$9B, net income > \$200M)

- a) IT plays a supporting role in the org. (process improvement, etc.) and is not the industry in which the org. operates
- b) The software development group is well respected and heavily utilized within the organization
- c) Daily time tracking information was entered by all software development employees (job requirement)

1. Problem Background   2. Study Details   3. Worker Tenure   4. Worker Composition   5. Implications

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### Issue #1: Worker Tenure

Given the reality of worker turnover:

- What are potential positive organizational outcomes?
- What are potential negative organizational outcomes?
- What are potential implications on the development and retention of business knowledge over time?

1. Problem Background 2. Study Details 3. Worker Tenure 4. Worker Composition 5. Implications

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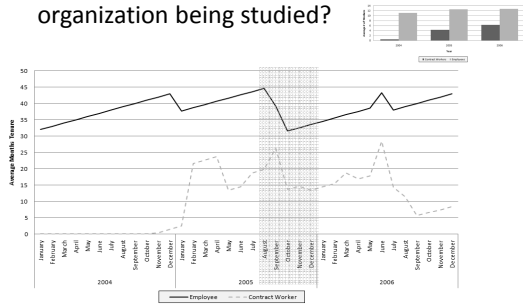
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### Issue #1: Worker Tenure

What did worker tenure look like in the organization being studied?



1. Problem Background 2. Study Details 3. Worker Tenure 4. Worker Composition 5. Implications

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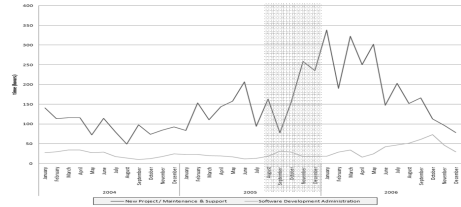
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### Issue #1: Worker Tenure

Examination of *meeting time*



- Turnover (starting in August, 2005) seems to have introduced a coalescing effect within the group (potentially positive implications for the development of tacit business knowledge)

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### Issue #1: Worker Tenure

Examination of the *ratio of new project time versus maintenance & support time*

Year	Ratio (%)
2001	68
2002	78
2003	70
2004	72
2005	75
2006	68

- Turnover seems to have reduced the proportion of time spent on new project work (potentially positive implications for existing explicit knowledge)

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### Issue #1: Worker Tenure

Examination of *business-generated project requests*

Year	Requests
2001	5.0
2002	2.0
2003	2.5
2004	2.0
2005	6.0
2006	2.0

*Note the comparatively small increases in requests at end of year, 2005*

- Turnover seems to have reduced some interaction between business and IT (potentially negative implications for business-IT relationships)

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### Issue #1: Worker Tenure

What this suggests about the potential impact of changes in worker tenure on org. knowledge:

- In the short-term
  - Turnover can have positive immediate impacts on the transfer of tacit knowledge within a group
  - Turnover can also have positive immediate impacts on the development of explicit knowledge within a group
- In the long-term
  - Turnover can have negative impacts on IT-business relationships within the organization
    - A concern because this could hamper future knowledge development

1. Problem Background    2. Study Details    3. Worker Tenure    4. Worker Composition    5. Implications

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### Issue #2: Worker Composition

In light of changes in worker composition (mix of employees and contract workers):

- What are potential positive organizational outcomes?
- What are potential negative organizational outcomes?
- What are potential implications on the development and retention of business knowledge over time?

1. Problem Background   2. Study Details   3. Worker Tenure   **4. Worker Composition**   5. Implications

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### Issue #2: Worker Composition

What did worker composition look like in the organization being studied?

Year	Contract Workers	Employees
2004	~1	~11
2005	~4	~13
2006	~6	~13

1. Problem Background   2. Study Details   3. Worker Tenure   **4. Worker Composition**   5. Implications

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### Issue #2: Worker Composition

Examination of *employee time spent on two types of work*

1. Problem Background   2. Study Details   3. Worker Tenure   **4. Worker Composition**   5. Implications

- A greater reliance on contract workers seems to have changed the focus of employees within the group (potentially positive implications for *existing* business knowledge)

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### Issue #2: Worker Composition

Examination of **employee time spent on maintenance & support work compared against contract worker time spent on new project work**

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- A greater reliance on contract workers for new project work suggests new business knowledge is more distant from employees (potentially negative immediate implications for **new** business knowledge)

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### Issue #2: Worker Composition

What this suggests about the impact of worker composition on organizational knowledge:

- In the short-term
  - Relying more heavily on contract workers can enable existing employees to accentuate existing knowledge
  - This can potentially distance employees from knowledge being generated for new projects
- In the long-term
  - If new tacit knowledge exists in increasing measures within the contract worker base, how can the organization ensure that it is successfully transferred to employees?

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### Implications on Organizational Knowledge

The natural effects of worker turnover:

- encourages the transfer of tacit knowledge and the development of explicit knowledge within a group
- potentially hampers relationships with the business, which can impact future knowledge development

What you should do to counteract natural effects:

- enable and support group socialization during and after the transition process
- ensure that business relationships are nurtured (and not neglected) during significant changes in worker tenure

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### Implications on Organizational Knowledge

The natural effects of a deeper reliance on contract workers:

- growth of employee knowledge about existing business processes
- increased likelihood of employee separation from new knowledge (problem for tacit knowledge transfer)

What you should do to counteract natural effects:

- leverage, but don't overdo, employee involvement in existing processes
- involve key employees in all stages of new project initiatives specifically for the purposes of knowledge transfer

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### Questions or Comments?

**Jeff Crawford, Ph.D.**  
Assistant Professor of MIS  
Collins College of Business  
The University of Tulsa  
e-mail: [jeff-crawford@utulsa.edu](mailto:jeff-crawford@utulsa.edu)  
web: <http://jeff.themcrawfords.com/>

**Lori N.K. Leonard, Ph.D.**  
Collins Professor of MIS  
Collins College of Business  
The University of Tulsa  
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