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# Knowledge Power Measurements & Implications within C2 Organizations

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- Military power
  - One mil org imposes will on another
  - Power *of* a mil org
  - What about power *within* a mil org?
  - Aside from obvious rank structure (legitimate)
- Organization power (within org)
  - How does this relate to C2?
  - What dynamic effects are important?
  - What role does knowledge play (expert)?



# Key Background

Prior Research	Linked Ideas
Alberts & Hayes, 2003	Military and other organizations can choose from a variety of C2 organizations or approaches.
Hazy & Uhl-Bien, 2013	Modern complex organizations divest decision making from a centralized leader to a competent functional expert.
Alberts, 2007	Edge C2 contrasts with traditional hierarchy, opening up Approach Space dimensions, relying instead upon agility, focus and convergence.
Alberts & Nissen, 2009	Rosetta Stone: Approach Space to interrelate conceptually and visualize graphically a variety of C2 approaches and organization archetypes.
Smith et al., 2017; Polanyi, 1967	Tension between knowing & articulating what is known. Link to tacit & explicit knowledge & how it affects organization power.
French & Raven, 1959	Five bases of social power. Emphasis on legitimate base through hierarchy in the C2 & organization power literatures.
Lawrence et al., 2012	Organization power is embedded often in explicit knowledge. Juxtapose with tacit knowledge and episodic power.
Blackler, 2011	Linkage between knowledge and power can shift. Power can be situational, contextual & ephemeral.
Nonaka, 1994; Nissen, 2006b; Drucker, 1995; Nissen, 2014	Organization knowledge enables action. Action drives performance. Performance supports competitive advantage.
Nissen, 2006a	Knowledge represents a multifaceted concept. Knowledge must flow rapidly and powerfully through the organization.
Marabelli & Galliers, 2017	Hierarchical power can result in collaboration & institutionalization of joint decision making. Result centers on how power is wielded.
Jaspersen et al., 2002; Heizmann, 2011	Wielding of power viewed via organization politics. Power is negotiated over time and across context. Power shifts dynamically.
Orr, 1990; 1996; Contu & Willmott, 2003	Legitimate power can center on explicit knowledge. Expert power can center on tacit knowledge. Power & knowledge bases in tension.
Bolman & Deal, 2003	Legitimate and expert power can be in conflict. “Winning” a power struggle can lead to disaster.
Bunderson & Reagans, 2011	Personal & collective modes of wielding power. Different modes can affect learning—and hence knowledge, action & performance.



- Choose C2 approach & org (Hierarchy, Edge)
  - Matter of fit. OMT linkage. Agile C2 → OD.
- Bases of org power (Legitimate, Expert)
  - Explicit & tacit K. Episodic. Tension.
- $K \rightarrow A \rightarrow P \rightarrow CA$ 
  - Power is knowledge based. Situated. Dynamic.
- Org power is wielded (Collective, Personal)
  - Affects learning, knowledge, action, performance
- Leaders can decide & choose

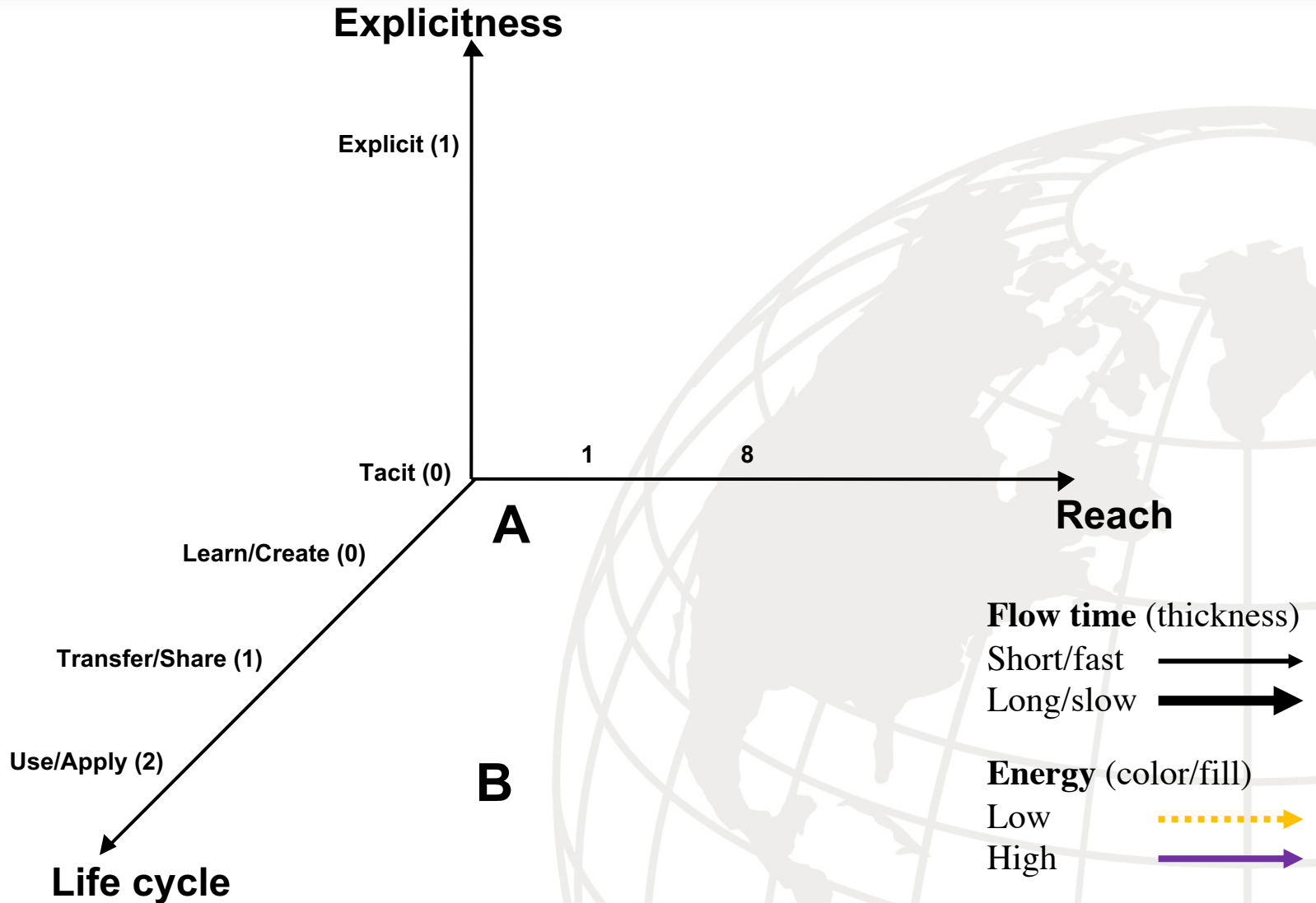




- Build upon Knowledge Flow Theory (KFT)
  - Dynamic knowledge viz & measurement
  - Measure & understand *knowledge power*
- Extend to consider how org power is wielded
  - Collective (C) vs. Personal (P)
  - Affects risk taking & experimentation (learning)
- Discuss in context of infantry company
  - Squad Leader knowledge sharing: patrol
  - Shared SA/XP → company route planning
  - Change company commander: C → P

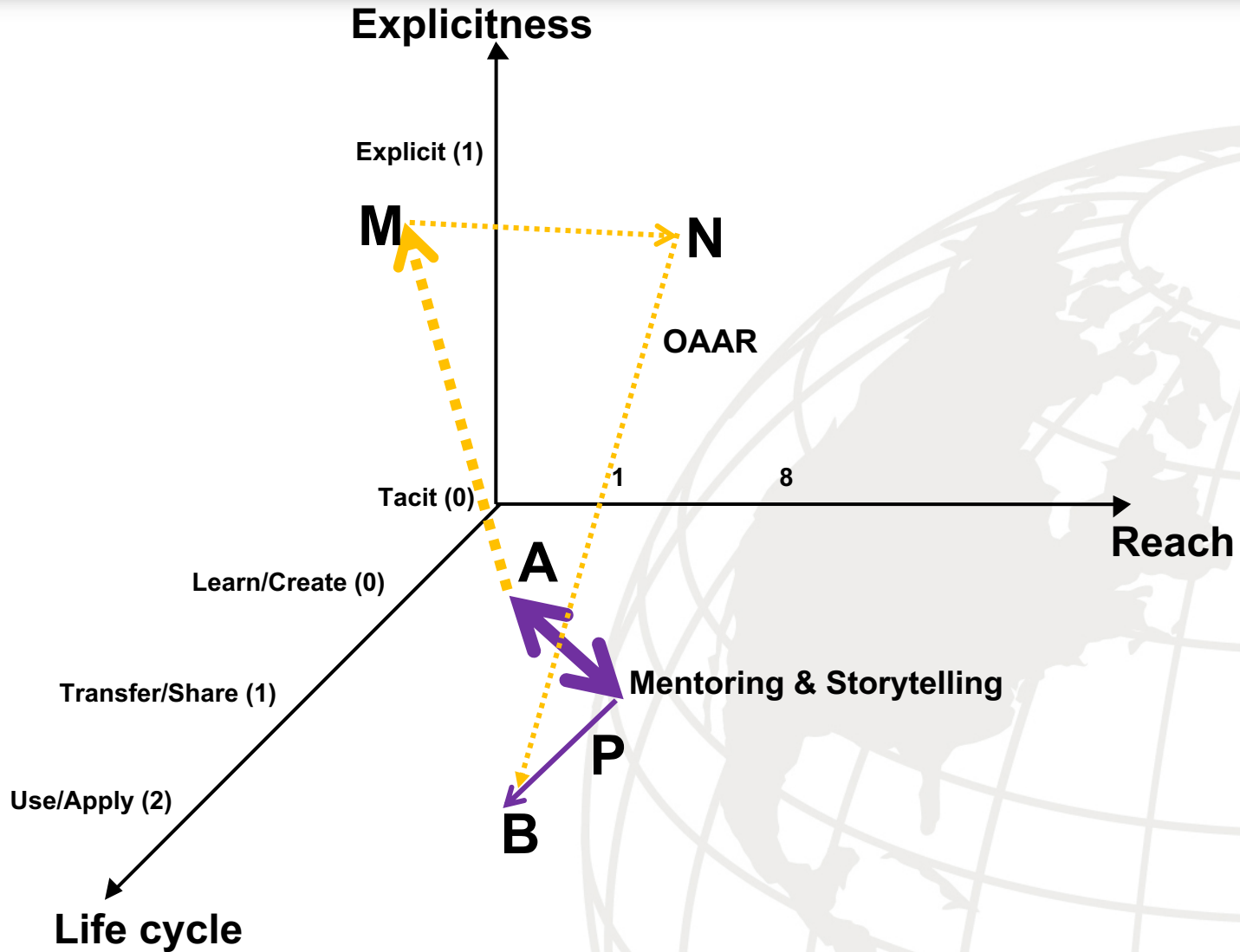


# SA/XP Knowledge Sharing





# Knowledge Sharing Approaches







# Knowledge Measurements: Collective

<b>Approach</b>	<b>KE</b> (kP)	<b>FT</b> (ks)	<b>KP</b> (B)	<b>Comment</b>
OAAR (C)	2.15	2.90	0.74	Less energy, less time
M&S (C)	16.00	4.10	3.90	More energy, more time
<b>Ratio</b>	<b>7.4</b>	<b>1.4</b>	<b>5.3</b>	<b>“Best”?</b>



# Knowledge Measurements: Personal

<b>Approach</b>	<b>KE</b>		<b>KP</b>	<b>Comment</b>
	(kP)		(B)	
<b>OAAR (P)</b>	<b>0.68</b>		<b>0.23</b>	<b>68% reduction</b>
OAAR (C)	2.15		0.74	
<b>M&amp;S (P)</b>	<b>4.00</b>		<b>0.98</b>	<b>75% reduction</b>
M&S (C)	16.00		3.90	

Battalion Commander can anticipate, caution & monitor incoming company commander



- Org power is wielded (Collective, Personal)
  - Affects learning, knowledge, action, performance
- K measurement provides novel insight
  - Energy (performance) & power levels
- Leaders can decide & choose (& monitor)
  - Impacts can be huge
- Other C2 approaches & orgs
  - Hierarchy may exacerbate
  - Edge may mitigate



- Contributions
  - Integrate C2, KFT, org power fields
  - Measure energy (performance) & power
  - Apply to military org
- Future Research
  - Continue to refine knowledge measurement
  - Integrate C2 & org power lits more closely
  - Consider other C2 approaches (Edge)
  - Empiric examination in mil orgs



- Questions welcome
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<http://faculty.nps.edu/menissen/Welcome.htm>