

Human Capital Integration in Mergers and Acquisitions

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Why DaimlerChrysler Never Got into Gear HBR 2007

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- ...none of this happened. They ran the two organizations as **separate operations**.

Model of post-merger integration where divisional managers choose between "*collaboration with other division*" or "*competition for other division's resources*"

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- *competition*: managers focus exclusively on divisional resources without collaboration, and compete for each other's resources
- collaboration involves more costly effort; it has both upside (synergy) and downside (dis-synergy), relative to competition

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- lower levels of physical asset similarity between divisions

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- managers are more willing to collaborate: exert greater (costly) effort to create upside, and are more willing to bear downside of collaboration effort

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- lack of collaboration leads to layoffs/downsizing

Collaboration incentives weaker in horizontal mergers/consolidating mergers; stronger in diversifying and vertical mergers

- **merge-spin transactions:** consistent with regulators' (FTC's) demand on divestiture and sale of overlapping assets of merging parties; e.g., Dupont-Dow Chemicals, Time Warner -Verizon

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- Tate and Yang (2015): employees in diversified firms exhibit higher productivity, and receive a wage premium, relative to those in focused firms

two divisional firm - formed as a result of merger
each division employs a manager - M1 and M2
divisional assets owned and controlled by corporate headquarters - CHQ
risk-neutrality, no discounting

date 0: managers choose to collaborate or not (compete), and exert effort

no-collaboration: exert effort to create value using existing divisional assets and resources

collaboration: exert (more costly) synergy effort. If both managers succeed, there is upside (innovation). If only one manager succeeds, downside relative to no-collaboration

date 1: effort outcomes observed; bargaining over surplus allocation

date 2: payoffs realized and allocated

No-Collaboration

<i>State</i>	<i>SS</i>	<i>SF</i>
keep both divisions	$2y$	
close one division	βy	y

$\beta > 1$ measure of reallocation value of physical assets

Collaboration

<i>State</i>	<i>SS</i>	<i>SF</i>
keep both divisions	sy	
close one division	$(1 - \theta)sy$	$(1 - d)y$

$s > 2$: upside of collaboration; $d < 1$: downside of collaboration

θ : human capital complementarity/diversity

No-collaboration - Surplus allocation

Payoffs based on Shapley values:

State SS:

$\beta \leq 4$:

$$M1 = \frac{(4 - \beta)y}{6}; M2 = \frac{(4 - \beta)y}{6}$$

$$CHQ = \frac{(2 + \beta)y}{3}$$

$\beta > 4$:

$$M1 = \frac{\beta y}{2}; M2 = 0$$

$$CHQ = \frac{\beta y}{2}$$

State SF:

$$M1 = \frac{y}{2}, M2 = 0$$

$$CHQ = \frac{y}{2}$$

State SS:

$$M1 = \frac{(1 + \theta)sy}{6}, M2 = \frac{(1 + \theta)sy}{6}$$

$$CHQ = \frac{(2 - \theta)sy}{3}$$

State SF:

$$M1 = \frac{(1-d)y}{2}, M2 = 0$$

$$CHQ = \frac{(1-d)y}{2}$$

Managerial effort-competition

$$\max_{p_1} p_1 p_2 \frac{(4 - \beta)y}{6} + p_1(1 - p_2) \frac{y}{2} - \frac{1}{2} p_1^2; \quad \beta \leq 4$$

$$\max_{p_1} p_1 p_2 \left(\frac{1}{2} \times \frac{\beta y}{2} \right) + p_1(1 - p_2) \frac{y}{2} - \frac{1}{2} p_1^2; \quad \beta > 4$$

Managerial effort-collaboration

$$\max_{p_1} p_1 p_2 \frac{(1 + \theta)sy}{6} + p_1(1 - p_2) \frac{(1 - d)y}{2} - \frac{k}{2} p_1^2$$

Proposition

$$\frac{\partial \pi_{CHQ}^{S*}}{\partial \theta} > 0 \text{ for } \theta < \frac{2s-3(1-d)}{s}.$$

An increase in θ results in higher wages, and also greater synergy effort. For sufficiently low values of θ , the second effect dominates, and CHQ expected profits increase in θ .

Proposition

Managers choose to collaborate if human capital complementarity (diversity of human capital) between them is sufficiently high, that is, if $\theta \geq \theta_M$ where

$$\theta_M \equiv \begin{cases} \theta_M^1 \equiv \frac{6k+3(1-d)y-\sqrt{k}(1-d)(6-y(1-\beta))}{sy} - 1 & \text{for } \beta \leq 4 \\ \theta_M^2 \equiv \frac{2(6k+3(1-d)y)-3\sqrt{k}(1-d)(4-(\beta-2)y)}{2sy} - 1 & \text{for } \beta > 4 \end{cases} .$$

Can CHQ induce more collaboration if she can commit to not engaging in ex post resource reallocation?

Decentralization: allocate divisional resources at $t = 0$, and engage in bilateral bargaining with each divisional manager, without ability to reallocate resources across divisions

Proposition

Decentralization expands the parameter space over which managers choose to collaborate for $\beta > 4$; it shrinks it for $\beta \leq 4$.

If CHQ can commit not to engage in resource reallocation, managerial incentives to collaborate would be stronger for $\beta > 4$, and weaker for $\beta \leq 4$.

Decentralization is desirable when CHQ's ability to reallocate resources is high: consistent with "decentralized R&D budgets improving innovation incentives in firms with active internal capital markets" in Seru (2014)

- CHQ's ability to reallocate resources across divisions may impede collaboration and integration
- Greater collaboration incentives in seemingly unrelated acquisitions, or in mergers between industries with greater human capital diversity and complementarity
- Consistent with merge-spin transactions, mechanisms reducing overlap between merging parties may promote collaboration and integration