Are Acquisitions Intended for Specialization or Diversification?

Evidence from the Videogame Industry

VII Alumni Workshop

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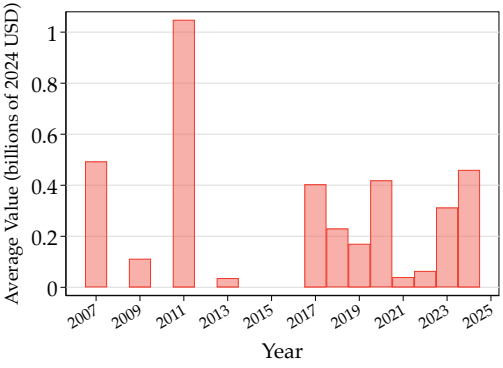
This project

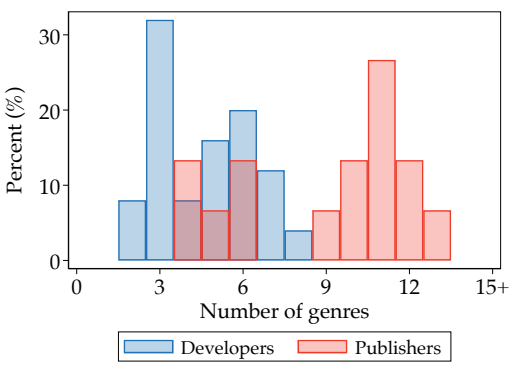
1. **Today:** Analyze whether firms diversify/specialize when integrating.
   - In the context of the videogame industry: where publishers acquire developers.
   - Specifically, the market for (digital) PC games on Steam.
   - For now, focus on 25 major acquisitions between 2007 and 2024.
   - To measure specialization, focus on the genre of games.

2. **Next steps:** Study how integration impacts equilibrium product variety.
   - Build a structural model of vertical integration.
   - In the model, upstream firms are highly specialized single-product firms.
   - The distribution of characteristics depends on the identity of acquired firms.

Large Acquisitions of Specialized Developers



(a) Acquisition value (billions of 2024 USD)



(b) Genre distribution.

A MEASURE OF SPECIALIZATION/DIVERSIFICATION

Define the "genre portfolio" of i as the vector p_i with

$$p_{ig} = \frac{\text{games of } i \text{ in genre } g}{\text{games of } i}$$

For publisher p and developer d define their similarity as

$$s_{pd} = \frac{p_p \cdot p_d}{||p_p|| \cdot ||p_d||}$$

$\uparrow s_{pd} \Rightarrow$ more specialization.

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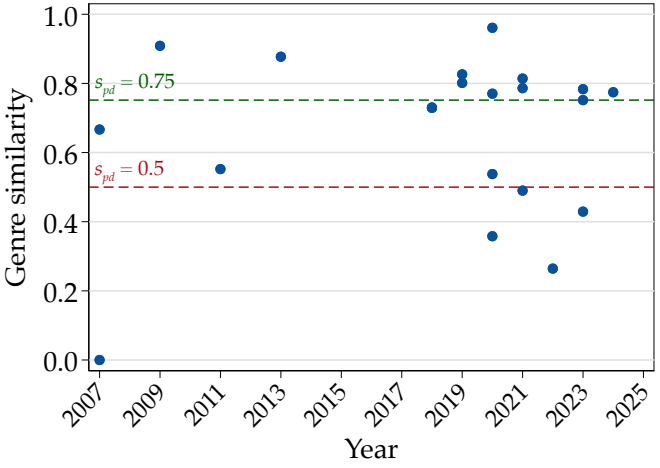

Determinants of Specializations

Which features of the market predict whether publishers specialize when integrating?

Regarding the publisher's portfolio, test two hypotheses:

1. Having more games in a genre $\Rightarrow$ specialization.
2. Competitors have more games in a genre $\Rightarrow$ diversification.

Determinants of Specializations

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	Specialization ($\mathbb{1}\{s_{pd} > 0.5\}$)	
	(1)	(2)
# of games by publisher in top genre of developer	0.010***	0.012***
	(0.002)	(0.003)
# of games in market in top genre of developer	-0.086***	-0.120***
	(0.023)	(0.027)
Acquisition year FE		✓
Observations	21	16

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Conclusion

- How does vertical integration impact product variety?
  - Specialization/diversification might lead to different equilibrium outcomes.
  - Understanding this phenomenon is relevant for competition/consumer welfare.

- In the videogame industry, publishers tend to specialize with acquisitions.

- Specialization is more likely when:
  1. Publishers have more experience in the developer's genre ("learning-by-doing").
  2. The developer's genre is less crowded (less competition).

THANK YOU!

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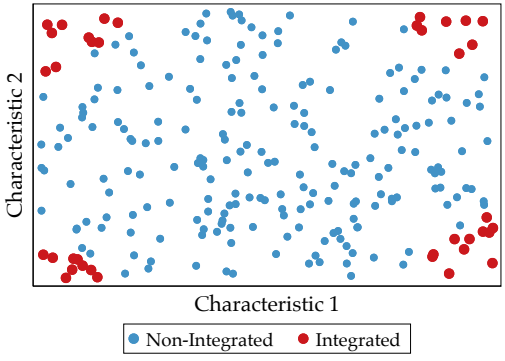
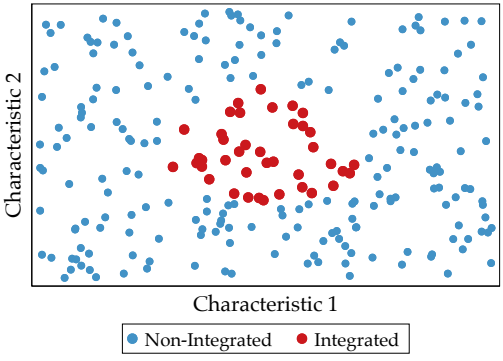
Firm Distribution has Different implications

Back



(a) Equilibrium with diversification



(b) Equilibrium with specialization

Developers: Summary statistics

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	Mean	SD	Min	Max
Panel (a): Full sample (N = 63,811)				
Number of Games	1.66	3.17	1.00	203.00
Estimated Sales (millions)	0.18	2.87	0.01	510.00
Metacritic Score (%)	72.69	10.20	6.00	97.00
Positive Reviews (thousands)	2.50	64.89	0.00	12633.50
Negative Reviews (thousands)	0.50	11.91	0.00	1824.82
Panel (b): Acquired (N = 25)				
Number of Games	9.00	6.80	1.00	25.00
Estimated Sales (millions)	13.38	32.09	0.02	162.65
Metacritic Score (%)	78.09	5.64	65.00	88.00
Positive Reviews (thousands)	131.74	216.50	0.01	1100.76
Negative Reviews (thousands)	29.28	75.27	0.00	378.54

Publishers: Summary statistics

Back to data

	Mean	SD	Min	Max
Panel (a): Full sample (N=56,688)				
Number of Games	1.86	5.57	1.00	538.00
Estimated Sales (millions)	0.20	3.79	0.01	510.35
Metacritic Score (%)	72.61	10.13	6.00	97.00
Positive Reviews (thousands)	2.84	76.55	0.00	12634.79
Negative Reviews (thousands)	0.58	15.10	0.00	1825.02
Panel (b): Acquirers (N=15)				
Number of Games	69.87	55.67	1.00	142.00
Estimated Sales (millions)	66.53	90.33	0.01	349.27
Metacritic Score (%)	73.22	7.62	51.00	80.00
Positive Reviews (thousands)	782.77	1006.13	0.02	3670.00
Negative Reviews (thousands)	162.49	282.17	0.01	1111.46