



On the Organizational Challenges impacting High
Tech Companies post Merger and Acquisition

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Introduction

- High Tech: not to be confused with Joint Juice
- IC component vendors under extreme price pressure from wireless OEMs
- Value creation: increased functionality
- Value capture: *be cheaper!*
- OEMS (Nokia, Motorola, etc) used to demand high performance die.
- ~1999 OEMS began demanding fully functional modules
- Vertical integration becoming pervasive

Motivation for M&A

- Realize Combinational Potential: Efficiency gains from synergy sources both in similarity and complementarity markets.

Financial Synergy

R&D

Marketing

Economies of Scale

Operational Synergy

Managerial

Vertical Economies

Collusive Synergy

[1]

Organizational Challenges facing M&A

Management styles

Employee Acceptance

Reward system

Cultural Differences

Set of important assumptions that members of a community share in common. [4]

[1]

Case Study: TriQuint Semiconductor acquisition of Raytheon mm Wave Division 1998)

- Primary Reason for Merger: **Expand revenues, access to emerging technology**
- Economies of Sameness: MESFET technology, RF design and modeling
- Economies of Fitness: GaAs pHEMT, ebeam lithography
- Economies of Scale: Very little in terms of manufacturing
- Financial Motivation: steady military revenue
- Acquired expertise: high frequency, high power design and manufacturing
- Operational integration: **Autonomy**
 - Steve Sharp, CEO TQNT, allowed Tom Cordner, GM of acquired business to run operations.
 - Rather: Tom “contained” Steve
 - Shared vision of ‘who’ did ‘what’
- Management Risk: **low (high risk, flat organizations), management kept in tact.**
- Cultural Risk: **Low, very similar.**
- Some employee relocation, but never by design. (yours truly)
- ‘Those Guys’ & NIH mentality pervasive
- Some employee resistance among duplicative groups (see NIH comment)

Case Study: TriQuint Semiconductor acquisition of SAWTEK 2000

- Primary Reason for Merger: Vertical Integration
- Economies of Sameness: None
- Economies of Fitness: Surface Acoustic Wave technology for IM filter applications
- Economies of Scale: None-different process, wafers, etc...
- Financial Motivation: integrate filters with power amplifier
- Acquired expertise: filter design and modeling
- Little operational integration
 - SAWTEK functioned as a subsidiary
- Management risk: **Similar styles, management kept in tact.**
- Employee relocation irrelevant owing to dissimilarities.
- Little employee resistance-virtually no overlap

Case Study: TriQuint Semiconductor acquisition of Infineon pHEMT 2002

- Primary Reason for Merger: Market Demand-modules Vs die.
- Economies of Sameness: pHEMT technologies
- Economies of Fitness: specialized switch processing
- Economies of Scale: optical lithography\fab tools
- Financial Motivation: incorporate switch with HBT PA
- Acquired expertise: manufacturing and design
- High Levels of integration
 - Fab & EMPLOYEES relocated from Germany
 - Design centers in New England largely independent
- Management Risk: Little, management replaced or relocated
- Cultural Risk: Low

pHEMT technology acquired
despite overlapping technology
from Raytheon merger

What went right?

- Moderate Integration as a consequence of: **Autonomy Preservation**

- Management style similar**

- Attitude toward risk
- Decision making approach
- Preferred control (very flexible)
- Open communication (intra-site) [2]

- Kept Senior Management:**

'most experienced buyers, such as chief executives of conglomerates, say that what they are really acquiring is a going organization. Generally they want a company that is fully staffed, with a general manager and able functional heads and, since it takes three to five years to develop a good operating team, they want assurance that these key people will stay-on the job.' [3]

- Management Stayed Committed!**

- High Combinational Potential developed over time**

What do the numbers say?

Person Correlation Coefficients of All Variables in Study												
Variable	Mean S.D. N ^a	1	2	3	4	5	6	7	8	9	10	11
1. Synergy Realization	4.25 3.73 61											
2. Combination Potential	12.48 3.84 58	0.59***										
3. Organizational Integration	5.95 2.18 60	0.66***	0.61***									
4. Employee Resistance	2.62 1.11 54	-0.22	0.24	0.14								
5. Relative Size	2.40 1.64 60	0.31*	0.36**	0.27*	0.25							
6. Management Style Similarity	1.98 0.95 60	0.06	-0.06	0.14	-0.30*	-0.08						
7. Cross-border Combinations	0.26 0.44 61	0.13	0.13	0.17	-0.20	-0.40**	0.29*					
8. Case Data Collection	2.18 0.79 56	0.34*	0.56***	0.40**	0.35*	0.42**	-0.15	-0.09				
9. Case Perspective	1.92 0.64 61	-0.17	-0.24	-0.17	0.17	0.12	-0.42***	-0.57***	0.28*			
10. Case Publication	2.97 1.17 61	-0.23	-0.52***	-0.27*	-0.24	-0.16	0.15	-0.11	-0.25	0.11		
11. Case Calendar Year	3.97 1.03 61	0.33**	0.30*	0.36**	0.06	0.02	-0.05	0.20	0.06	-0.13	-0.32*	
12. Case Period Length	2.96 1.22 53	0.04	-0.26	-0.13	-0.16	-0.05	-0.04	0.06	-0.18	-0.14	0.09	-0.16

^aDifferences are due to insufficient information coding for some variables.
 *p < 0.05
 **p < 0.01
 ***p < 0.001

Image by MIT OCW.

- Chart illustrates correlations of a 'successful' M or A by metric of synergy realization
- Combinational Potential correlated with Integration and inversely correlated with employee resistance. [1]

What went wrong?

- In an effort to promote autonomy, integration was limited
 - TriQuint OR was late to introduce HBT PA technology, despite the fact that acquired firm was an established technology source.
 - TriQuint purchased competing technology for switch applications
 - Design\modeling synergies were minimal
 - ‘Those Guys’ syndrome cultured
 - Some cannibalizing in the laser driver market.
 - Lack-luster strategic execution: filter technology behind.

Intermediate Result: Full Combinational Potential unrealized in a timely manner!

What could have been done better?

- “Companies are doing themselves a disservice by trying to merge cultures...speed over precision” –Dave Aldridge (CEO Skyworks Solutions)
- ...perhaps
- Since integration is the largest predictor of synergy realization, then it must be achieved.
- Assess culture and management situation a-priori and plan.
- Promote atmosphere of open communication
- Leverage the culture and management similarities to realize higher level of integration while maintaining manufacturing and engineering autonomy.
- Anecdotal experience: people should be moved *with the goal* of growing communication networks and identifying gate keepers.

Case Study: TriQuint Semiconductor acquisition of Agere 2003

- Primary Reason for Merger: Existing customer base, manufacturing
- Economies of Sameness: Opto development in R&D, similar customer base
- Economies of Fitness: integrate driver amplifiers with laser technology
- Economies of Scale: leverage fixed overhead of GaAs fab for InP processing
- Financial Motivation: big up-side potential
- Acquired expertise: “Bell Labs” Opto Group
- Rumored levels of high integration
 - High turnover, defensiveness and arrogance
- Management risk high: original manager not retained, weak management recruitment, technologists empowered
- Cultural Risk: High (bureaucracy, unions, critical mass)
- Internal R&D group disbanded

Conclusions

- Mergers and Acquisitions will remain pervasive in the communication components industry as long as system integration trends persist.
- Key lessons learned:
 - Access combinational potential early
 - Study management of perspective targets to judge cultural clashes
 - Strive to maintain senior management if at all possible
 - Think long and hard about culturally diverse M&A's that do not include existing senior management.
 - Leverage cultural and management positions to achieve high levels of integration early.
 - Properly examination of management can tell you a ton.**

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References

[1] Larson, Finkelstein. "Integrating Strategic, Organizational, and Human Resource Perspectives on Mergers and Acquisitions: A Case Survey of Synergy Realization" *Organizational Science*, Vol. 10, Jan-Feb 1999.

[2] Datta. "Organizational Fit and Acquisition Performance: Effects of Post-Acquisition Integration" *Strategic Management Journal*, Vol 12. May 1991.

[3] Parsons, R.Q. and J.S. Baumgartner. *Anatomy of a Merger: How To Sell Your Company*, Prentice-Hall, Inc., Englewood Cliffs, NJ, 1970.

[4] Weber "Corporate Cultural Fit and Performance in Mergers and Acquisitions". *Human Relations*, Vol. 49, No. 9, 1996.