Collaboration Between Support Staff and Software Testers

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A Success Story

• Successful mass-market product (category: edit/layout of text and graphics) with high per unit support costs.
• Pels managed Support, Kaner was software development manager for this product.
• Our query was: how many calls could we have prevented by making low-cost engineering changes (fix bugs, revise manual, supported another printer)?
• We reviewed all call records, customer letters, magazine reviews

The answer was 50%
Prevention is the Best Call Avoidance

- 50% of the calls could have been prevented.
- Other authors claim that only 5% to 33% of calls are due to genuine defects. They might be right (maybe it depends on definition of defect). We didn’t focus on blame (defects). We focused on prevention.
- Next release had many of these fixes. Call costs dropped dramatically.
Collaboration

- Collaboration between Support and any group within Product Development (but especially, Testing) will usually result in improved customer satisfaction and fewer support calls.

- Collaboration with Testing is a natural because:
  - Their mission is finding bugs to get them fixed.
  - They need allies and data.
  - They can provide you with data on bugs and workarounds.
  - You can provide lots of other support for each other.
Quality Cost Reduction: A Shared Economic Model

- **Quality Cost Analysis** is a cost control system used to identify opportunities for reducing the controllable quality-related costs.

- The **Cost of Quality** is the total amount the company spends to achieve and cope with the quality of its product. This includes investments in improving quality, and expenses arising from inadequate quality.

- **Quality engineer’s goal**: minimize total cost of quality.

- **Support’s goal**: improve satisfaction while reducing support costs.
A Shared Economic Model

Quality-Related Costs Include:

- *Prevention costs:* everything the company spends to prevent software and documentation errors.
- *Appraisal costs:* all testing costs, and the costs of everything else the company does to look for errors.
- *Internal failure costs:* all costs of coping with errors discovered during development and testing.
- *External failure costs:* all costs of coping with errors discovered, typically by your customers, after the product is released.
Typical External Failure Costs

- Support call costs
- Preparing answer books
- Investigating complaints
- Refunds and recalls
- Interim bug fix releases
- Support multiple versions in the field
- Shipping updated product
- PR to soften harsh reviews
- Lost sales
- Lost customer goodwill
- Demands for bigger reseller discounts
- Warranty, liability costs
- Lawsuits
- Government investigations

The most easily measured external failure costs are borne by Tech Support.
Reciprocal Benefits of Collaboration:

Benefits to Testing

- You have data needed for quality improvement.
  - Costs of deferred bugs (*improve criteria for deferral*).
  - Costs of bugs that Testing missed (*useful for Testing process improvement or for arguments for more testing time in the future*).
  - Basis for future argument to stop ship a buggy product.
  - Data on troublesome configurations (*for config testing*).
Reciprocal Benefits of Collaboration: Benefits to Support

- You get to influence quality.
  - More / better configuration testing.
  - Better deferral decisions.
  - More customer-sensitive testing.
Reciprocal Benefits of Collaboration: 
*Brainstorm on Additional Benefits*

There are many additional benefits to both sides. We’ll provide a few organizational / structural and political benefits that we’ve encountered, but we’d like most of this part to come from you.

- What additional benefits of collaboration are there to Support or Test and how would you encourage them?
- What resistances are there to collaboration?
Help Desk Collaboration

- Help desks in companies that buy software are often not in a position to influence publishers’ testing practices. But your same types of data can influence purchasing practices. Collaboration this time is with Purchasing or Incoming QC.
  - Cost of support for different products / vendors.
  - Need for support contracts (and why, what terms) with different vendors.
  - Need for negotiating clout in solving specific support problems.