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Erratum Response to Beamish and Bapuji

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RESPONSE TO ERRATUM

I wish to highlight some problems with Beamish and Bapuji's (2008) article, 'Toy recalls and China: Emotion vs. evidence', published in this journal and with their 2009 Erratum to that article.

Among my concerns are the following: (i) I believe that, in their Erratum, Beamish and Bapuji understate the amount of data that they (to use their words) 'inadvertently missed' in their original paper. The authors claim that they missed about 10 percent of the available data, yet their own data sets indicate that they missed somewhere between 19 and 26 percent. (ii) I further believe that their analysis of design versus manufacturing flaws is flawed.

MISSING DATA

In their Erratum (2009: 150), Beamish and Bapuji state that they 'inadvertently missed 49 toy recalls (less than 10 percent)' in their 2008 *Management and Organization Review* article. In fact, if we assume that their more recent data set (Bapuji & Laplume, 2008) is complete, then Beamish and Bapuji (2008) missed considerably more observations than 49 toy recalls.

Before progressing, I need to point out that the authors' revised analysis (see Bapuji & Laplume, 2008) follows a different method of counting toy recall announcements than does their original work (Beamish & Bapuji, 2008). The revised analysis involves analysing what I call 'raw announcements' and is based on the following approach: 'Some recall notices included multiple products (83 cases), multiple firms (15) or both (2). Nevertheless, each recall notice was counted as a single recall for the purposes of analysis presented in this report' (Bapuji & Laplume, 2008: 10).

In contrast to this approach, Beamish and Bapuji's (2008) original analysis involved splitting up *some* individual recall notices. For example, recall notices

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involving more than one toy or company were treated as more than one recall. This is clear from email communications I had with Bapuji, including one message in which he provided the following illustration as an example of where a single notice with two different recalls would be split: http://www.cpsc.gov/CPSCPUB/PREREL/prhtml07/07261.html. This link shows a recall that Bapuji considers to contain two distinct types of toys and, hence, would have been coded as two recalls in Beamish and Bapuji (2008), namely as stuffed plush horses/pillows and as fairy dolls. In Beamish and Bapuji (2008), recall notices were also split up when they involved recalls of toys by multiple companies. I refer to the splitting up of announcements by product type or different manufacturer as an 'expanded recalls' approach. This approach leads to recall counts that are (inevitably) higher than the 'raw' number of recalls. This point is important to note when considering Beamish and Bapuji's assertion that they only missed 49 recalls in their original analysis.

In Table 1, I reproduce the numbers of raw recalls (from Bapuji & Laplume, 2008) and the number of expanded recalls (from Bapuji & Beamish, 2007). The latter served as the basis for the 2008 article that was published in this journal. I also include a 'difference' column to indicate the discrepancy in recall counts

Table 1. Comparison of toy recall data

Year	*Original data (expanded recalls) (Bapuji & Beamish, 2007)*	*Revised data (raw recalls) (Bapuji & Laplume, 2008)*	*Difference*
1988	29	32	+3
1989	52	54	+2
1990	31	34	+3
1991	31	36	+5
1992	25	25	0
1993	20	19	−1
1994	29	31	+2
1995	35	25	−10
1996	26	22	−4
1997	22	26	+4
1998	29	30	+1
1999	20	23	+3
2000	31	37	+6
2001	23	43	+20
2002	25	34	+9
2003	15	35	+20
2004	15	30	+15
2005	19	35	+16
2006	33	41	+8
2007	40	83	Not comparable
Total (1988–2006)	510	612	+117 missed recalls

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between data sets. The total count in the difference column is the total of the *missed* recalls between the two studies.[1]

Let's consider only data for 1988 to 2006 (data for 2007 is not comparable as the original data set only included part of the year, whereas the revised data includes the entire year). If we compare the recent raw data for 1988 to 2006 with the earlier expanded data, there were at least 117 additional recalls added to the original data set of 510 (i.e., around 117/612 = 19 percent of the revised data set was originally missing). Thus, over the 1988 to 2006 period, the authors missed significantly more than the 49 recalls that they claim they missed over the slightly longer 1988 to 2007 period. Even if Bapuji and Beamish missed no recalls whatsoever for their 2007 analysis (this seems unlikely in light of at least 94 recalls being missed from 2000 to 2006 alone), then their claim that they missed less than 10 percent of the available data still seems quite low.

Having looked at what may be the lower limit of toy recalls missed between 1988 and 2006, it is worth considering what a possible upper limit for the number of missed recalls might be. Remember that the original data set used by Beamish and Bapuji (2008) split up product recalls, whereas their revised analysis does not. It is, therefore, likely that the number of recalls missed is higher than the 117 (19 percent of total recalls) that I calculated above. Some insight into this can be gleaned from Bapuji and Laplume's (2008) comment that their revised analysis did not engage in multiple counting. They first collected 829 toy recall notices from 1974 to late 2008. Of these, 83 involved recalls for multiple products, 15 involved multiple firms, and two cases involved both multiple firms and multiple products (Bapuji & Laplume, 2008: 10). If Bapuji and Laplume (2008) had followed the original 'expanded recalls approach' and counted these recalls separately, then their revised data set would have been larger by at least 104 recalls (83 + 15 + 6).[2] This information gives us some idea of the difference between the two data sets and the extent to which recall notices could have been split up in the revised data set – if the authors had selected the same method as they did originally. Hence, the ratio of expanded to raw recall announcements from 1974 to late 2008 is likely in the order of (104+829)/829 = 1.13:1. Applying this ratio indicates that, from 1988 to 2006, there were around 451 (or 510/1.13) 'raw' recall announcements in their original data set. Compared to the 612 raw recalls in the revised data set over the same time period, this indicates that around 161 recalls were missed from 1988 to 2006 (26 percent of total recalls).

DESIGN VERSUS MANUFACTURING FLAWS

A key part of Beamish and Bapuji's analysis involves categorizing product recalls as involving either design flaws or manufacturing flaws. In their Erratum (2009: 150), Beamish and Bapuji state that 'the number of defects attributable to design flaws is much higher than those attributable to manufacturing problems'. I do not believe

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it is possible to make such assertions – at least not based on the data those authors used. I'm sceptical of the ease with which design versus manufacturing flaws can be distinguished from the Consumer Product Safety Commission toy recall information. To illustrate this point, consider some of Bapuji and Beamish's (2007: 3) own examples: 'A manufacturing problem can occur as a result of using poor material, such as a toy stuffing that contains pieces of wire or broken sewing needles. Other examples of manufacturing issues are poorly fitted parts that break, batteries that overheat, and faulty electronic circuits'. With the exception of broken sewing needles, I believe that all of the previous examples could just as easily be attributable to design problems as to manufacturing problems. We simply do not know the cause of these problems without knowledge of the design process itself. In short, I suggest that Beamish and Bapuji's assertions about design versus manufacturing flaws are inconsistent with evidence-based management.

Furthermore, Beamish and Bapuji should be wary of making statements that attribute blame for design flaws. In this regard, Beamish and Bapuji (2008: 202) observe that 'The responsibility for design problems usually lies with toy companies in the West that provide the designs. By contrast, the responsibility for manufacturing problems lies mostly with overseas toy manufacturers (Bapuji & Beamish, 2007; Bapuji, Beamish, & Laplume, 2007).' In making this assertion, Beamish and Bapuji cite their own articles; however, neither of their earlier articles provides any evidence of *where* defective toys are designed. The earlier articles simply include the same general assertions as the above quotation. The attempts to distinguish between design versus manufacturing flaws and the assertions about where most products are designed fall short of what the authors themselves purport to be their attempt at evidence-based management.

Having said this, there does appear to be some *anecdotal* evidence that – at least in the case of Mattel – product recalls have been the result of design rather than manufacturing problems. This is acknowledged in a statement by Thomas Debrowski, Mattel's executive vice president for worldwide operations: 'It is important for everyone to understand that the vast majority of these products that we recalled were the result of a flaw in Mattel's design, not through a manufacturing flaw in Chinese manufacturers' (BBC, 2007).

CONCLUSION

I believe I've demonstrated, using Beamish and Bapuji's own data, that their claims of only missing 49 recalls (around 10 percent) in the 1988 to 2007 period appear to be substantially understated. Between 1988 and 2006, the authors' own data indicate that they missed somewhere between 117 and 161 recall notices.

I'd alerted the editor, Dr. Anne Tsui, to these concerns (including providing some of the calculations above in an email dated January 5, 2009). Then, in a phone conversation, Dr. Tsui informed Dr. Bapuji of my concerns (but not with

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my detailed calculations). Subsequently, Beamish and Bapuji elected not to amend their Erratum so as to give readers an accurate picture of their 'missing' data issues. Certainly, the revised analysis provided in their Erratum reports largely similar findings, but given the authors' apparent understatement of the number of missing observations, I am wary of placing much faith in the credibility of their findings. I also suggest that Beamish and Bapuji have not adequately distinguished between design versus manufacturing flaws (a key feature of their analysis) and that statements they make about responsibility for design flaws are not supported by any evidence they provide. The approach taken by Beamish and Bapuji appears inconsistent with the evidence-based management approach that those authors proposed was a foundation for their research.

NOTES

[1] The total for the difference column is the sum of only those missed (+) in the original data set when compared to the revised data set. That total does not include the years where the recalls decreased (−) in the revised data. (There are three years in which the number of recalls is now lower than in the original data set. This may be because of the difference in counting expanded recalls versus raw recalls, but this seems a somewhat unlikely explanation for the significantly lower number of recalls now reported for 1995.)

[2] When Bapuji and Laplume (2008) write about recall notices involving 'multiple firms' or 'multiple products', I assume that 'multiple' means two. Also, when they mention that there were two notices involving both multiple firms and multiple products, I assume that this means two firms each recalling two products. In any event, as multiple could of course mean more than two, the ratio that I calculate using these numbers falls on the conservative side, and the upper limit of missed recalls may well be higher than what I have calculated.

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