Web Appendix 1

Table W1. Control variables: Reason for inclusion

|  |  |
| --- | --- |
| Control Variable | Reason for Inclusion |
| Size | Larger firms may have distinct risk-taking tendencies (Chatterjee and Hambrick 2011). Larger firms have more resources but are also more bureaucratic. This may affect their innovation outcomes (Kashmiri and Mahajan 2017) and, in turn, their number of product recalls. |
| Extent of Labor Use | The chances of error (due to human causes) vary with increased use of labor (Thirumalai and Sinha 2011). |
| ROA | Firm profitability affects the availability of resources to allocate to quality improvement initiatives (Kalaignanam et al. 2013). Poor performance may lead to increased risk-taking. |
| Tobin’s Q | Tobin’s Q may be related to availability of resources and/or motivation to invest in product quality (Kashmiri and Brower 2016) |
| Number of Incremental Innovations | Firms that introduce more new products are more likely to experience product recalls. |
| Number of Radical Innovations | Firms that introduce more new products are more likely to experience product recalls. |
| R&D intensity | R&D efforts may either attenuate the chances of a product quality failure, and, as a result, reduce the number of product recalls, or may indicate the firm’s innovation orientation, which may increase the number of product recalls (Thirumalai and Sinha 2011). |
| Advertising Intensity | Advertising efforts may indicate the firm’s customer orientation, which may decrease the number of product recalls. |
| Slack Resources | Resource availability may affect strategic behaviors, in general, and risk-taking, in particular (Chatterjee and Hambrick 2011). |
| Financial Distress | Financial distress increases risk-taking and affects the firm’s capability to invest in both innovation and product safety. |
| Financial Leverage | Leverage may be related to availability of resources and/or motivation to invest in product quality (Kashmiri and Brower 2016). |
| Democratic Power | The number of product recalls increases under Democratic administrations (Bromiley and Marcus 1989). |
| CEO Tenure | tudies have highlighted a  general tendency toward conservatism as execu-  tives advance in their tenures  As executives advance in their tenures, they become more conservative (Wowak et al. 2015). This may affect their firms’ number of product recalls. |
| CEO Stock Options Pay | options promote a lack of caution in CEOs that manifests  in a higher incidence of product safety problem  Stock options may increase CEO’s risk-taking (Wowak et al. 2015). This may affect a firm’s number of product recalls. |
| CEO Age | Younger CEOs are more likely to experience product recalls (Byun and Al-Shammari 2021). |

Web Appendix 2

Table W2.1 Descriptives and correlation matrix of marketing department power’s indicators

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Mean | Std. Dev | 1. | 2. | 3. | 4. | 5. |
|  |  |  |  |  |  |  |  |
| 1. Proportion of marketing executives | .08 | .12 | 1.00 |  |  |  |  |
| 2. Proportion of marketing executives’ pay | .06 | .09 | .89\* | 1.00 |  |  |  |
| 3. Highest ranking of marketing executives | 2.15 | 1.64 | .81\* | .74\* | 1.00 |  |  |
| 4. Cumulative ranking of marketing executives | 2.38 | 2.13 | .90\* | .81\* | .90\* | 1.00 |  |
| 5. Cumulative responsibilities of marketing executives | .77 | 1.18 | .82\* | .74\* | .82\* | .85\* | 1.00 |
|  |  |  |  |  |  |  |  |

*Note: \*p<0.05*

Table W2.2 Factor loadings of marketing department power’s indicators

|  |  |  |
| --- | --- | --- |
|  | Factor 1 | Uniqueness |
| 1. Proportion of marketing executives | .95 | .09 |
| 2. Proportion of marketing executives’ pay | .90 | .19 |
| 3. Highest ranking of marketing executives | .92 | .15 |
| 4. Cumulative ranking of marketing executives | .96 | .08 |
| 5. Cumulative responsibilities of marketing executives | .91 | .17 |

Table W2.3 Descriptives and correlation matrix of R&D department power’s indicators

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Mean | Std. Dev | 1. | 2. | 3. | 4. | 5. |
|  |  |  |  |  |  |  |  |
| 1. Proportion of R&D executives | .05 | .09 | 1.00 |  |  |  |  |
| 2. Proportion of R&D executives’ pay | .04 | .08 | .88\* | 1.00 |  |  |  |
| 3. Highest ranking of R&D executives | 1.68 | 1.28 | .84\* | .69\* | 1.00 |  |  |
| 4. Cumulative ranking of R&D executives | 1.78 | 1.60 | .86\* | .72\* | .92\* | 1.00 |  |
| 5. Cumulative responsibilities of R&D executives | .53 | 1.06 | .82\* | .71\* | .87\* | .88\* | 1.00 |
|  |  |  |  |  |  |  |  |

*Note: \*p<0.05*

Table W2.4 Factor loadings of R&D department power’s indicators

|  |  |  |
| --- | --- | --- |
|  | Factor 1 | Uniqueness |
| 1. Proportion of R&D executives | .95 | .09 |
| 2. Proportion of R&D executives’ pay | .86 | .26 |
| 3. Highest ranking of R&D executives | .94 | .13 |
| 4. Cumulative ranking of R&D executives | .95 | .10 |
| 5. Cumulative responsibilities of R&D executives | .93 | .14 |

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