

Curtin University

Product Innovation - Key to Marketing Success? Some Lessons from FMCG Firms in Europe

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Product Innovation

- Innovation is a major driver of business growth and expansion because it helps firms,
 - Leverage core competencies and dynamic capabilities
 - Utilize scarce resources and skills more effectively
 - Develop the ability to learn and exploit new ideas
- Product innovation in particular allows firms to not only **develop new market segments** but to also **expand current market segments and product portfolios**
- However, product innovation is also associated with higher costs, higher risks and management challenges e.g. Boeing 787

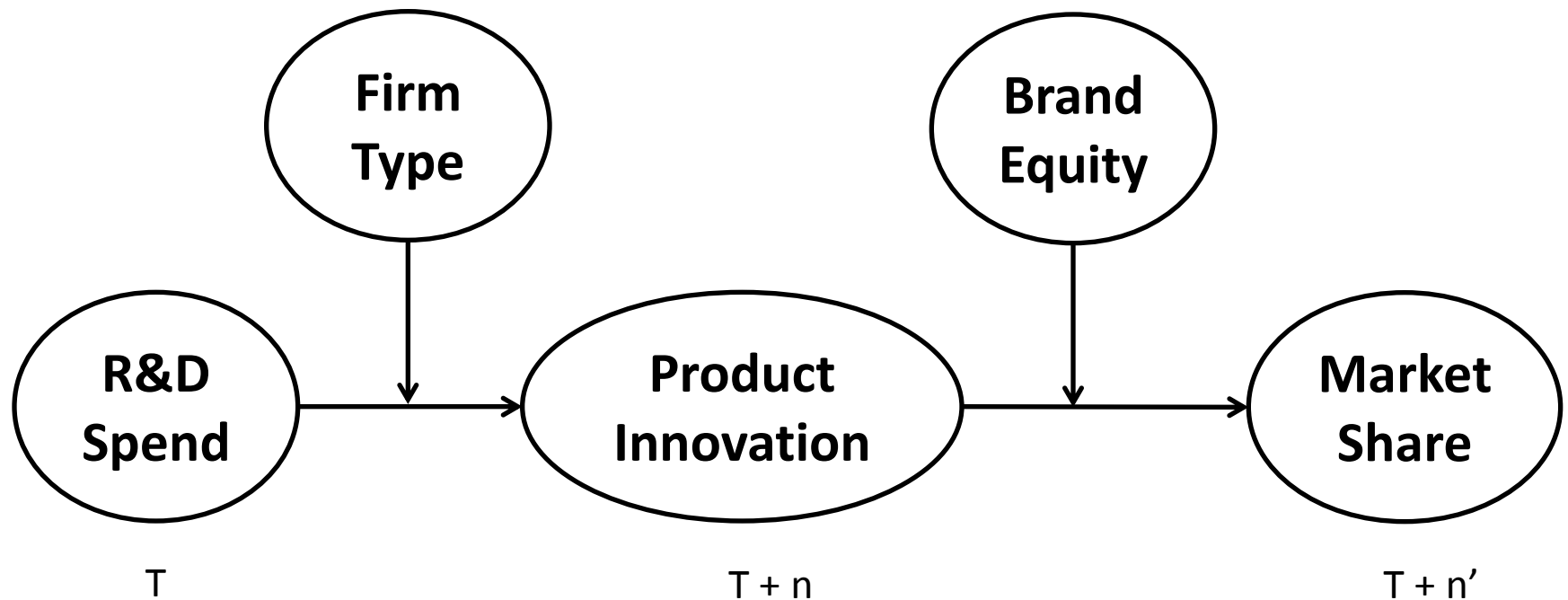
Brand Equity

- Brand equity is the value of a brand from consumers' perspective, based on their attitudes and usage
- In the absence of reliable information about firms' internal resources and capabilities, brands signal the overall product/service quality for the consumers
- Consumers often use brand equity to assess a firm and its offerings because it reduces their information search costs and increases their overall utility
- Brands also give consumers positive emotional experiences during information search, decision making, purchase, consumption and ownership

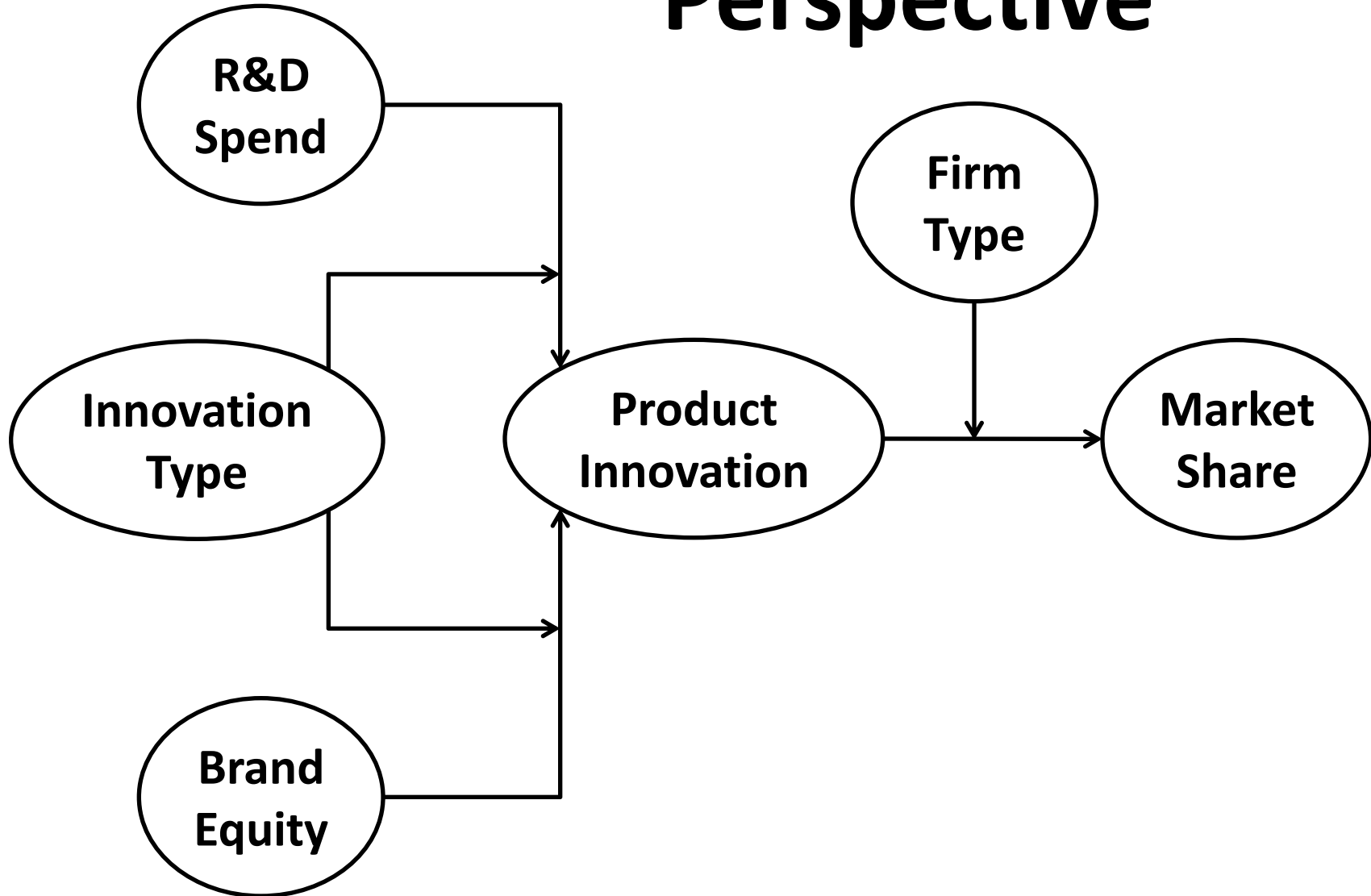
Research Gaps

- **How does product innovation affect performance?**
 - Are some firms more successful at innovation than others?
 - Are some types of innovation more effective than others?
- **How do brand equity and innovation relate?**
 - Are firms with high brand equity more innovative or vice versa?
- **We address these gaps in this research**
 - Combine signalling theory and resource-based view
 - Investigate the mediating role of product innovation in the influence of dynamic marketing capabilities (R&D spend and brand equity) on marketing performance (market share)

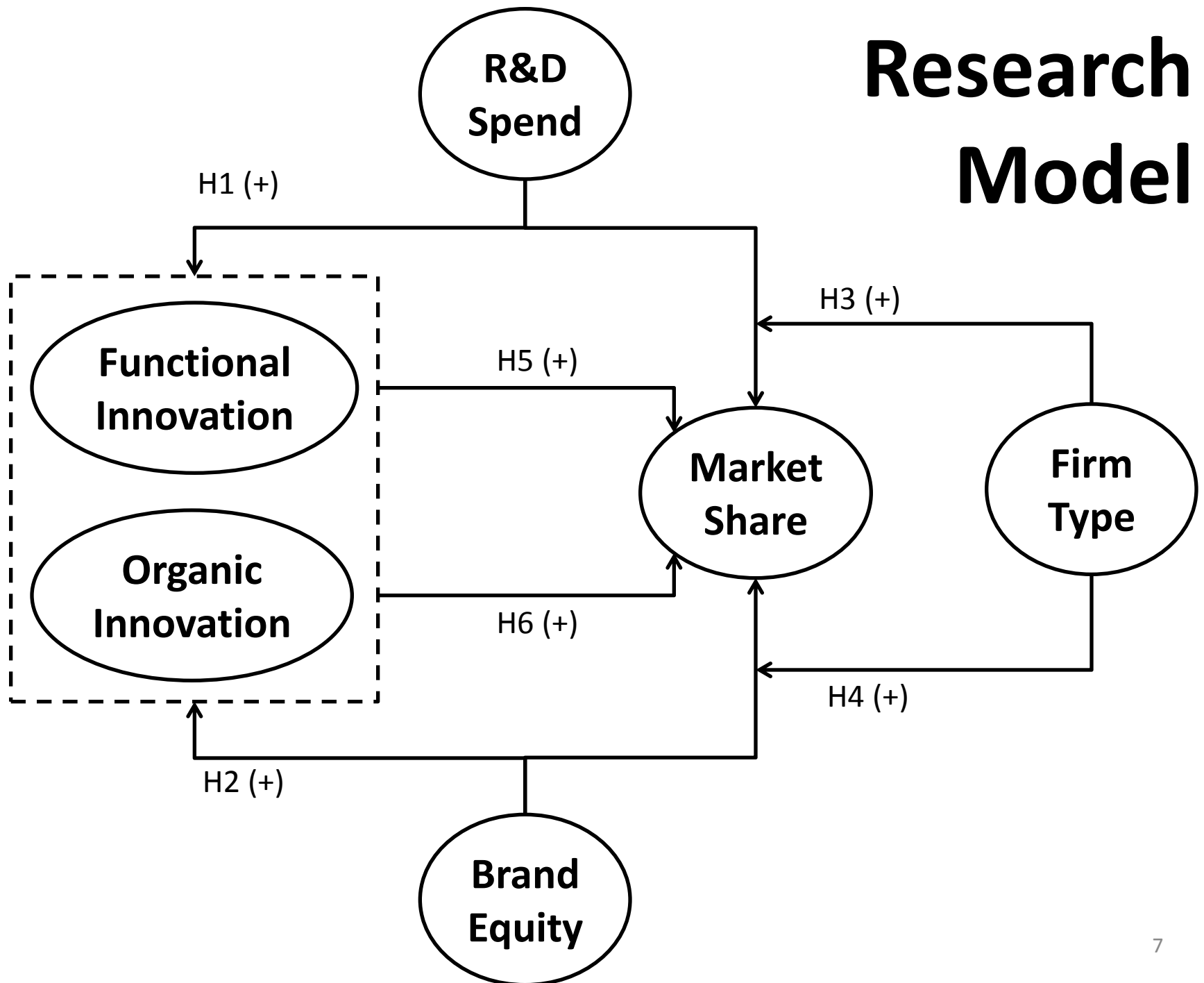
Traditional Marketing Perspective



Resource-based Perspective



Research Model



Method

- **Dataset:** Retail panel data for 10,282 Italian households for 1,356 food brands (milk, juice, yogurt)
 - 259 retailers, 876 SME and 221 MNC firms
 - 674 conventional, 319 organic and 363 functional brands
- **Data Sources:**
 - Amadeus (Company financial statements)
 - Nielsen (ACNielsen retail panel)
 - QIV (Quality independent variable)
- **Data Analysis:** Analytical modelling with bootstrapping algorithm using regression and Probit procedures with an appropriate set of equations to test our model

Measures

Variable	Description	Source
Price (pr)	amount of money consumers pay to buy brand in period t for category c, in €/kg	Nielsen
Market share (m)	brand share in company brand portfolio - ratio of brand sales to the total company sales in period t for category c (e.g., Bucklin et al. 1998 and Slotegraaf & Pauwels 2008)	Nielsen
Brand equity (v)	lagged advertising efforts, licenses, etc., allocated to the single brand b in period t for category c - intangible assets in the company balance sheets (Simon & Sullivan 1993), in €	Amadeus

Measures

Variable	Description	Source
R&D spend (r)	R&D spends allocated on a brand b in period t for category c, from company's income statement, in €	Amadeus
Firm size (fs)	Parent firm's sales (Slotegraaf & Pauwels 2008), in €	QIV & Nielsen
Product innovation (in)	Dummy variables for three types of brands - conventional, organic and functional	QIV
Firm type (ft)	Dummy variables for the three types of firms - retailer, SME and MNC	QIV

Model Equations

- $$Y_1 it_{bti} = \beta_0 + \delta_1 fs_{bt} + \delta_2 pr_{bt} + \delta_3 ft_{bti} + \beta_1 v_{bt} + \beta_2 r_{bt} + \beta_3 r_{bt} * ft_{bti} + \beta_4 v_{bt} * ft_{bti} + \varepsilon_{bti}$$
- $$Y_2 m_{bt} = \beta_0 + \delta_1 fs_{bt} + \delta_2 pr_{bt} + \delta_3 it_{bti} + \beta_1 v_{bt} + \beta_2 v_{bt} * it_{bti} + \varepsilon_{bti}$$
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- $b = 1, \dots, B$ (brands), t is the time component and ε_{bti} is error term, Market share (m_{bt}) = ratio of brand b sales to total company sales in period t (e.g., Bucklin et al. 1998; Slotegraaf & Pauwels 2008)

Model Equations

$$i = \mathbf{1}_{A\{\text{category } h\}}(x_b) \begin{cases} 1 & \text{if } x_b = h \\ 0 & \text{if } x_b \neq h \end{cases}$$

- i = indicator function for category h , where h represents high or medium quality brands in comparison to low quality brands.
- **Independent variables**
 - Log transformations of Brand equity (v_{bt}) and R&D spend (r_{bt}) to reduce the large range of values to more manageable number for more precise and efficient estimates.
- **Moderator variables**
 - Firm type (ft_{bti}), namely retailers, SME and MNC firms
- **Control variables**
 - Price (pr_{bt}) for brand b in period t
 - Firm size (fs_{bt})

Sample Composition

	Retailer	SME	MNC	Total
Conventional	123	412	139	674
Organic	70	245	4	319
Functional	66	219	78	363
Total	259	876	221	1,356

Descriptives

Variables	Descriptive statistics			
	Mean	Standard deviation	Minimum	Maximum
Market share	.130	.419	.001	4.228
Brand equity (log)	14.382	2.723	6.685	20.731
R&D spend (log)	16.214	1.783	11.071	19.459
Firm size (log)	2.245	1.415	.7773	6.297
Price (€/kg)	3.4266	2.115	.220	10.360

		I	II	III	IV	V	VI
Hypotheses	Independent Variables	Functional innovation	Organic innovation	Market Share	Market Share	Market Share	Market Share
H1	R&D	.0408 (.0715, 0.57)	.1789*** (.0537, 3.34)		.0074** (.0037, 2.01)	-.0057 (.0045, 1.28)	-.0254*** (.0066, 3.84)
H2	BEq	.1466** (.0677, 2.16)	-.2807*** (.0475, 5.91)	.0115*** (.0023, 5.06)		.0039 (.0032, 1.24)	.0213*** (.0057, 3.73)
	SME, dummy	1.7729* (.9156, 1.94)	4.3825*** (.8254, 5.31)			.083 (.0905, 0.92)	.1543 (.1169, 1.32)
	MNC, dummy	-8.0734 (7.132, 1.13)	20.0503*** (3.379, 5.93)			-.6317** (.3092, 2.04)	-.563** (.2688, 2.09)
H3	R&D * SME dummy	-.0383 (.0828, 0.46)	-.5249*** (.0702, 7.47)			-.0061 (.0063, 0.97)	-.0113 (.0087, 1.30)
	R&D * MNC dummy	.2746 (.3334, 0.83)	-2.1056*** (.2585, 8.15)			.1477*** (.0323, 4.56)	.1398*** (.0279, 5.02)
H4	BEq * SME dummy	-.1139 (.0724, 1.57)	.2965*** (.053, 5.59)			.0083** (.0038, 2.20)	.0106** (.0049, 2.14)
	BEq * MNC dummy	.1799 (.1174, 1.53)	.6609*** (.0803, 8.23)			-.1273*** (.0205, 6.22)	-.1214*** (.0183, 6.64)
	Functional, dummy			.1155** (.0577, 2.00)	.1056 (.1224, 0.86)		-.0853 (.1378, 0.62)
	Organic, dummy			.6052*** (.1015, 5.96)	.0326 (.0923, 0.35)		-.0989 (.120, 0.82)
H5	R&D * Functional				-.0064 (.0079, 0.80)		.0413*** (.014, 2.94)
	R&D * Organic				-.0035 (.0059, 0.59)		.0323*** (.0086; 3.78)
H6	BEq * Functional			-.0396*** (.0064, 6.17)			-.0371*** (.0091, 4.06)
				-.0093**			-.0318***

Results (H1-H2)

- **Role of Product Innovation Type (H1-H2)**
 - H1 is partially supported as the effect of R&D on product innovation is significantly stronger for organic ($\beta = .1789, p < .001$) but not for functional brands ($\beta = .0408, p > .10$), compared to conventional brands.
 - H2 is also partially supported, as Brand Equity has a significant positive effect on product innovation for functional brands ($\beta = .1466, p < .01$) but negative for organic brands ($\beta = -.2807, p < .001$).

Results (H3-H4)

- **Role of Firm Type (H3-H4)**

- H3 is partially supported as R&D has a significantly stronger positive effect on market share for MNC brands ($\beta = .1477$, $p < .001$) but not for SME brands ($\beta = -.0061$, $p > .10$), compared to retailer brands.
- H4 is also partially supported as Brand Equity has a significantly stronger effect on market share for SME brands ($\beta = .0083$, $p < .01$) and a weaker effect for MNC brands ($\beta = -.1273$, $p < .001$), compared to retailer brands.

Results (H5-H6)

- **Mediating Role of Product Innovation (H5-H6)**
 - H5 is fully supported as the positive effect of R&D expenditure on market share for both functional ($\beta = .0413$, $p < .001$) and organic ($\beta = .0323$, $p < .001$) brands, compared to conventional brands.
 - H6 is not supported as brand equity has a significant but unexpected negative effect on market share for both functional ($\beta = -.0371$, $p < .001$) and organic ($\beta = -.0318$, $p < .001$) brands, compared to conventional brands.

Discussion

- MNC firms are able to use R&D expenditure to improve their product innovation and market share to a greater extent compared to SME and retailer firms.
- However, stronger brand equity of MNC firms may actually hurt their marketing performance by inhibiting product innovation, especially because different types of innovation vary in their effectiveness.
- Overall, we show that R&D spend and brand equity may not be enough for better marketing performance; and product innovation may be necessary for success, especially in highly competitive categories.

Implications

- Our findings have important implications for the firms from emerging markets such as China and India that want to build strong global brands
- Such firms need to optimize their R&D and marketing spends to develop new products and technologies as well as build stronger brand equity at the same time
- In fact, product innovation could help young firms (e.g., Huawei, Xiaomi etc.) to build their brand equity and challenge their more established competitors from the developed markets (e.g., Apple, IBM, Sony etc.)

Limitations

- We only study three food product categories (juice, milk and yogurt) in Italy, that is typically highly competitive with relatively low brand loyalty
- Future research in other categories (e.g., non-food and durable products, services) and countries (e.g., China) would help test the generalizability of our findings
- We study the differences among retailer, SME and MNC firms and control for firm size and price, but there may be other variables that could be controlled
- We focus on market share within a brand portfolio but it may be useful to study cross-category market shares

Thank You!

Any Comments or Questions?