



## International product adaptation and performance: A systematic analysis of the literature and agenda for future research

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### ABSTRACT

There is a lack of consensus on what the international product adaptation (IPA) concept involves, and only a partial understanding of its outcomes. Our analysis of the IPA-performance link uncovers, for the first time, the multidimensional nature of IPA. We show how the operational approaches used to explore IPA change its meaning across studies, demonstrate that IPA has different impacts across performance types, and highlight the range of mechanisms governing IPA's performance relationships. We present a set of issues that need to be accounted for to build a better theory of IPA's performance consequences, and a roadmap for future research.

### 1. Introduction

International product adaptation (IPA), the customization of products for foreign markets, and its impact on performance is a recurring subject of interest in the marketing literature (Friedmann, 1986; Leonidou et al., 2002; Mandler et al., 2021). The amount of interest in IPA is not surprising given that firms engage in it on a regular basis (Katsikeas et al., 2006; Ward, 1973). Research going back decades highlights IPA's potential to have positive or negative impacts (e.g., Cooper & Kleinschmidt, 1985; Kotabe & Omura, 1989; Wang et al., 2022). While adaptations to other aspects of the marketing mix receive significant attention (e.g., Hultman et al., 2011; Sousa & Novello, 2014; Sraha et al., 2020), it is argued that decisions about IPA are the most important since products are a firm's "central market offer", and because IPA strategies "are the most cost-relevant ones and therefore directly related to a firm's

financial performance" (Schmid & Kotulla, 2011, p. 499).

Researchers have often looked for direct linear relationships between IPA and performance (e.g., Asseraf & Shoham, 2019; Calantone et al., 2004; Cavusgil & Zou, 1994; Sousa & Lengler, 2009), the underlying assumption being that, regardless of a firm's specific context, adaptation is in some way related to business success. They have also looked for more complex forms of that relationship on the assumption that the context is crucial to determining the right levels of IPA (e.g., Carpano & Chrisman, 1995; Gilbert & Heinecke, 2014; Gao et al., 2020; Nath et al., 2019; Subramaniam & Hewett, 2004).

While there have been several attempts to systematically assess the IPA – performance literature (e.g., Mandler et al., 2021), some of them using meta-analysis (e.g., Tan & Sousa, 2013) – see Web Appendix A for an overview – there is a need for an updated systematic analysis of the literature for two reasons. First, no consensus has been reached on what

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**Table 2**  
Features of IPA emerging from operationalizations (frequency count / number of studies).

	Description	Total	1980s	1990s	2000s	2010s	2020s	Examples
<b>IPA Conceptualization</b>								
<b>IPA quantity</b>	The total number of product versions across the firm's product portfolio	16	0	3	7	4	2	Alashban et al. (2002), Townsend et al. (2004), Olejnik and Swoboda (2012)
<b>IPA properties</b>								
<i>IPA content - Elements adapted (top 6)</i>								
Design	Measuring product adaptation involves assessing product design adaptation	40	0	5	15	16	4	Albaum and Tse (2001), Schilke et al. (2009), Zou and Cavusgil (2002)
Packaging	Measuring product adaptation involves assessing product packaging adaptation	33	0	6	9	16	2	Townsend et al. (2004), Waheeduzzaman and Dube (2003), Zou et al. (1997)
Name	Measuring product adaptation involves assessing product or brand name adaptation	32	0	4	13	12	3	Aulakh and Gencturk (2008), Tantong et al. (2010), Xu et al. (2006)
Positioning	Measuring product adaptation involves assessing product positioning adaptation	21	0	1	6	13	1	Baker et al. (2020); Cavusgil and Zou (1994), Efrat et al. (2017)
Quality	Measuring product adaptation involves assessing product quality adaptation	21	0	4	8	7	2	Lado et al. (2004), Shoham (1999), Sousa and Bradley (2009)
Label	Measuring product adaptation involves assessing product label adaptation	18	0	2	3	12	1	Fuchs and Köstner (2016), Lages et al. (2008), Shipchandler et al. (1994)
<i>IPA content - Product types adapted (service / product)</i>								
Products only	Adaptations to elements of products	68	2	8	25	28	10	Hultman et al. (2009), Khan et al. (2015), Khoirunnisa and Almahendra (2022)
Service only	Adaptations to elements of services	0	0	0	0	0	0	–
Products & services	Adaptations to elements of products and services	31	0	5	8	15	3	Fuchs and Köstner (2015), Khan (2020), Sousa and Lengler (2009)
Not specified	No information on whether elements of products or services are adapted	1	0	0	1	0	0	Subramaniam and Venkatraman (2001)
<i>IPA intensity</i>	The number of product elements adapted	64	0	8	26	27	3	Zou et al. (1997), Lee and Griffith (2004), Zeriti et al. (2014)
<i>IPA novelty</i>	The differentness of the resulting adaptation	51	0	6	19	21	5	Carpano et al. (1994), Gabriellson et al. (2012), Gao et al. (2020)
Not specified	Unclear whether intensity or novelty is assessed	24	2	3	6	12	1	Knight (2001), Myers et al. (2007), Giachetti (2016)
<b>IPA Operationalization Issues</b>								
<b>Treatment</b>								
Focused	Operational measure attends exclusively to product adaptation issues	43	1	8	18	11	5	Nath et al. (2019), Subramaniam and Hewett (2004), Zou et al. (1997)
Pooled	Operational measure constructed by pooling product adaptation and non-product adaptation information	54	1	4	15	30	4	Chung (2010), Lee and Griffith (2019), Swoboda et al. (2018)
Focused and pooled	Study creates focused and pooled operational measures	3	0	1	1	1	0	Cavusgil and Zou (1994), Erdoğan et al. (2010), Katsikeas et al. (2006)
<b>Level of analysis</b>								
Firm-level	Evaluates IPA over a wide portfolio of the companies' international activities (e.g., all the firm's activities)	53	1	9	15	23	5	Assadina et al. (2019), Gnizy et al. (2014), Song (2022)
Market-level	Examines adaptation over a more limited scope of firms' operations (e.g., single product market venture / single customer)	47	1	4	19	19	3	Asseraf et al. (2019), Lages et al. (2008), Zeriti et al. (2014)
<b>Frame of reference (Numbers add up to &gt;100: some studies use multiple frames of reference)</b>								
Domestic market	Adaptation is based on whether the products differ in some way from domestic market offering(s)	30	0	5	10	12	2	Carpano et al. (1994), Chung (2009), Navarro et al. (2010a)
International market: across specific markets	Adaptation is the difference between products in two identified international markets	4	0	0	2	2	0	Chung (2003, 2005, 2010)
International market: across all markets	Adaptation is based on amount of adaptation occurring generally across the firm's international markets	27	0	3	14	8	3	Alashban et al. (2002), Gabriellson et al. (2012), Solberg and Durrieu (2008)
International market: within a market	Adaptation framed with respect to how much adaptation is done for a specific customer, market, or set of markets	28	1	3	6	14	4	Shi et al. (2010), Stewart and McAuley (2000), Subramaniam and Hewett (2004)
Compared to competition	Adaptation assessed relative to competitors' adaptations	4	0	0	2	2	0	Hollender et al. (2017), Myers et al. (2007), Trapczyński and Gorynia (2017)
Not specified		10	1	2	2	5	0	Gilbert and Heinecke (2014), Kustin (2010), Tantong et al. (2010)

IPA actually is. For example, Ryans et al. (2003) challenged researchers to investigate the multidimensional nature of marketing adaptation strategy, arguing that without a better conceptual specification, the field

is limited in its ability to generate theoretical and practical insights. Two decades after Ryans et al. (2003) call, we are no closer to knowing what a multidimensional IPA construct might consist of. Most studies,

**Table 1**  
Breakdown of IPA – performance papers by journal.

Journal	N	Authors
Journal of International Marketing	22	Nath et al. (2021), Assadinia et al. (2019), Lee and Griffith (2019), Samiee and Chirapanda (2019), Westjohn and Magnusson (2017), Slangen and Dikova (2014), Zeriti et al. (2014), Magnusson et al. (2013), Swoboda and Elsner (2013), Navarro et al. (2010a), Hultman et al. (2009), Schilke et al. (2009), Gabrielsson et al. (2012), Evans et al. (2008), Xu et al. (2006), Townsend et al. (2004), Chung (2003), Han and Kim (2003), Alashban et al. (2002), Albaum and Tse (2001), Shoham (1999), Carpano & Chrisman (1995)
International Marketing Review	13	Asseraf et al. (2019), Asseraf and Shoham (2019), Olejnik and Swoboda (2012), Chung et al. (2012), Gnizy et al. (2014), Solberg and Durrieu (2008), Lee and Griffith (2004), Lado et al. (2004), O'Donnell and Jeong (2000), Stewart & McAuley (2000); Zou et al. (1997), Johnson and Arunthanes (1995), Koh (1991)
International Business Review	9	Khan (2020), Efrat et al. (2017), Hollender et al. (2017), Swoboda et al. (2018), Trapczyński and Gorynia (2017), Chung et al. (2012), Busnaina and Woodall (2015), Shipchandler et al. (1994), Shoham and Albaum (1994)
European Journal of Marketing	7	Venaik and Midgley (2019), Chung (2010), Erdoğan et al. (2010); Chung (2009), Sousa and Bradley (2009), O'Cass and Julian (2003), Chung (2005)
Journal of Business Research	6	Wang et al. (2022), Navarro-García et al. (2016a), Navarro-García et al. (2014), Calantone et al. (2006), Wu (2011), Kaynak and Kuan (1993)
Journal of International Business Studies	6	Shi et al. (2010), Dow (2006), Lages et al. (2008), Carpano et al. (1994), Kotabe and Omura (1989), Cooper and Kleinschmidt (1985)
Journal of Marketing	4	Gao et al. (2020), Zou and Cavusgil (2002), Cavusgil and Zou (1994), Samiee and Roth (1992)
Management International Review	4	Giachetti (2016), Gilbert and Heinecke (2014), Brouthers et al. (2013), Subramaniam and Hewett (2004)
Journal of Global Marketing	3	Kustin (2010), Waheeduzzaman and Dube (2003), Shoham (1996)
European Journal of International Management	2	Fuchs and Köstner (2015), Navarro-García et al. (2013)
Journal of International Management	2	Knight (2001), Kotabe and Wheeler (1998)
Journal of Product & Brand Management	2	Khan et al. (2017), Khan et al. (2015)
Journal of World Business	2	Myers et al. (2007), Navarro et al. (2010b)
Strategic Management Journal	2	Katsikeas et al. (2006), Subramaniam and Venkatraman (2001)
Academy of Management Journal	1	Aulakh et al. (2000)
Global Strategy Journal	1	Song (2022)
Industrial Marketing Management	1	Li (2010)
International Journal of Innovation Management	1	Bauer et al. (2020)
International Journal of Research in Marketing	1	Özsoy and Simonin (2004)
International Small Business Journal	1	Zahoor and Lew (2022)
Journal of Business & Industrial Marketing	1	Navarro-García et al. (2016b)
Journal of International Entrepreneurship	1	Baker et al. (2020)
Journal of Knowledge Management	1	Khoirunnisa and Almahendra (2022)

**Table 1 (continued)**

Journal	N	Authors
Journal of Marketing Management	1	Sousa and Lengler (2009)
Journal of Marketing Theory and Practice	1	Tantong et al. (2010)
Journal of Management Studies	1	Aulakh and Gencturk (2008)
Journal of Product Innovation Management	1	Calantone et al. (2004)
Journal of Retailing	1	Nath et al. (2019)
Journal of Small Business Management	1	Brouthers and Nakos (2005)
Management Research Review	1	Fuchs and Köstner (2016)
Total	100	

reviews, and meta-analyses have simply considered IPA to be a self-evident feature of international marketing strategy. Thus, without a clear understanding of IPA's conceptual composition, we can only build a partial picture of its performance consequences. Second, while previous work has addressed many aspects of international marketing strategy adaptation, the performance implications of IPA have not been their primary focus. Consequently, much of the available empirical evidence regarding the IPA – performance linkage remains undocumented, and that which is documented is incomplete and selectively reported. In particular, the boundary conditions of the relationship have been overlooked by past review studies, and systematic attention is needed to pull together research findings on this front.

Our objective is, therefore, threefold. First, we develop an empirically grounded understanding of the conceptual domain of IPA. To this end, we undertake a systematic analysis of 100 empirical articles that examine the link between IPA and performance. We clarify the notion of IPA at both its conceptual and operational levels, identifying for the first time the key dimensions comprising IPA, and delineate its treatment (e.g., in relation to other mix elements), levels of analysis, and frames of reference used when operationalizing it. Second, we build a comprehensive picture of the empirical findings on the relationship between IPA and performance. In so doing, we distinguish between the various ways performance has been assessed, and examine the different mechanisms used to examine the IPA – performance relationship and the latter's boundary conditions. We identify critical dimensions of performance currently overlooked and unpick the tangle of empirical findings obtained by researchers who have examined potential contingent mechanisms affecting the link between IPA and performance. Third, we synthesize the literature findings, turning the spotlight on those areas where additional theoretical development and empirical assessment are most needed, and outline a future research agenda.

## 2. Methodology and descriptive overview of the studies analyzed

Our literature analysis follows international business research best practice (e.g., [Debellis et al., 2021](#); [Ponomareva et al., 2022](#); [Zahoor et al., 2023](#)). We used a systematic approach to locate prior studies, select and evaluate contributions, analyze and synthesize data, and report the findings to provide clear conclusions on what is and is not known ([Denyer & Tranfield, 2009](#)). We began by outlining our objectives and then specified the search terms used to locate and collect articles (e.g., [Aguilera et al., 2019](#)). Following established practice, we used the Web of Science (WoS) database (e.g., [Aguilera et al., 2020](#); [Sinkovics & Reuber, 2021](#); [Speldekamp et al., 2020](#)). Web Appendix B provides a detailed account of the search parameters used. Studies of IPA do not always use the term *adaptation* and so additional terms were

included to make sure relevant studies were not missed.<sup>1</sup> Only articles published in journals listed on the Chartered Association of Business Schools (CABS) Academic Journal Guide were included. To ensure inclusion of both earlier and contemporary research studies in our search, which occurred on 28th November 2022, we did not impose a cut-off date before excluding articles. Our search yielded 469 articles. From this initial list we excluded 394 articles that did not cover IPA's performance outcomes or that were non-empirical. This left us with 75 articles. We then used a snowball approach to add relevant articles by checking the references of the selected articles to ensure we did not omit critical articles (e.g., [Christofi et al., 2021](#)). This process led to the inclusion of an additional 25 papers for a final set of 100 studies. [Table 1](#) presents a list of the articles included in the analysis and the journals in which they appeared (see Web Appendix C for a chronological breakdown of articles).

Following [Gaur and Kumar \(2018\)](#), we used an integrative, two-step approach to code the selected articles. We developed an initial coding scheme based on our knowledge of the literature and refined it iteratively using both deductive and inductive approaches. When our final coding scheme was confirmed, we conducted frequency counts across the full list of selected articles, an approach which formed the basis of our content analysis ([Durliau et al., 2007](#)). A detailed description of our coding procedures is available in Web Appendix D. The codes developed are used to classify the articles in [Tables 2](#) through 6.

### 3. IPA: conceptual and operational issues

The first objective of this study is to develop an empirically grounded understanding of IPA. Accordingly, we examined our 100 articles to evaluate how the construct had been conceptualized and operationalized. We found that articles rarely include a detailed discussion of what IPA is. In many of them the construct is presented as a strategic choice: a firm can choose to standardize a product (and other marketing mix elements) in its foreign markets, fully customize (adapt) it, or do something in-between (e.g., [Katsikeas et al., 2006](#); [Samiee & Chirapanda, 2019](#); [Venaik & Midgley, 2019](#)). Thus, at the surface level, IPA is commonly treated as a continuous variable with full standardization and complete adaptation at the extremes ([Griffith et al., 2014](#)). Every empirical article operationalizes IPA in some way to assess its performance impact. Thus, the way this is done provides information on the conceptual meaning implicit in the measurement tools and the meaning imposed by the authors on the concepts they measure. These instruments often convey conceptual meanings that go beyond a mere binary [yes or no (e.g., [Brouthers & Nakos, 2005](#))] or unidimensional [low to high level (e.g., [Assadina et al., 2019](#))] consideration of product adaptation. Therefore, we examine the ways IPA has been operationalized to generate a more coherent conceptualization of the concept. We also examine how operational decisions underpinning the measurement of IPA impact on the meanings inherent in the IPA concepts used in different studies.

[Table 2](#) presents a summary of our observations in terms of five key themes: IPA's conceptualization (quantity and properties: content, intensity and novelty) and IPA's operational issues (treatment, level of analysis and frame of reference). Following our discussions of these observations, we undertake a critical analysis of IPA's conceptual and operational applications, discussing new implications and challenges for theory development, as well as the challenges that our findings pose for interpreting the extant literature base and the accumulation of knowledge.

<sup>1</sup> For instance, IPA and standardization are opposite ends of a continuum ([Griffith, Lee, Yeo, & Calantone, 2014](#)), so terms such as international product standardization, and more abstract terms, such as international marketing strategy, or export marketing strategy, are sometimes used in studies that examine the performance consequences of IPA.

#### 3.1. Conceptualization of IPA

We find that the meaning of the term *international product adaptation* varies across studies. Some place importance on the array of country-markets for which adaptation is made. From this perspective, a basic feature of a firm's IPA strategy is that new versions of products are created for some or all of the different country-markets in which the firm operates. Accordingly, an essential component of any IPA strategy is the *quantity* of product adaptation the firm engages in (how many different versions of products it creates for its foreign markets). Other studies are less interested in the quantity of product adaptation that takes place across the firm's international products and country markets. Instead, these studies place emphasis on whether certain *properties* of products are adapted, looking at the elements that are modified, in other words the content of adaptation, and/or the extent to which the adapted version is different from the original. The conceptual distinction between the quantity and properties of IPA is deeply rooted in its essential descriptions and operationalizations, yet has not been formally acknowledged in the literature.

##### 3.1.1. IPA quantity

Sixteen studies recognize that firms differ with respect to the quantity of IPA they engage in. These studies conceive of IPA in a way that is consistent with [Szymanski et al. \(1993\)](#) view that firms that sell the same product in all their international markets have low product adaptation, and those that sell different versions of the product in all their international markets have high product adaptation. For instance, [Zou and Cavusgil's \(2002\)](#) influential measure of global marketing strategy contains an item asking respondents whether they agree with the statement, "We adopt a standardized core product across all major markets in the world" (p. 49). In line with [Szymanski et al. \(1993\)](#), a high score on this item indicates a low amount of adaptation, because few adapted products are sold in foreign countries, and a low score indicates a high quantity of adaptation, because many adapted products are sold in foreign countries. Likewise, [Lee and Griffith \(2019\)](#) ask respondents to indicate if their firms adapt products in all their foreign markets, with a low score implying low adaptation (adaptation not undertaken in many markets) and a high score high adaptation (adaptation undertaken in many countries). [Shoham \(1996\)](#) also asks respondents to indicate whether products are always adapted or always standardized (or something in between) across markets.

##### 3.1.2. IPA properties

Many studies focus on the extent to which the *properties* of products are adapted for foreign markets and how this affects performance. Underpinning this approach is the recognition that several decisions need to be made to adapt a product. These include identifying the specific elements of the product (e.g., quality, packaging, brand name) that can be adapted, agreeing on those that will be adapted, and determining how an adapted element (or elements) will differ from the original version. Thus, *IPA content*, *intensity* and *novelty* are key properties of product adaptation.

*IPA content*: The literature has looked at which specific elements of the product have been adapted as well as whether the adaptation covers the product, the service, or both (see [Table 2](#)). The most common product elements examined for adaptation are the product design, packaging, and name. In total, 69 different product and service elements have been considered, signaling not only the complexity of adaptation decisions but also the heterogeneity of studies of the content of product adaptation (see Web Appendix E for a breakdown of elements and the frequency with which they have been studied). Most of the product elements identified are studied only once, showing a lack of replication. Interestingly, most studies of IPA's performance consequences examine samples of firms selling physical products, and as a consequence, no studies examine IPA's performance outcomes for products where there are no physical elements, and where adaptation is exclusively

undertaken on a service.

*IPA intensity:* Sixty-four studies engage with the issue of the number of product elements adapted, which we label as *IPA intensity*.<sup>2</sup> *IPA intensity* is captured in instruments such as Zou and Cavusgil's (2002) measure of product adaptation, which asks respondents to rate their agreement with the statement that "Globally standardized components make up a significant percentage of the total cost of our product" (p. 49). Agreeing with this statement reflects a firm's tendency to modify only a few of their international products' elements (low intensity), while disagreeing with it reflects a tendency to adapt many of the elements of international products (high intensity). Using a slightly different methodology, Westjohn and Magnusson's (2017) operationalization of *IPA intensity* asks international managers and executives to comment on their firms' adaptation activities in their chosen international ventures with respect to four product elements: design/style, features, packaging, and labeling. Data relating to these four elements is pooled, and so if a firm achieves a minimum adaptation score, none of the product's features have been adapted, and if the firm achieves a maximum score, all four elements of the product have been adapted. Westjohn and Magnusson's (2017) measurement technique – listing several product elements, and rating whether each element is adapted – is quite a standard approach and is adopted by many of the studies in this analysis. In principle then, measures of this kind are consistent with the idea that international businesses can vary in terms of whether adaptation happens from none or only a few product elements (low intensity), to many product elements (high intensity), or to something in between.

*IPA novelty:* Fifty-one studies ask respondents to rate one or more of an adapted product's elements in terms of, say, its difference to the original product's element(s), ranging from similar, to extremely different, or something in between. We label this concept *IPA novelty*, with higher levels of *IPA novelty* implying greater differentness between the adapted product's element(s) and the original product's element(s).<sup>3</sup> *Novelty* is not the same as *intensity*. While *intensity* focuses on the number of elements that are adapted, *novelty* measures the extent to which an element is different following adaptation. Gilbert and Heinecke (2014), for example, ask respondents to rate the "innovativeness" and "newness" of adapted product elements. Katsikeas et al. (2006) ask respondents to indicate whether the various elements of a product (e.g., quality, packaging) sold in a foreign country are "very similar" or "very different" from those of products sold in the firm's home market. Lages, Jap and Griffith (2008) use "no adaptation" and "extensive adaptation" as their measurement anchors. Finally, Cavusgil and Zou (1994) ask respondents to rate foreign adaptation of product elements (e.g., packaging, labeling) from "none" to "substantial".

### 3.2. Operationalization of IPA

#### 3.2.1. Treatment approaches

The measurement of *IPA* has used focused, pooled, and combined approaches. Of the 100 studies covered, 43 studies treat *IPA* in a focused way (refer to Table 2). *Focused* treatments attend exclusively to aspects of international product adaptation. For example, Gao et al. (2020) study

<sup>2</sup> International product adaptation involves product innovation, and so following Boso, Oghazi & Hultman (2017), Story, Boso, & Cadogan (2015), and Walheiser, Schwens, Steinberg & Cadogan (2021), who use the term product innovation *intensity* to refer to the number of new products the firm creates, we use the term *IPA intensity* to refer to the number of product elements that are adapted in products customized for international markets.

<sup>3</sup> Using *IPA novelty* to refer to the differentness of an internationally adapted product element is consistent with the international product innovation literature (Boso, Oghazi & Hultman, 2017; Story, Boso, & Cadogan, 2015; Walheiser, Schwens, Steinberg & Cadogan, 2021), where the term product innovation *novelty* refers to the extent to which the firm's resulting innovations are radical or different from existing products.

the similarity of the brand name across countries and use it as a predictor of performance, while Nath et al. (2021) study the similarity of retail banners across firms' international markets and model this similarity as a performance driver. In these studies, the measures of product adaptation *only* capture the extent to which products are adapted in some way. A characteristic of focused treatments, then, is that other features of the firm's international marketing strategy (e.g., price, promotion) are not wrapped up in the assessment of product adaptation.

*Pooled* treatments combine product adaptation and non-product adaptation assessments, so the variance of the resulting variable cannot be solely attributed to product adaptations. Aulakh et al. (2000), for instance, create a single variable called marketing standardization by pooling scores for international product, price, promotion, and advertising adaptation. The aggregate score is then used as a performance predictor. Pooled treatments are common in the literature, with 54 studies relying on this approach, and have become even more the norm in recent years, being adopted by nearly 75 % of studies from the 2010s onwards.

Finally, three studies include *both pooled and focused* treatments. In these studies, the analysis that is undertaken using a pooled measure of adaptation is repeated with a focused one. For instance, Katsikeas et al. (2006) main analysis involved a pooled measure of marketing adaptation, but the authors also did a follow-up analysis in which they replicated the main analysis, this time using a product standardization score only.

#### 3.2.2. Level of analysis

Studies also differ in their level of analysis. Some studies take a broad firm-level perspective and consider the degree of *IPA* of all of the firm's products. For instance, Cooper and Kleinschmidt (1985) examine the degree of product adaptation for the firm's international product portfolio and in all its foreign markets. Calantone et al. (2006) likewise adopt a broad perspective, assessing product adaptation in all the export markets of the Fortune 500 business units sampled. This perspective is adopted in 55 articles. Other studies take a country-level perspective, examining adaptation within a more limited scope of firm operations. Kotabe and Omura (1989) examine the extent to which exporters to the US modify a single product for the US market. Similarly, Swoboda et al. (2018) ask respondents about adaptation in just two foreign countries. Country-level studies of adaptation such as these make up the remaining 48 articles. The relative share of these two levels of analyses has remained relatively constant over time (Table 2).

#### 3.2.3. Frame of reference

Measuring product adaptation also requires choosing a frame of reference or benchmark against which to judge the extent of adaptation. As shown in Table 2, the most common way to assess adaptation is to compare products sold in foreign markets with those sold in the home market. For instance, Carpano et al. (1994) ask respondents to rate the similarity of products sold in the firm's five largest foreign subsidiaries to those sold in the home market (the US), while Nath et al. (2021) use the number of foreign retail stores that use the domestic brand name. Other studies benchmark one foreign market against another. Chung (2003, 2005, 2010), for example, models *IPA* as being the degree of difference between the firm's most important product as it is sold in that firm's two most important international markets. Yet other studies assess *IPA* by the extent to which a firm adapts or standardizes products across all (or a large set) of the countries where it sells. For instance, Carpano and Chrisman (1995) measure the extent to which the attributes of products sold internationally are similar across the countries where the firm sells, while Solberg and Durrieu (2008) examine whether the main features of a firm's product are standardized across the world's major countries.

Another method of using international markets as a frame of reference is to identify a market (or a set of markets), and investigate how much adaptation is done within the market(s). In this situation, the

adaptation scores are not explicitly assessed relative to the domestic market or other international markets. For example, in [Shi et al. \(2010\)](#), marketing adaptation is assessed from the perspective of one of the firm's global accounts, and so measurement involves asking the global account manager to rate the extent to which products are adapted for the international customer. Likewise, [Stewart and McAuley \(2000\)](#) establish the extent to which major or minor product adaptations are made for a specific export venture, while [Subramaniam and Hewett \(2004\)](#) ask respondents to evaluate the extent to which the design of one of the firm's products is customized in a specific geographic market. A handful of studies create product adaptation scores by comparing a firm's adaptation activities with those of its competitors. For instance, the [Hollender et al. \(2017, p. 255\)](#) questionnaire contains the item: "Compared to our competitors, we adapt our products/services to foreign markets". Finally, a number of studies that assess product adaptation do not provide sufficient information, or the wording of their questionnaires is too abstract, to make it possible to classify them. One case is [Gilbert and Heinecke \(2014\)](#), who do not provide details on the way they build their scales.

### 3.3. Critical analysis of IPA's conceptual and operational applications

#### 3.3.1. IPA's conceptual dimensions

This study assesses the ways that past research has addressed the notion of IPA, revealing the concept itself to be a complex set of variables. It is evident that product adaptation quantity, and the adaptation properties of content, intensity and novelty, are fundamental dimensions that underpin product adaptation measurement in the IPA—performance literature. However, to date, the literature has been slow to formally incorporate these dimensions into theoretical frameworks and models. As a result, prior research is lacking in terms of an integrated understanding of the benefits and costs of these conceptual variables. See [Fig. 1](#) for a Venn diagram showing how these concepts have been studied jointly. For example, quantity has been studied in 16 and intensity studied in 64 studies, and of those, 6 papers have examined

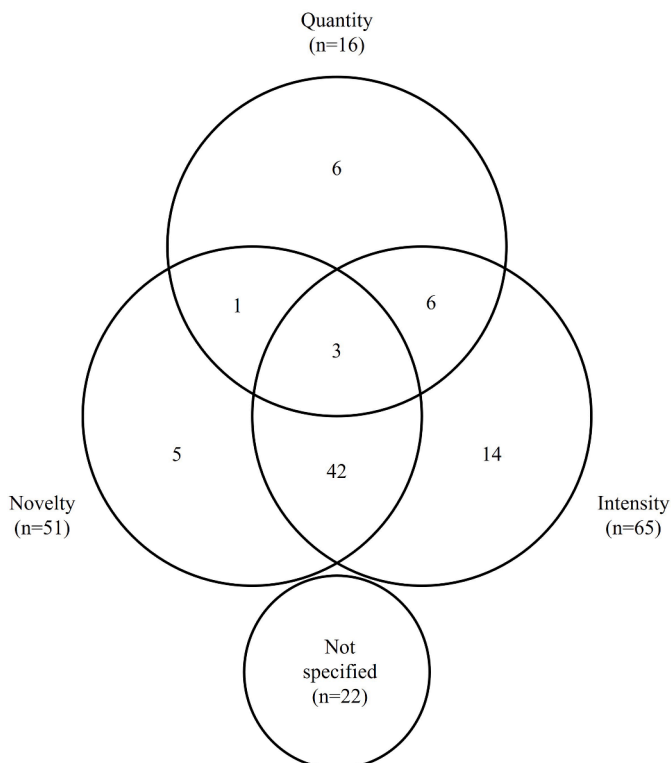
quantity *and* intensity, and nothing else.

There are several observations emerging from this state of affairs. First, in the prevailing body of the literature, the multiple concepts that underpin IPA are conflated under generic umbrella terms, such as *extent* or *degree* of product adaptation (e.g., [Aulakh et al., 2000](#)). Thus, while current research may capture the idea that firms adapt or standardize products to a *substantial* extent ([Westjohn & Magnusson, 2017](#)), our analysis reveals that there are many ways that substantial adaptations can be achieved, and that these ways are far from identical. A substantial level of product adaptation could arise, say, from relatively small changes (low novelty) to many of the product's elements (high intensity), or from fairly substantial changes (high novelty) to just one or two key product elements (low intensity). Alternatively, a firm may offer a great number of product versions in its international markets, and so be deemed to be adapting substantially, regardless of the intensity or novelty of those adaptations. Thus, the empirical literature fails to fully engage with the issue of *how* adaptation occurs, in the sense that the trade-offs between IPA's dimensions (quantity, content, intensity, novelty) are not studied. For instance, it seems at least plausible that a product adaptation that is substantial because a key element is radically different (novel) may get a different customer response from a product adaptation that is substantial because many elements (intense) received minor tweaks. Thus, the current state-of-the-art may be obscuring potentially complex interactive mechanisms by which IPA's conceptual dimensions jointly shape performance.

Second, IPA quantity itself presents the firm with complex decisions. For example, if a firm with only one product sold in its international markets adapts the product once to create an adapted version to sell in its foreign markets, the firm's adaptation quantity score is one. If the firm instead creates two different adapted product versions to sell in its foreign markets, its quantity score would be two. Thus, it is evident that adaptation quantity is both quantitative and additive. Accordingly, since firms can have multiple products, with each of those products having multiple adapted versions sold in the firm's international markets, adaptation quantity is the sum of the adaptation quantities of each product (see [Web Appendix F](#) for an illustration). Respectively, it is also the sum of the individual adaptation quantities for each of the firm's regions, and for each of the countries the firm sells its product in. This opens adaptation quantity up to many different study options and perspectives, such as the development of different theories of adaptation quantity's outcomes at, say, a product level, host country level, subsidiary level, or regional level.

Third, other characteristics that are similar to IPA quantity have the potential to inform IPA research. On this front, product proliferation, as a strategy that entails "increasing product counts" ([Dowell, 2006, p. 962](#)) appears to share features in common with IPA quantity. Typically, product proliferation research is not explicitly international in nature, in that the new product versions are often studied in the context of a specific industry within a single nation (e.g., [Barroso & Giarratana, 2013; Dowell, 2006; Gang et al., 2018; Mainkar et al., 2006; Moreno & Terwiesch, 2016](#)). Yet, product proliferation papers address issues that overlap with IPA research studies, such as the extent to which the strategy can reduce economies of scale by increasing production downtimes and product design, inventory, promotion and distribution costs (e.g., [Dowell, 2006; Gang et al., 2018](#)). Unlike the IPA literature, however, the product proliferation research field seeks to identify how firms can mitigate the costs of adding new products to the firm's portfolio through the "pooling of inventories and components" ([Barroso & Giarratana, 2013, p. 254](#)). Under the same logics, different levels of IPA intensity and novelty may inflate or deflate many of the costs associated with product proliferation, and are likely to affect the relative benefits and downsides of different IPA quantity approaches.

Other factors which have yet to inform the empirical IPA – performance literature include coordination costs and product space complexity arising from product proliferation. For example, higher IPA quantity may generate coordination costs since different versions of



**Fig. 1.** How studies incorporate multiple dimensions of product adaptation.

products sold in different markets can result in self-cannibalization (e.g., Gang et al., 2018): in this case, adapted product versions compete for sales with (and so reduce sales of) the original product or other adapted product versions. Yet the question of whether, and to what extent, adapted products compete with the original products in the firm's international and domestic markets has yet to be studied, and as a result, the performance implications of any such cannibalization are unknown. Similarly unexplored in the context of high IPA quantity approaches are the coordination costs (and mitigation strategies) arising from reduced mutual forbearance and learning capabilities (e.g., Dowell, 2006; Gang et al., 2018).

On a related front, coordination issues may result in costs to customer value creation from increased IPA quantity if it results in widespread loss of a brand's perceived globalness (Steenkamp, 2014), particularly for businesses that "position their brands as symbols of global consumer culture" (Steenkamp, 2019, p. 1). In situations where consumers have strong global cultural identity, engage in global cultural immersion, and enact their perceptions of being global citizens through the consumption of global brands (Strizhakova & Coulter, 2019), the perceived globalness of the brand is one of the core elements of the value proposition (Steenkamp, 2014). By removing the perception that the brand is global (by adapting it and making each version of it appear uniquely targeted at different markets), international businesses might handicap their efforts to deliver value to customers.

Product proliferation research (Barroso & Giarratana, 2013) also recognizes the concept of product space complexity (i.e., the degree to which products marketed within an industry are heterogeneous). Thus, to the extent that higher IPA quantity involves product line extensions in international markets, higher IPA quantity advances the proliferation of products by the firms in those markets, which also increases the complexity in product spaces to some extent (Barroso & Giarratana, 2013; Dowell, 2006). Importantly, high product space complexity may act to deter competitor market entry (e.g., Mainkar et al., 2006), and enhance firm survival chances (Dowell, 2006). Again, these are issues yet to be investigated in the IPA literature.

Finally, looking in more detail at the specific product elements (or aggregates of product elements) that are adapted, it is significant that there is very little research on international service adaptation (Mandler et al., 2021). Specifically, no studies focus exclusively on international service adaptations, and in those studies that do study service adaptations, few facets of services are explored. Yet, it is entirely plausible that there are differences in the costs and benefits of adapting offerings that have physical elements relative to those that have no physical elements (pure services). If so, then a theory of the performance consequences of service adaptation may be quite different from a theory of physical product adaptation.

For instance, while it may be the case that adapting physical products for international markets has significant implications in terms of increasing costs through lost "economies of scale in production and procurement and economies of scope in R&D" (Steenkamp, 2014, p. 11), the same may not be true for services. When adapting services internationally, the firm does not necessarily need to adapt anything tangible, but instead may engage solely in adaptations to the service offering, and/or adaptations to the interpersonal interactions that accompany it (Bettencourt & Gwinner, 1996). Furthermore, in these situations the service provider firm is "usually embedded in the contexts in which services are marketed abroad, interacting directly in simultaneous production and consumption with consumers" (Hofer & Knight, 2022, p. 230). An implication here is that the firm may find that they can easily customize international services at the level of individual clients, yet may not incur some of the traditional costs of adaptation, such as reduced economies of scale. However, some coordination costs may be even higher in the case of international service adaptations, since it may be harder for the firm to manage and control both the international service interaction and the outcomes of those interactions, especially in contexts where differences in culture play a significant role (Hofer &

Knight, 2022; Jouny-Rivier et al., 2017), and where the service is delivered by independent contractors (Goerzen & Makino, 2007; Pires & Stanton, 2000). The heavy concentration of research studies examining traditional (physical) product adaptations, therefore, poses a challenge for researchers interested in generating generalizable insights into the costs and benefits of other kinds of IPA activity.

### 3.3.2. IPA's operational issues

The differences in operational decisions and approaches used across the IPA — performance literature have important implications for the meanings inherent in the notion of IPA in different studies, and by implication, create challenges for those seeking to understand the entire empirical literature base in terms of IPA's outcomes. Looking first at the issue of IPA treatment, we see that focused treatments only consider adaptation of product elements, while pooled treatments use information about adaptations to non-product aspects of the marketing mix when constructing an adaptation measure. Consequently, pooled treatments ignore specific variance in IPA, and so do not address the possibility that product and non-product adaptations occur in different ways. Pooled treatments effectively disregard the possibility that a firm's international marketing strategy may involve lots of product *adaptation*, say, but may also involve lots of promotion *standardization*. As a result, the observed relationship between a *pooled adaptation score* and performance cannot shed light on IPA's covariance with performance. This state of affairs is problematic in terms of developing and testing theory that informs the world about the outcomes of adapting the firm's products. Thus, it makes sense to seek further validating information for any claim about the performance outcomes of IPA if the study making that claim uses a pooled treatment approach.

Furthermore, focused treatment studies can *also* vary in their degree of focus, and so may have similar issues to the pooled studies above. Specifically, some focused treatments are very narrowly focused, and only examine adaptations to a single product element. For instance, Gao et al. (2020) examine only the performance outcomes of adaptations to the brand name. In studies of this kind, variations in adapting the product element in question can be examined to determine the performance outcomes of that adaptation. In this situation, where a very narrow facet of product adaptation is studied, there is great scope for drawing meaningful, even generalizable, insights into the consequences of adapting *that* product element.

However, other focused treatment studies are broader in scope, since although they only attend to adaptations to products, the construction of the IPA instrument involves assessing adaptations to multiple product elements. For example, Hultman et al. (2009) create a product adaptation score that is an aggregate of adaptations to multiple product elements, including quality, packaging, and branding. These broader scope studies provide information about the performance consequences for firms that do more or do less product adaptation. However, since firms can decide to adapt some product elements (e.g., the brand name) but not others (e.g., packaging)<sup>4</sup>, broader scope studies do not shed light on the outcomes of individual product element adaptation decisions.

It seems, therefore, that there is a kind of hierarchy in terms of how much specific information concerning *product* adaptation one can generate with the measures used in the literature. Pooled treatments appear to be most ambiguous, since they contain information on marketing activities that are not product adaptations. They acknowledge that IPA can happen at the same time as adaptations to other elements of the marketing mix, incorporating the fact that adaptation factors other than IPA may affect the performance of adapted products in international markets. What is missing from these latter studies is information about what happens to the IPA – performance link at different levels of

<sup>4</sup> For example, when entering the Saudi Arabia market, Too Faced changed the Better than Sex mascara brand name to Better than Love, but kept the packaging the same as that used in the rest of the world.

adaptations to other marketing mix elements. Focused treatments with a broad scope solve part of the problem by providing information that is solely about adaptations to products, but they merge information on how different elements of products are adapted. Again, what is missing is information on how individual product element adaptations shape, and interact to shape, success. Focused treatments with a narrow focus are the most precise, shedding light on the extent to which adaptations to individual product elements shape performance. Multilevel theories of IPA could potentially incorporate variance in IPA using all treatment approaches. We explore treatment issues more in [Section 5](#).

In terms of levels of analysis, at the extremes, studies measure IPA at the level of what [Cavusgil & Zou \(1994\)](#) describe as an international product-market venture (one product in one foreign market), or at the level of the firm's entire international product portfolio. It is notable that the literature does not explicitly accommodate these different levels of analysis when developing and testing theory, yet some accommodation to theory may be needed.

At the level of the firm's entire firm product portfolio, the business can operate hundreds of international ventures ([Oliveira & Cadogan, 2018](#)). At this level of analysis, then, IPA *quantity* emerges as an inherent feature of IPA's nomological network of constructs, causes, and effects operating on firm success (e.g., via product (re)development budgets, economies of scope in R&D, product quality of adapted products, economies of scale in production, and various coordination costs). The existence of IPA quantity is effectively disregarded, however, when one develops and tests theory about IPA within a single product-market venture: in these kinds of studies, IPA quantity is implicitly considering it to be a constant with a value of one. Although unfortunate, it is perhaps understandable that studies that focus exclusively on the marketing strategy drivers of venture-level outcomes (e.g., [Cavusgil & Zou, 1994](#)) overlook firm-level issues.

On the other hand, in the latter kind of studies, there is often a greater recognition that different marketing strategies can have different performance outcomes in different ventures ([Cavusgil & Zou, 1994](#)). Accordingly, in these studies, there is a more concerted effort to isolate what is happening in terms of product adaptation's likely causal mechanisms in a single venture, not in multiple ventures. Thus, a potential weakness of studies adopting a whole-firm level of analysis is that they do not adjust their theories to recognize the differences in the outcomes of IPA strategies across the ventures making up the firm's portfolio. Rather, in these latter cases, both IPA and performance are assessed at an aggregate level across all international ventures, and the nomological networks under investigation ignore variations in IPA approaches used by firms across their ventures. Again, we talk more on these issues in [Section 5](#) when discussing future research opportunities.

Last, different choices with respect to the frame of reference chosen when measuring IPA bring with them different implications for the conceptual meaning of what is measured. As a result, the conceptual content of measures that use different frames of reference are not necessarily identical. Take the situation where a study uses the domestic market as a benchmark to measure IPA. A firm that makes substantial modifications to a domestic product in its key foreign markets will score high in adaptation for this product under this frame of reference. However, the situation changes if other foreign markets are chosen as benchmarks instead of the domestic market: here, if the firm sells that same adapted product with no modification in all its other foreign markets, then the firm would score low on IPA. Studies using different benchmarks may come to very different conclusions about how much product adaptation is taking place. Because each benchmark provides only a partial picture of adaptation, it may be that there are opportunities to develop better theory regarding the performance outcomes of IPA by accommodating multiple benchmarks in the same model, thereby generating a holistic picture of a firm's IPA.

## 4. Research on performance outcomes of IPA

### 4.1. Facets of performance studied

In terms of IPA's performance consequences, we follow [Katsikeas et al. \(2016\)](#) who categorize firm performance outcomes along a performance-outcome chain. The chain begins with customer mindset outcomes and other customer behaviors and consequences, and these represent a key nexus through which marketing programs must pass if they are to cause organizational performance outcomes further along the line (e.g., cash flows, profits, investor returns). Our study assesses the potential performance consequences of IPA at each node of the performance chain, in order to develop a comprehensive picture of the mechanisms at play. Accordingly, as can be seen in [Table 3](#), our examination of IPA's effectiveness is organized using the following categories: customer performance, product market performance, accounting performance, company performance, financial market performance, and others. Altogether, 93 unique performance variables have been used in the literature, with many studies using more than one. For instance, [Shoham and Albaum \(1994\)](#) examine ten performance outcomes while [Samiee and Chirapanda \(2019\)](#) study four.

Several other observations can be made. Our results show that only four studies of IPA's impact focus on customer performance outcomes, that is customer mindset and customer behavior (e.g., [Katsikeas et al., 2006](#)), and most of those are relatively recent (three appear in the 2010s). On the other hand, assessments of IPA's performance outcomes typically happen at the product-market level, with success measured via, for example, product-market performance scores (e.g., [Westjohn & Magnusson, 2017](#)), market share assessments (e.g., [Chung, 2003](#)) and sales revenues (e.g., [Samiee & Roth, 1992](#)). A smaller number of studies focus on accounting-based performance measures such as return on investment (e.g., [Carpano et al., 1994](#)) and return on sales ([Nath et al., 2019](#)). Compared to product-market performance measures, relatively few studies focus on the accounting-based performance metrics, although accounting-related information is often used in product-market performance aggregates, along with other kinds of performance score. A similar number of studies have looked at company-wide outcomes such as overall company growth and overall business performance (e.g., [Kotabe & Wheeler, 1998](#); [Waheeduzzaman & Dube, 2003](#)). We find no studies that explore the relationship between product adaptation and financial market performance. Finally, a few studies look at performance outcomes that do not fit neatly into any of [Katsikeas et al. \(2016\)](#) core performance categories. These other performance variables include innovativeness (e.g., [Efrat et al., 2017](#)), perceived competitive advantage (e.g., [Albaum & Tse, 2001](#)), international operation mode/control (e.g., [Slangen & Dikova, 2014](#)), and degree of internationalization (e.g., [Zahoor & Lew, 2022](#)).

### 4.2. Performance mechanisms studied

As we show in Web Appendix A, prior systematic reviews that touch on IPA issues either do not go as far as linking IPA to specific performance outcomes ([Mandler et al., 2021](#)) or do not address the literature findings regarding contingent effects of IPA, and so provide an incomplete overview of the empirical evidence ([Birmik & Bowman, 2007](#)). The sole review study which attempts to map the strategic fit-based mechanisms that link IPA to performance limits its report to just a subset of the relationships uncovered, meaning that competing or contradictory findings are sometimes disregarded ([Schmid & Kotulla, 2011](#)). We extend these previous reviews and, similar to [Schmid and Kotulla \(2011\)](#), we use [Venkatraman's \(1989\)](#) classification of fit-based relationships to organize our findings with respect to the mechanisms that link IPA with performance.

#### 4.2.1. Direct IPA – performance relationships

We identified those studies that sought to examine *only* direct causal



**Table 3**  
Classification of IPA performance outcomes.

	Description	Total*	1980s	1990s	2000s	2010s	2020s	Examples
Customer Performance	Includes customer mindset, customer behavior, customer level performance	4	0	0	1	3	0	Khan et al. (2015, 2017), Samiee and Chirapanda (2019)
Product Market Performance	Includes unit sales, market share, product, brand and international outcomes at the level of a specific product market or sub-set of markets	60	1	10	23	25	1	Chung (2003), Hultman et al. (2009), Shoham and Albaum (1994)
Accounting-based Performance	Performance measures related to the kinds of financial outcomes typically reported in financial reports and statements (revenue, profit, and cash flow based)	27	1	5	12	7	2	Chung (2005), Nath et al. (2019), Song (2022)
Company Performance	High-level assessments of the firm's overall performance – often reflecting the firm's goals or aggregates of performance scores	21	0	3	8	7	3	Bauer et al. (2020), Swoboda et al. (2018), Wang et al. (2022)
Financial Markets	Assessments of a firm's performances by financial markets, grounded in reward and risk evaluations	0	0	0	0	0	0	
Other	Intermediate performance consequences, including decision making, competitive advantages, strategic performance and internationalization outcomes	19	0	1	7	8	3	Efrat et al. (2017), Evans et al. (2008), Zou and Cavusgil (2002)
	Total	131	2	19	51	50	9	

relationship between IPA and performance. Looking at the top row of Table 4, 59 studies are of this kind. Some of them model the relationship on more than one sample (e.g., Calantone et al., 2004; Khan et al., 2015; Özsomer & Simonin, 2004), while some use multiple product adaptation elements (e.g., Brouthers et al., 2013; Lado et al., 2004; Shoham, 1996) or more than one kind of performance outcome (e.g., Fuchs & Köstner, 2016; Nath et al., 2019). See Web Appendix G for the breakdown of the results related to these direct relationships over time (top half of table), and by type of performance outcome (lower half of the table).

Over these studies, there are 216 relationships assessed. As a whole, direct positive relationships ( $n = 87$ ) outweigh direct negative relationships ( $n = 37$ ), and are approximately on a par with nonsignificant relationships ( $n = 92$ ) meaning that, in these direct effect only studies, greater levels of product adaptation (lower levels of standardization) are more commonly positively associated with performance than negatively associated with performance. In terms of patterns across performance types, the impact of product adaptation is never positive for customer-based performance, is generally positive for product-market performance, and typically is insignificant for accounting-based performance measures.

Direct (main) effects are also commonly modelled in some types of fit

analyses. For instance, in fit as moderation studies, the relationships under investigation are generally of the product interaction kind, where the score for product adaptation (or a score for an element of product adaptation) is multiplied by the score for some moderator variable. These studies generally assess both a direct effect and one or more moderator effects, and one can interpret the direct effect as being the assumed direction and magnitude of the relationship between IPA and performance if the moderator variables all take on a hypothetical value of zero. There are 54 such direct effects reported in the literature: a majority of 33 are insignificant, while 14 are positive, and seven are negative. See Web Appendix H for an overview.

#### 4.2.2. Fit mechanisms

There are 49 studies that use one or more of the six fit mechanisms outlined by Venkatraman (1989) to model the impact of product adaptation on performance. The lower part of Table 4 lists the fit approaches taken in these studies. The most common ones are confirmatory ( $n = 36$ ), with fit as moderation ( $n = 31$ ) as the most widely used. Indeed, the use of this approach appears to have grown faster than that of other kinds of analyses. These confirmatory fit modeling approaches, however, have limitations (Liu et al., 2016) in that they rely on existing

**Table 4**  
Performance mechanisms adopted across 100 studies\*.

	Description	Total	1980s	1990s	2000s	2010s	2020s	Examples
Direct effects only analyses	Includes analyses that model product adaptation in a correlation / regression / structural model with no formal assessment of fit	59	1	10	25	22	1	Calantone et al. (2006), Sousa and Bradley (2009), Song (2022)
Fit analyses	Formally assesses fit, using either fit as moderation, mediation, matching (residuals), gestalts, profile deviation, or covariation	49	1	3	14	21	10	Berry and Kaul (2022), Shoham (1996), Zeriti et al. (2014)
	Total	108	2	13	39	43	11	
Breakdown of fit studies								
	Fit as moderation	31	0	1	6	16	8	Aulakh et al. (2000), Hollender et al. (2017), Zahoor and Lew (2022)
	Fit as mediation	3	0	0	1	0	2	Bauer et al. (2020), Wang et al. (2022), Xu et al. (2006)
	Fit as profile deviation	2	0	0	1	1	0	Samiee and Chirapanda (2019), Xu et al. (2006)
	Fit as matching (residuals & deviation)	6	0	1	3	2	0	Dow (2006), Katsikeas et al. (2006), Gabrielsson et al. (2012)
	Fit as gestalts (clusters, groups, archetypes)	6	1	1	2	2	0	Chung et al. (2012), Cooper and Kleinschmidt (1985), Han and Kim (2003)
	Fit as covariation	1	0	0	1	0	0	Xu et al. (2006)
	Total	49	1	3	14	21	11	

\* The following studies adopt multiple approaches to provide different perspectives on the performance mechanism: Katsikeas et al. (2006), Gabrielsson et al. (2012) and Wang et al. (2022) adopt two approaches; Bauer et al. (2020) adopt three approaches; and Xu et al. (2006) adopt five approaches.

theory to identify the most important variables (Venkatraman, 1989). Accordingly, it is not surprising that exploratory approaches to fit have also been used ( $n = 13$ ), because they do not impose a functional form for the links between IPA, potential contextual variables, and performance (Venkatraman, 1989). Within the fit as moderation approach (see lower half of the table in Web Appendix H), there are 91 tests of moderation, of which 59 are significant and 32 insignificant. Interestingly, no studies of moderator effects use customer-level performance as a performance variable.

Table 5 shows the moderators used in these studies and their frequencies, as well as whether their results were significant or insignificant. Following, among others, Katsikeas et al. (2006) and Hultman et al. (2009), we grouped moderators according to whether they are external to the firm and macroenvironmental, external to the firm and microenvironmental, or internal to the firm. We further grouped internal factors according to whether they are about firm-level strategies, firm resources or capabilities, structural issues, firm characteristics, product characteristics, or characteristics of firm managers. For example, global diversity is a macroenvironmental moderator that is external to the firm, has been studied twice as a moderator, and is significant once. Moderators from the external macroenvironment have been modelled just seven times, and of those, five were statistically significant.

Moderators external to the firm make up a relatively small proportion of those studied (19 out of 91), with macroenvironmental factors being marginally more common than microenvironmental ones. The majority of moderator variables ( $n = 72$ ) used in fit as moderation studies are internal to the firm, and many of those are related to strategy. Structural issues, firm characteristics, and firm resources and capabilities are slightly less common, while characteristics of the product and those of the managers making adaptation decisions are only relatively rarely examined. Furthermore, very few variables from any class of moderators have been extensively examined. For example, aside from Shoham (1996),<sup>5</sup> the most studied moderators are market dynamism and cultural distance, each being used in only three analyses.

Table 6 summarizes the key results from the remaining fit studies. There are few of them, so there is little to see in the way of a pattern. Nevertheless, some important observations can be made. Across the fit as mediation studies, the only kinds of mediators explored have been organizational structural issues. Profile deviation studies tend to define fit in terms of the external environment, and rarely consider whether internal factors play a role in shaping the appropriateness of IPA.

Among studies that are not approaching the issue of fit from a moderation angle, matching studies are relatively popular, using either deviation score analysis (Carpano & Chrisman, 1995) or residual analysis (e.g., Dow, 2006; Gabrielsson et al., 2012; Hultman et al., 2009). Fit scores produced with these methods usually indicate that the better the fit, the better the performance. Two studies, however, investigate non-linear effects and find U-shaped curves which suggest that there is an optimal level of fit (e.g., Dow, 2006). The types of fit used in these studies include a large number of variables dealing with the macro and micro environments. Yet, it is also noticeable that no variables related to the firm's resources or capabilities, and very few internal strategy variables, have been assessed from a fit as matching perspective. In turn, Gestalt studies cover a lot of methodological ground, and use clustering, groups, and archetypes. They have examined factors internal to the firm and have excluded external environmental variables. Last, the sole covariation study, Xu et al. (2006), examined only two organizational structure variables and one adaptation variable. Web Appendix I provides a more detailed breakdown of the sources of fit examined in studies using mechanisms other than fit by moderation.

<sup>5</sup> Shoham (1996) undertook 20 tests with export planning as the moderator of the relationship between different facets of export product adaptation and export success. All the tests were undertaken on a single data set.

#### 4.3. Critical analysis of performance outcomes

Our examination shows that the IPA – performance literature is highly complex. The 100 empirical studies examined feature nearly 100 unique performance variables as the dependent variable. Although these can be grouped into types of performance (e.g., customer performance, financial performance), the differences in the performance variables being studied, even within a performance category, make it more challenging to draw meaningful generalizations from the empirical base. For instance, under Katsikeas et al. (2016) marketing-performance outcome chain model, accounting performance variables include sales revenue and cost outcomes: yet it is possible that product adaptation has different kinds of consequences for these two performance features.

Reflecting on the types of IPA outcomes examined so far, it is instructive to note that according to the marketing-performance outcome chain, upon implementing marketing programs, the first step in the chain is customer performance, while the final step in the chain for publicly traded firms is financial market performance (Katsikeas et al., 2016). Indeed, in the IPA literature, a core feature of the argument in favor of engaging in product adaptation is the assumption that IPA enables the firm to deliver higher levels of customer value, particularly when customer needs are heterogeneous across countries (e.g., Lee & Griffith, 2017). Interestingly, Ryans et al. (2003, p. 596) argue that there is a need for adaptation theories that are richer and more detailed, and that challenge the status quo, explicitly calling on researchers to “no longer simply assume the relationship between value delivery [arising from international adaptation] and performance”. Thus, they appeal for research that puts the core assumptions underpinning the IPA literature to the test, potentially requiring studies that examine, for instance, whether and how IPA enhances firms' customer value delivery capabilities, and so influences customers' responses to IPA. To date, only four IPA studies have answered Ryans et al. (2003) call. The outcome variables they have considered have been limited to brand perceptions (e.g., of quality), attitudes towards the brand (e.g., satisfaction, likeability), and customer behaviors (e.g., purchase decisions, loyalty, referrals). Thus, little is known about how product adaptation in international markets drives customer outcomes in general, and nothing is known about how adaptation shapes specific customer-level performance outcomes such as share of wallet, customer lifetime value, or customer profitability. In short, a core assumption of the IPA literature, namely that customer value delivery arises from adapting products to international market needs, appears to be ripe for in-depth study.

Another under-researched area is the final step in the market-performance outcome chain for publicly traded firms, that is, financial market-based assessments of the performance consequences of product adaptation. This is at odds with the “rapid recent rise in the use of stock market-related measures of performance” in the marketing literature and beyond (Katsikeas et al., 2016, p. 10). Yet, there is reason to believe that product adaptation strategies (i.e., high IPA quantity approaches) may reduce the vulnerability of the firm to market failure (Dowell, 2006) and, given that managers' perceptions of vulnerability-related risks commonly inform their internal investment decisions (Katsikeas et al., 2016), we might expect IPA activity to impact financial market-related outcomes.

Last, the IPA – performance literature is consistent with the notion that the performance outcomes of IPA flow along a marketing performance-outcome chain, potentially impacting other more distal performance outcomes both directly and indirectly, through earlier more proximal performance outcomes such as customer behaviors (Katsikeas et al., 2016). However, there is little effort within the literature to build more holistic pictures of how IPA shapes the performance of the firm by recognizing IPA's impact on multiple causally inter-related facets of performance. Models that take into account the potential for IPA to simultaneously shape different performance outcomes in different ways, and for those performance outcomes themselves to be causally linked, are rare in the literature.

**Table 5**  
Moderators adopted across 32 fit as moderation studies.

Moderator classification	Descriptions / labels of moderators (number of studies <sup>A</sup> ) <sup>B</sup>	Total <sup>C</sup>	Significant <sup>D</sup>	Not significant <sup>D</sup>	Examples
External Macroenvironment	Global diversity (e.g., economic, social, political factors) (2) <sup>B</sup> ; Technological uncertainty (1) <sup>B</sup> ; Technological development (1) <sup>B</sup> ; Institutional voids (1); Economic development (1) <sup>B</sup> ; Development of country (1) <sup>B</sup>	7	5	2	Li (2010), Nath et al. (2019), Efrat et al. (2017)
External Microenvironment	Competitive intensity (1) <sup>B</sup> ; Cultural distance (3) <sup>B</sup> ; Global customer demand (1) <sup>B</sup> ; Market complexity (1) <sup>B</sup> ; Psychic distance (1) <sup>B</sup> ; Unanticipated effects (1); Cultural diversity (1) <sup>B</sup> ; Market dynamism (3) <sup>B</sup> ; Total	12	10	2	Baker et al. (2020), Khan (2020), Wang et al. (2022)
Internal Strategy	Cost leadership (1) <sup>B</sup> ; Differentiation (1); Price-based differentiation (2) <sup>B</sup> ; Status-based differentiation (2) <sup>B</sup> ; E-commerce focus (2) <sup>B</sup> ; Emerging market focus (2) <sup>B</sup> ; Developed/developing market focus (1); Export planning (20) <sup>B</sup> ; Global market participation (1) <sup>B</sup> ; Global penetration (2) <sup>B</sup> ; Internationalization (1) <sup>B</sup> ; Country-based interaction orientation (1) <sup>B</sup>	19	15	4	Nath et al. (2019, 2021),
Internal Resources / capabilities	International marketing agility (1); Foreign market intelligence / information processing (2) <sup>B</sup> ; Export market orientation (1) <sup>B</sup> ; Export learning process (2) <sup>B</sup> ; Opportunity sensing (1) <sup>B</sup> ; Regional orientation (1) <sup>B</sup>	8	6	2	Navarro-García et al. (2014), Assadinia et al. (2019), Asseraf et al. (2019)
Internal Structure	Formalization (1) <sup>B</sup> ; Coordination of marketing activities (1) <sup>B</sup> ; HQ-Subsidiary manager contact (1) <sup>B</sup> ; HQ-subsubsidiary cooperation (1) <sup>B</sup> ; Entry mode (control) (2) <sup>B</sup> ; Marketing integration (1) <sup>B</sup> ; Inter-regional distance (1) <sup>B</sup> ; Global Management Process (1); Ownership (1) <sup>B</sup> ; Socialization (1); Structure (1)	12	9	3	Schilke et al. (2009), Hollender et al. (2017), Khoirunnisa and Almahendra (2022)
Internal Firm characteristics	Firm size (1) <sup>B</sup> ; Subsidiary size (1) <sup>B</sup> ; B2B/C focus (1); Firm international experience (2) <sup>B</sup> ; Home market performance (1) <sup>B</sup> ; Subsidiary manager international experience (1); Subsidiary manager marketing experience (1) <sup>B</sup> ; Industry (2) <sup>B</sup>	10	7	3	Slangen and Dikova (2014), Westjohn and Magnusson (2017), Gao et al. (2020)
Internal Product characteristics	Informativeness of brand name (1) <sup>B</sup> ; Product homogeneity (1) <sup>B</sup> ; Product positional advantages (1) <sup>B</sup> ; Time in market (1) <sup>B</sup> ;	4	4	0	Schilke et al. (2009), Westjohn and Magnusson (2017), Gao et al. (2020)
Internal Individual characteristics	Metacognitive cultural intelligence (1) <sup>B</sup> ; Motivational cultural intelligence (1) <sup>B</sup>	2	2	0	Magnusson et al. (2013)
Grand total	Total	72	44	28	
		91	59	32	

A: The number of times the moderator is used in fit as moderation analyses. B: Indicates that moderator is significant in at least one study. C: The number of times variables from the moderator classification are used. D: The number of times variables from this moderator classification are (not) significant. S: The 20 not significant results in this cell are heavily determined by Shoham (1996) who undertook 20 tests of Export planning as a moderator, of which 14 were not significant.

**Table 6**  
Summary of fit studies results excluding fit as moderation.

Results summary	
Mediation	Five variables found as mediators of the relationship between product adaptation and performance.
Profile deviation	Across 10 profile deviation score —performance relationships, all are significantly related to performance.
Matching	Across 13 fit scores calculated, fit increases performance in 10 instances, is not significant in one instance, and has an invert u-shaped relationship with performance in two instances.
Gestalt	In five of six studies, performance differences are observed across at least some clusters.
Covariation	In the one study undertaken, covariation is not a significant predictor of performance.

4.4. Critical analysis of performance mechanisms

When direct effects are examined, instances of positive relationships between levels of adaptation and performance far exceed instances of negative relationships. Nonetheless it is hard to draw any meaningful inferences from these observations given that insignificant results dominate. This pattern of results suggests the need to model the IPA – performance relationship with more complex models that account for heterogeneity across countries and in customer needs. The research field appears to be recognizing this. While studies featuring direct effects dominated in the 1990s and 2000s, parity between direct effects and fit analyses emerged in the 2010s, and in the 2020s, only one study features

exclusively direct effects. Overall, this pattern indicates a swing towards theoretically richer conceptions of how IPA affects business outcomes, and a recognition that situational features play a role in determining the benefits of IPA.

On this front, nearly 100 different situational variables have been examined for their potential role in various different kinds of fit mechanisms. A lack of replication, however, is a concern, adding to the challenge in drawing solid conclusions on the stability of the moderators and fit variables used. Further, given the centrality of customer value delivery’s role in IPA – performance logics, it is telling that no studies examine moderators of the IPA – customer performance link. Yet, for firms operating in markets with customer needs and wants that are highly heterogeneous and uncertain (Barroso & Giarratana, 2013), the firm’s ability to do a good job in developing new products for those customers may be stretched (c.f., Cavusgil & Zou, 1994), not least because the firm may find it difficult to manage the wide range of procedures and processes that underpin the design and production of the substantially different product variants the firm needs to produce (Dowell, 2006). Consequently, it seems reasonable to assume that the responses of customers to firms’ IPA approaches will be influenced by a wide variety of situational factors (e.g., the firm’s international market orientation and its new product development capabilities), and to presuppose that models that accommodate moderation of the IPA – customer performance relationship are necessary.

On the whole, if one takes how well fit is understood as a benchmark of the state of research in a field of study (Hall & Rosenthal, 1991), the literature examining IPA’s performance outcomes has a long way to go.

The patterns of results regarding fit do not make it easy to draw generalizable conclusions about how it operates. For example, from the reported results of fit studies, it is difficult to tell whether moderation is present or not, regardless of what the findings indicate. As a case in point, Kingsley et al. (2017) show that most studies in the international research field undertaking moderator analysis fail to examine the marginal effect of the independent variable over the range of values of the moderator variable. As a result, these analyses risk overstating or understating the results of interaction terms. The problem Kingsley et al. (2017) identify is evident in the IPA literature: to fully grasp the results of studies reporting potential moderators of IPA's performance outcomes, one would need to know the marginal effects of adaptation on success at different values of the moderator variable. Yet these marginal effects are not reported. Compounding this problem, IPA studies using fit as moderation may be overstating many moderator effects in instances where moderator effect sizes are relatively small and the power to detect those effects is relatively low (see Meyvis & van Osselaer, 2018). In this situation, the procedures required to identify moderator variables make "enormous demands on sample size" (Evans, 1991, p. 9), and the risk is that statistically insignificant moderators are selectively removed from reported results, leading to possible file drawer issues (Wagner, 2022). Thus, it is interesting to note that in the IPA – performance literature, approximately 65 % of the moderators studied have turned out to be statistically significant. Potential power and file drawer issues are not limited to the fit as moderation studies, of course, but are equally relevant to other approaches to the assessment of fit, including profile deviations, archetypes, clusters, fit scores, and mediation analyses.

Finally, despite the shift towards richer models, non-linear relationships are rarely explored. Only Dow (2006) considers this possibility, finding that the relationship between product adaptation and performance is inverted-U shaped for any given set of contextual variables. However, given the limited empirical research, non-linear

relationships warrant further investigation. We summarize the main empirical findings in Web Appendix J, and in the next section present a roadmap for future research.

### 5. Research directions and overall conclusions

Our review of the IPA–performance literature gives rise to five observations (see Fig. 2):

1. IPA is a multidimensional concept made up of adaptation quantity and its properties: content, intensity, and novelty.
2. Contextual factors related to operationalizing IPA (treatment, level of analysis, and frame of reference) shape the conceptual meanings of IPA measures, which vary across studies.
3. IPA can be causally linked to many different types of performance outcomes.
4. The IPA – performance linkage mechanisms are complex: linear models are not sufficient.
5. Numerous situational factors determine performance outcomes.

We build our future research agenda by integrating these five key observations, knitting them together into a structured model in which we identify prospective linkages between concepts and relationships in need of elaboration.

#### 5.1. Theorizing with the new dimensions of IPA

We identify adaptation quantity and adaptation properties (content, intensity, and novelty) as the core conceptual elements of IPA. Yet, while the multidimensional nature of the construct is apparent when one examines the operational measures employed, the distinctions between quantity and the properties of adaptation have not been formally recognized in the literature. This leaves us with a basic question about

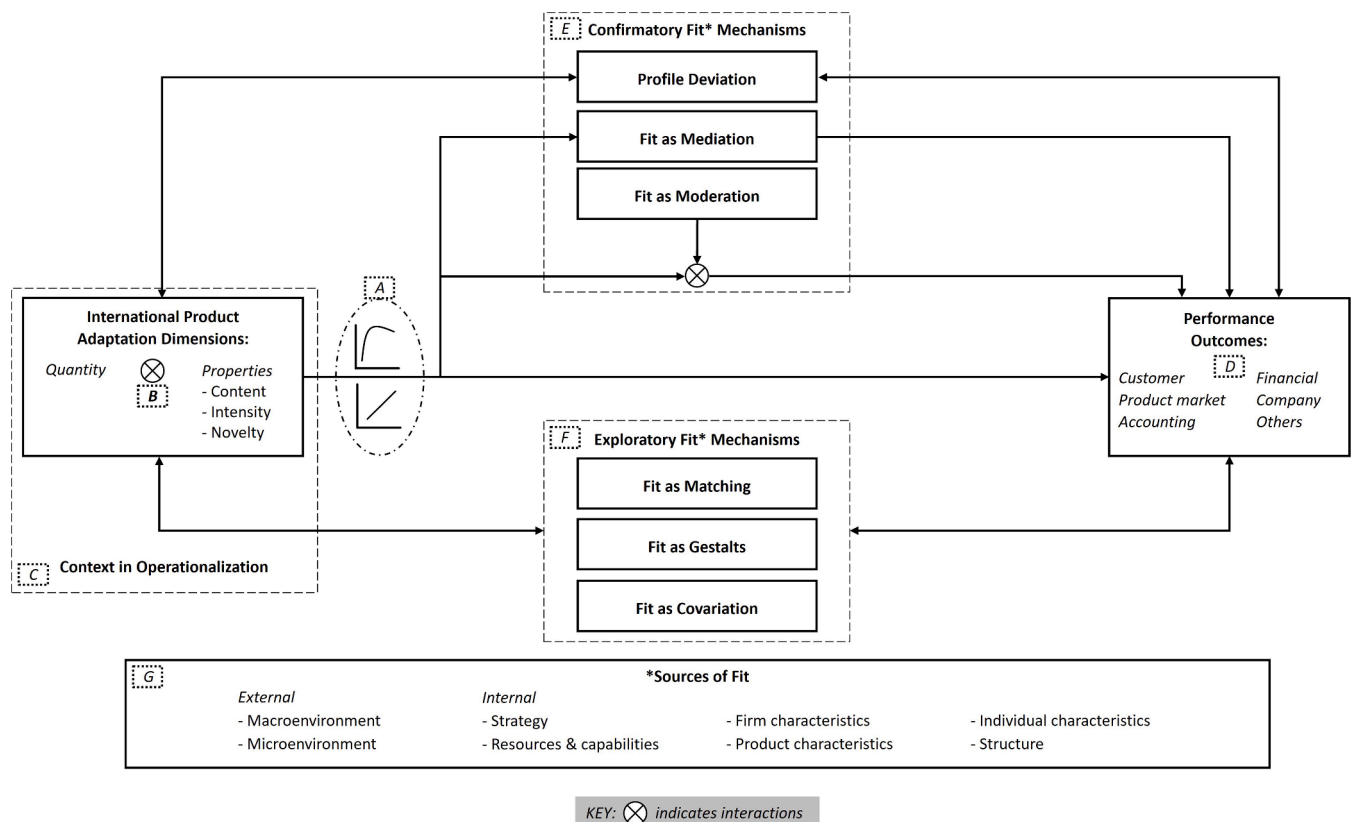


Fig. 2. A prospective future research framework: IPA and performance.

the nature of the relationships between product adaptation components and performance (see Fig. 2, block A). We speculate that beyond a monotonically increasing (or decreasing) relationship between the more quantitative components of adaptation and performance, there may be more complex relationships at play, such as inverted U-shaped functional forms. More research is also needed on the outcome of adapting specific elements or combinations of elements of products and of services, and whether adaptation intensity and novelty have separate effects on performance.

Beyond this, there is a need to build a wider understanding of how adapting specific elements (and classes of elements) of products shapes the costs and benefits of firms' IPA activities. In order to do this, a more structured understanding of what the concept of 'element' means may help. For instance, in some studies, researchers study adaptations to elements that are described with a high level of abstraction (e.g., adaptations to the 'product design'). However, product design itself can be further broken down into additional sub-elements, such as functionality, aesthetics and meaning (Srinivasan et al., 2012), which can each be adapted, and which may have their own costs and benefits. Accordingly, it may be that certain product elements (e.g., design, packaging, position, quality) can be studied using more precise descriptors that give greater specificity of *what* is adapted, which may lead to a deeper understanding of the outcomes of product adaptation.

In a similar line of thinking, research is needed to generate a fuller understanding of what it means to engage in service adaptation, and build a service-centric theory of adaptation's performance outcomes. As a result, an initial multi-part research question emerges:

RQ1: How do IPA quantity and properties (content, intensity, novelty) drive performance? Are the relationships linear or non-linear for the more quantitative facets of adaptation? For the nominal facet of adaptation (i.e., content), which elements are the most important drivers of performance? What would a theory of international service adaptation look like?

Furthermore, firms that decide to adapt products in international markets have to make separate decisions regarding quantity, content, intensity and novelty, and these components of IPA may interact (see block B of Fig. 2). Accordingly:

RQ2: How do the components of IPA (quantity, content, intensity, novelty) interact to shape performance?

## 5.2. The role of contextual factors in operationalization (block C in Fig. 2)

Our analysis of the treatment of IPA shows that most studies pool measures of non-product adaptations with measures of product adaptation to create an aggregate adaptation score, and test theory regarding performance outcomes of adaptation at this aggregate level. There are likely to be some benefits to this approach, since elements of the marketing mix other than product adaptation likely have important causal relationships with firm success (e.g., Hultman et al., 2011; Sousa et al., 2014). Further, pooling IPA with other variables may simplify conceptual development and theory testing if the hypotheses are constructed at the level of the pooled variable, potentially making results less awkward to communicate and facilitating high-level recommendations for managers.

However, pooling always leads to information and fidelity losses unless the dimensions being pooled are perfectly colinear (Howell et al., 2007). Keeping product adaptation variables separate in conceptual development and testing encourages the building of more advanced theoretical models (see Hayduk & Littvay, 2012, p. 11 who advocate for increasing the number of variables modelled over a single measure to achieve greater "breadth"). Even focused studies that only measure product adaptation are at risk of producing findings that are hard to generalize if they aggregate across different kinds of product adaptation. With this in mind, we frame another multi-part research question.

RQ3: How can one quantify the empirical benefits and drawbacks of

conducting pooled rather than focused studies? How much fidelity is lost by pooling or using formative measurement approaches? (When) do the benefits of pooling outweigh the costs of using composites?

The majority of studies either adopt a firm-level, or a market/venture-level of analysis, with slightly more studies opting for the former. The two levels of analysis are interlinked, of course, in as much as there is a hierarchical order to the levels: the market/venture-level bit of a firm's international operations is a lower-level unit which is nested within the higher-level unit of the firm's international portfolio (Oliveira & Cadogan, 2018). Multi-level thinking and multi-level analysis tools (Hofmann, 1997) can be useful here to develop a richer understanding of how product adaptations at different levels interact. Accordingly, we frame a fourth question.

RQ4: To what extent does the application of multi-level approaches allow for more nuanced insights into how product adaptation's conceptual variables covary and/or interact to shape business outcomes at both the market/venture-level and the firm-level?

Frame of reference issues also may play a role in shaping knowledge development in the domain. When measuring IPA, researchers must choose what to use as a comparative frame of reference (e.g., domestic market products, competitors' product adaptations, adaptations of the same product in /across the firm's other international markets). However, little attention has been paid to the issue of which frame of reference is most appropriate and under what study conditions. Given that the choice of benchmark can determine the answer to the question of how much IPA the firm is engaging in, we suggest the following as a fruitful line of inquiry:

RQ5: How does the choice of frame of reference impact on assessments of the relationship between IPA and performance? How can the fact that different frames of references are valid in a particular situation be modeled or controlled for?

By far the majority of studies assess IPA with instruments asking respondents to indicate the extent or strength to which product elements are adapted for foreign markets (e.g., Lages et al., 2008; Swoboda et al., 2018). However, these measures are not explicitly designed to capture the individual dimensions of IPA identified in this study, and as a result, the measures do not always provide clear information on IPA quantity, content, intensity and novelty. For instance, while an item from Zou and Cavusgil's (1994, p. 49) measure of global marketing strategy is indicative of IPA quantity (asking respondents how much they agree with the statement "We adopt a standardized core product across all major markets in the world"), it does not provide objective information on how many products are standardized, and how versions of products emerge from adaptation activity. Likewise, while Samiee and Chirapanda (2019) ask respondents to rate how standardized or adapted their products are, they study only seven product elements (e.g., product quality, product packaging, product branding), and so the measure cannot provide information on the total number of product elements adapted (IPA intensity) or the extent of differentness (IPA novelty) resulting from adaptations to product elements that have not been included in the measure. Future researchers, therefore, will need to develop new ways of measuring IPA quantity, intensity and novelty that carefully capture the concepts.

Furthermore, very few studies capture IPA dimensions using objective data. The exceptions include Nath et al. (2019, 2021), and Song (2022). The latter studies tend to focus on IPA quantity measurements, such as "the ratio of the number of international stores with the domestic banner name(s) to the total number of international stores" (Nath et al., 2019: 35), or similar quantity measures. Of course, an alternative objective method of capturing IPA quantity that could be used is to directly ask knowledgeable respondents in the firm for information on the number of different versions of products that are produced for foreign markets.

Berry and Kaul (2022) propose another approach for studying IPA in multinational firms using objective data. They suggest that the R&D intensity in the foreign markets the firm operates in, weighted by the

total firm revenues coming from those markets, might indicate how much adaptation is occurring in the foreign markets. Despite its objective nature, the authors acknowledge that this approach results in “a somewhat weak measure” (p. 94), and from the perspective of the conceptualization of IPA presented in the current study, a clear problem is that the measure proposed by Berry and Kaul (2022) does not provide information on the extent to which the R&D activity occurring in the markets is (a) resulting in new products for those markets (i.e., IPA quantity), or (b) is contributing to IPA intensity or IPA novelty. Nevertheless, innovative approaches of this kind may provide a start-point for future researchers to identify stronger measures that can capture the amount of IPA quantity, intensity and novelty the firm engages in. Objective methods of assessing IPA may be particularly informative, since there is potential for subjective measures to be systematically biased in various ways. Accordingly, objective measures of all the quantitative or quantitative-like IPA dimensions may paint quite different pictures of IPA’s performance outcomes.

RQ6: Can all of IPA’s non-nominal dimensions be measured using objective data? How? How can IPA dimensions best be assessed using both objective and subjective approaches? Do IPA – performance relationships vary depending on whether objective or subjective IPA measurements are used?

Finally, it is interesting to note that the majority of IPA – performance studies use data from respondents within the firm to assess the firm’s IPA. While these assessments provide important information on what the firm does when adapting products, they miss information on customers’ perceptions of whether and how products are adapted, and their responses to those perceptions. Under the assumption that a firm’s assessment of its various IPA activities may be different from how customers perceive those activities, it seems reasonable to assume that the relationships between firms’ IPA activities and firm performance outcomes may be different to the relationships between the latter and customers’ perceptions of firms’ IPA levels. Indeed, viewing IPA through the eyes of the customer may reveal very a different picture of how IPA and performance are connected.

RQ7: Do IPA – performance relationships vary depending on whether IPA activities are assessed from the perspective of the firm or from the perspective of customers? If so, how, and why?

### 5.3. Performance outcomes (block D in Fig. 2)

Our analysis reveals that despite Ryans et al. (2003, p. 597) long-standing call for research aimed at understanding “why standardization or adaptation enhances [...] consumer or firm value”, the impact of IPA on customer-based performance outcomes remains under-explored. Research is also needed to better understand the role of IPA in driving more distal performance outcomes (e.g., revenue growth, equity risk). In terms of the latter, the relationship between IPA and financial market indicators has yet to be addressed at all, and so the effects of product adaptation on performance measures based on stock markets and risk-related performance metrics remain unknown. Likewise, research is needed to provide a holistic understanding of the sequence of IPA’s performance outcomes. For instance, IPA may drive customer and product-market performance outcomes in different ways, and these performance outcomes may themselves causally drive other performance consequences such as company and/or financial performance (Katsikeas et al., 2016). Moving forward, studies should aim to provide insights into the causal processes by which IPA flows along the chain of marketing performance outcome to shape company and financial performance. Future research may, therefore, investigate the following questions:

RQ8: How do the performance impacts of adaptation quantity and of adaptation properties (content, intensity, novelty) vary depending on the chosen performance outcome, and why? What are the natures of the causal processes by which IPA shapes distal performance outcomes?

### 5.4. Fit mechanisms and sources of fit (blocks E, F & G in Fig. 2)

More research is also needed on the mechanisms that explain the impact of IPA on performance outcomes. Each of the various approaches to assessment of fit has its advantages and disadvantages. Fit as moderation, for example, is confirmatory in nature and handles two-way interactions very easily, but it is not appropriate for investigating higher-order interactions. There are calls in the international business literature for researchers to adopt more exploratory configurational tools, such as fuzzy set qualitative comparative analysis (fsQCA), since the latter “can help scholars produce insights more closely aligned with the complex realities of international business than conventional research approaches” (Fainshmidt et al., 2020, p. 455). We found no study using this approach in the IPA literature. The Logic Regression Methods (LRM) family of approaches is a more recent method which is ideally designed to enable the modeling of complex higher-order interactions. Baumgartner and Falk (2023), recommend it be used as a cross-validation approach when using configuration tools. Accordingly, we ask:

RQ9: Which perspectives on fit are most appropriate and under what conditions? What are the potential benefits of applying multiple concepts of fit to the same research question? How can contemporary configurational tools be applied to provide insights on this matter?

Finally, we need further investigation of the sources of fit (e.g., macro- and micro-environments). Our findings show that there are several patterns between the fit mechanisms being studied and the sources of fit applied to those mechanisms (see Table 5 and Web Appendix I). For example, even though the fit as moderation approach is most common and the range of fit variables used in those studies extensive, few of the studies consider the external environment, internal resources and capabilities, other characteristics of the firm’s products, or individual/managerial characteristics as sources of fit. Across all the other kinds of fit mechanisms, the relative paucity in research using these approaches to fit means that there are many large gaps and opportunities to identify new fit scenarios. Furthermore, alternative perspectives on what environmental uncertainty means could enrich such studies. For instance, under a Millikenian perspective of the environment (Milliken, 1987), environmental uncertainty can take on three kinds of perception in the minds of manager respondents: state, effect and response uncertainty. Building these perspectives into the assessments of fit may help make fit a more meaningful notion in the context of IPA’s performance fit mechanisms. Thus, a last three-part question follows:

RQ10: What situational factors shape the relationship between the different IPA dimensions and different performance outcomes? What sources of fit are best aligned to the different fit mechanisms available? How do different perspectives of what environmental uncertainty entails shape our understanding of IPA’s performance outcomes and fit mechanisms?

## 6. Concluding remarks

In this systematic analysis we shed light on IPA and its performance consequences. First, we identify the key conceptual variables that underpin IPA and its key operationalization issues. Then, we build a comprehensive picture of empirical findings to date on the impact of IPA on performance. We differentiate between performance outcomes studied, identify different mechanisms used by researchers to investigate the IPA – performance link, and summarize the empirical findings with respect to these issues. We conclude our work by synthesizing this body of knowledge into an integrative framework (Fig. 2) to develop a future research agenda that can be used to advance the study of this topic.<sup>6</sup>

<sup>6</sup> An expanded set of research questions is provided in Web Appendix K.

## CRediT authorship contribution statement

**Eleni Tsoukoku:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **John W. Cadogan:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **Nathaniel Boso:** Writing – review & editing, Writing – original draft, Methodology, Data curation, Conceptualization. **Ian R. Hodgkinson:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **João S. Oliveira:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualization. **Tommi Laukkanen:** Writing – review & editing, Writing – original draft, Formal analysis. **Nahid Yazdani:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Data curation. **Vicky M. Story:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization.

## Supplementary materials

Supplementary data associated with this article can be found, in the online version, at [doi:10.1016/j.jwb.2024.101597](https://doi.org/10.1016/j.jwb.2024.101597).

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