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Abstract	<p>The role of supply chain relationships in innovation is being recognized and researched increasingly in recent times. However, the focal buying firm that is trying to innovate for New Product Development (NPD) does not seem to have specific guidelines on how and when to involve suppliers in innovation. The Product Innovation Charter (PIC) is the mission statement of innovation that can offer guidelines to the managers in the buying organization about how and when to involve suppliers in innovation. The chapter explains the PIC and builds the argument that suppliers need to be explicitly mentioned. Such mention should consider the role and capability of new and existing suppliers for innovation that is radical or incremental, early stage versus later stage NPD while defending the intellectual property of the innovating focal organization. Guidelines for mentioning the supplier in the PIC are offered.</p>
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It's Time to Include Suppliers in the Product Innovation Charter (PIC) 1 2

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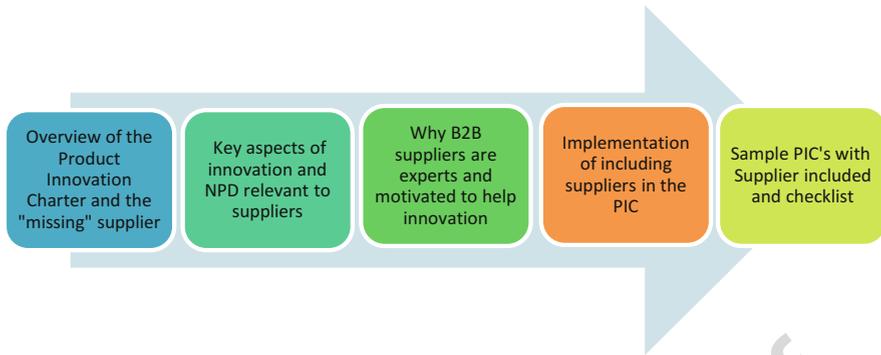
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Introduction 16

The role of supply chain relationships in innovation is being recognized and 17
researched increasingly in recent times as evidenced by a comprehensive recent 18
review by Zimmermann et al. (2016). Despite the rising scholarly and managerial 19
interest in the role of supply chain relationships in innovation there is a lack of 20
strategic direction in buying organizations with respect to involving suppliers in 21
innovation. Specifically, the mission statement for organizational innovation or 22
Product Innovation Charter (PIC) fails to mention the role of suppliers in innovation. 23

The Product Innovation Charter (PIC) is a mission statement for innovation and new 24
product/service development originally introduced in the 1980s by C. Merle Crawford 25
(1980). It answers the “who, what, where, when, and why” of the new product 26
development (NPD) project (PDMA glossary). Surprisingly, since the 1980s although 27
the world has changed drastically in terms of globalization and technology and there is 28

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Fig. 1 It's time to include suppliers in the PIC

29 burgeoning academic research on supply chain and innovation (see Bart 2002 for a
 30 review), there is no mention of the supplier in the PIC in the extant literature.

31 The gap in the literature explicitly mentioning the supplier in the PIC is surprising
 32 for at least three reasons. First, compared to 1980s today suppliers are involved in all
 33 stages and tasks of NPD. Second the process of NPD via buyer-seller interactions
 34 globally has become easy and inexpensive via the Internet. Finally, in the absence of
 35 strategic direction on involving suppliers via the PIC, organizations improvise
 36 interactions for NPD with suppliers as best as they can with mixed results.

37 This book chapter advocates the need for PICs to have an explicit mention of
 38 involving suppliers in NPD. It specifically lays out aspects on innovation and NPD
 39 as they relate supplier involvement.

40 The rest of the chapter proceeds as follows as depicted in Fig. 1. First, the chapter
 41 provides an overview of Product Innovation Charter (PIC) and the “missing”
 42 supplier. Second, the chapter identifies key aspects on innovation and NPD that
 43 inform supplier involvement viz. new versus existing suppliers, the “S Curves of
 44 Innovation” and suppliers, intellectual property and suppliers and startups as sup-
 45 pliers. Third, the chapter discusses why Business-to-Business (B2B) suppliers are
 46 experts and are highly motivated for innovation. Fourth, the chapter covers imple-
 47 mentation of supplier involvement via PIC. Fifth, the chapter presents sample PICs
 48 with supplier included and concludes with a summary checklist of considerations for
 49 including suppliers in the PIC.

50 The following sections expand upon the flow-chart in Fig. 1.

51 **Overview of the Product Innovation Charter (PIC)**

52 Introduced by Crawford (1980), “Product Innovation Charter” (PIC) is the mission
 53 and vision statement for product innovation for an organization. Just as department
 54 or functional mission-vision statements, it must help achieve the company mission

and vision, similarly the PIC points to the overarching mission of the company. 55
However, unlike a company mission and vision, the PIC is confidential, and not put 56
on the website, as there are both competitor and intellectual property issues that may 57
arise. 58

The Product Development Management Association (PDMA) glossary has this 59
definition: 60

Product Innovation Charter (PIC): A critical strategic document, the Product Innovation 61
Charter (PIC) is the heart of any organized effort to commercialize a new product. It contains 62
the reasons the project has been started, the goals, objectives, guidelines, and boundaries of 63
the project. It is the “who, what, where, when, and why” of the product development project. 64
In the Discovery phase, the charter may contain assumptions about market preferences, 65
customer needs, and sales and profit potential. As the project enters the Development phase, 66
these assumptions are challenged through prototype development and in-market testing. 67
While business needs and market conditions can and will change as the project progresses, 68
one must resist the strong tendency for projects to wander off as the development work takes 69
place. The PIC must be constantly referenced during the Development phase to make sure it 70
is still valid, that the project is still within the defined arena, and that the opportunity 71
envisioned in the Discovery phase still exists. (from the PDMA Glossary) 72

In the above definition of PIC is that it is more relaxed in the earlier creative and 73
low cost parts of the innovation process viz. idea generation, concept development 74
and concept testing. It is only at the big money development, prototype, manufactur- 75
ing marketing and launch that the PIC is used to stay on track. 76

Here is an example: 77

Let us assume that an organization retails its range of food products between \$4–6/unit and 78
has the marketing and distribution costs pretty much figured out for line extensions. They 79
have a PIC drawn up for new flavors that specifies a target cost of manufacturing that should 80
not exceed \$2/unit. Now if a new flavor costs \$2.50 or 25% more to manufacture the PIC 81
should be sending out a red flag and sales projections, marketing messages and alternative 82
supply sources should come under intense scrutiny instead of allowing the project to just 83
float along and disappoint eventually. In other words, the team working on the “new flavor” 84
project should know upfront that if they have a bunch of flavor ideas they need to keep the 85
manufacturing cost under \$2. Let us say the full focus of the supply chain folks helps to bring 86
manufacturing costs down to \$2.20 and the Market Insight folks are able to re-confirm the 87
sales volume projections—guess what—it’s OK to proceed! You at least know where you 88
are going and post launch sales efforts at the retail end might just up those sales numbers, 89
making the manufacturing cost affordable. In other words the PIC helps you to know where 90
you want to go and serves as a road map to deploy the organizations efforts effectively. 91
(Source: www.StratoServe.com)¹ 92

¹www.StratoServe.com is the author’s blog and website since 2006 and Supply Chain and Innovation are important topics covered in the blog that enjoy popularity with a global audience. Forbes and Harvard Business Review, among others cite www.StratoServe.com. It is inaugural winner of “Most Valuable Blogger Award” by CBS Television, Connecticut, USA. Several references are made in this chapter to content on www.StratoServe.com

93 ***Contents of the Product Innovation Charter (PIC)***

94 The innovation literature realized early on that given the inter-disciplinary nature of
 95 innovation some kind of strategy guidelines were necessary. While organizations did
 96 tend to have a NPD strategy, this tended to be in-formal and ad-hoc and “back of the
 97 envelope”. Accordingly, Crawford (1980) coined the term “Product Innovation
 98 Charter” (PIC) that allowed NPD teams from a variety of company functions like
 99 Production, Marketing, Finance, and R&D to stay on track with NPD, consistent
 100 with company goals. The use of the word “Charter” denotes an emphasis on both
 101 direction and activity of the company innovation process (Page 4, Crawford 1980).

102 Since the introduction of PIC as a strategy guideline for all innovation projects
 103 within an organization a variety of scholars have referenced the term and explored
 104 questions such as content and impact of PIC’s (Bart 2002) and content, specificity and
 105 impact (Bart and Pujari 2007). The PIC contents can be schematically seen in Fig. 2.
 106 The *background* includes a situation analysis of the company including its strengths
 107 and weaknesses and the opportunities and threats, managerial mandates or dicta
 108 including expectations of the shareholders and stock market and reasons for preparing
 109 the PIC. The *focus* of the PIC includes at least one technology dimension and one
 110 market dimension. The *goals/objectives* of the PIC outlines what the project hopes to
 111 achieve in the short and long run. Finally, it has a *guidelines* section, that provides
 112 rules of the road that has cost/quality guidelines, innovativeness etc. that has senior
 113 management intent in operationalizing the Product Innovation Charter (PIC).

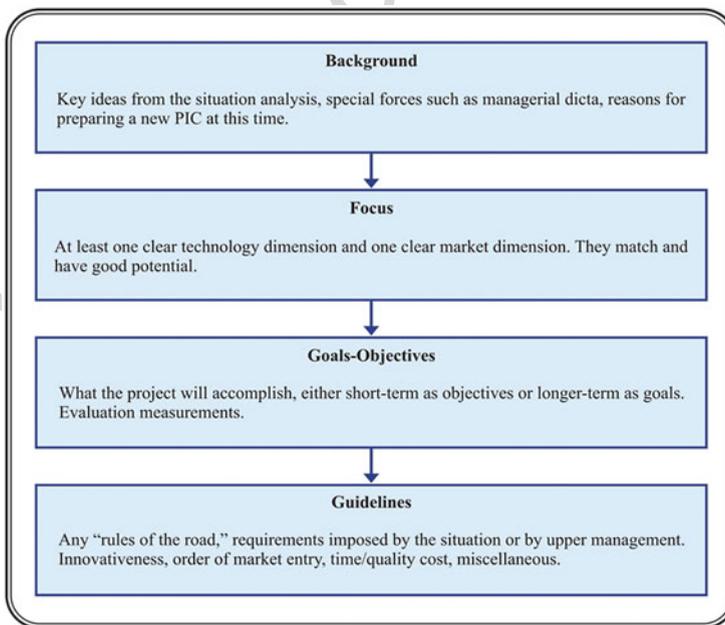


Fig. 2 Contents of a PIC (Source Crawford and di Benedetto 2015, page 71)

It is in the *guidelines* section that suppliers need to be mentioned explicitly, a case 114
for which is developed in this chapter. These include considerations for new versus 115
existing suppliers, the “S Curves of Innovation” and suppliers, intellectual property 116
and suppliers and startups as suppliers, 117

The “Missing” Supplier in the Product Innovation Charter 118

In research relating to supplier in the PIC, I could find only two “footnotes” 119
mentioning the supplier. These supplier references include 14.1% respondents of a 120
PIC content survey respondents who mention “concern for suppliers” among other 121
variables like “concern for society” (Bart 2002). This “concern” is categorized with 122
concern for employees, shareholders and public image as a Corporate Social 123
Responsibility (CSR) type component (Bart and Pujari 2007). The supplier is 124
completely missing in Durmuşoğlu et al. (2008). *In other words, the PIC being 125
the organization’s strategy document for innovation is silent on the role of the 126
supplier.* 127

The expertise and potential knowledge contribution of suppliers is completely 128
ignored in the literature on the PIC. 129

Bart (2002) illustrates a sample PIC (desirable) and the actual PIC’s and these can 130
be seen in Fig. 3a, b. 131

Key Aspects of Innovation and NPD Relevant to Suppliers 132

Existing Versus New Suppliers 133

Existing suppliers or the so-called “supply base” are vendors who are currently 134
supplying or have supplied in the past to the focal company. There is some history of 135
performance and capabilities and there are existing relationships between personnel 136
between the buying and selling company. The existing supplier is at the core of the 137
vast buyer-seller relationship literature involving trust and commitment (Morgan and 138
Hunt 1994). Both buyer and seller are committed to the relationship in the positive 139
sense. However, such a relationship was formed in the first place due to specific 140
knowledge, resources and skill sets of the supplier following the resource based 141
theory (Verwaal 2017; Wernerfelt 1984). The best suppliers can help with incre- 142
mental innovation and will be more reliable with protecting intellectual property. 143

On the other hand, “new suppliers” have not done business with the focal 144
company and lack the advantage of being a “known” entity. They are however 145
very easy to find today because of Google and the Internet. There is no internal 146
history of performance and quality. The advantages of new suppliers are that they 147
can bring in new knowledge, skills and resources to the relationship. Thus they will 148

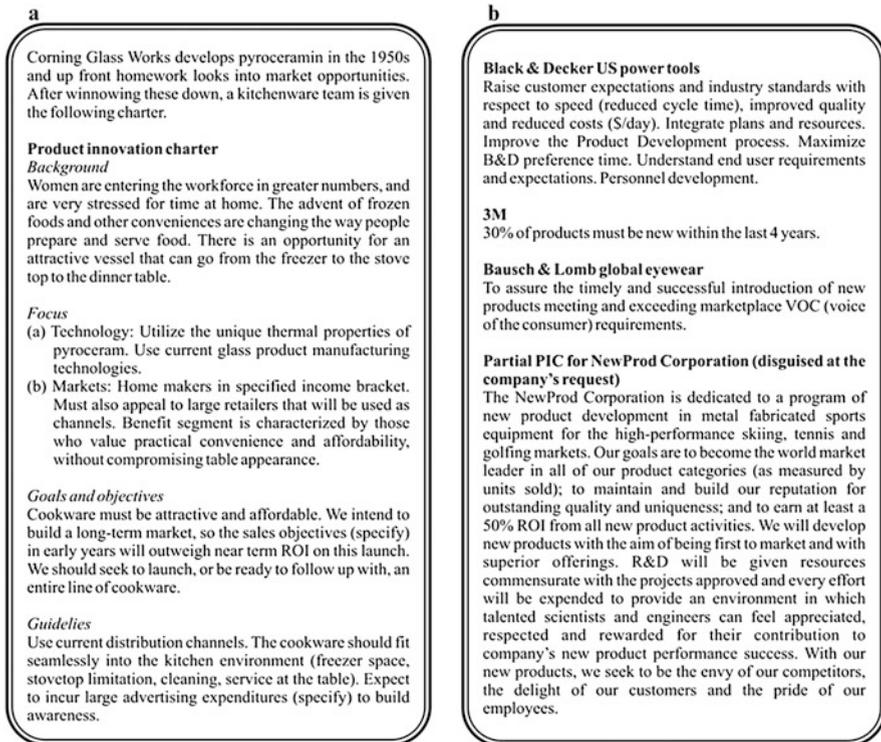


Fig. 3 Samples of Product Innovation Charter). Source: Bart (2002, p. 24)

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149 be more likely as a source for radical innovation, more risky for intellectual property
150 unless counter balanced by the desire to build a long term relationship.

151 The following subsections explain in more detail the specifics of involving new
152 and existing supplies in the NPD process in the digital age.

153 Early supplier involvement (ESI) for NPD success is a stream of literature
154 (e.g. Sjoerdsma and van Weele 2015) that was motivated by the success of Japanese
155 Auto Industry innovations (Clark and Fujimoto 1991) and has grown since then.
156 Most research has focused on the buyers' perspective with exceptions that take the
157 seller's perspective (e.g. Yenyurt et al. 2014).

158 The perspective of the buyer in supplier NPD involvement literature is natural as
159 suppliers are generally considered highly motivated to supply and provide value in
160 business markets (Chesbrough and Rosenbloom 2002) while caution and risk averse
161 behavior is the hallmark of buyers within the procurement function (Kraljic 1983;
162 Quinn and Hilmer 1994). For example, every website attempts to market its products
163 and services while only some large corporations have "supplier portals" to welcome
164 suppliers. Similarly the marketing literature is all about getting orders with concepts
165 such as buying center while the supply chain literature cautions the buyer when
166 dealing with suppliers and particularly new suppliers.

Given that successful NPD is a risky endeavor, approaches to NPD such as the stage gate process (Cooper 2008) are extensively taught and practiced. A large literature on NPD teams attempts to help manage teams that have different functional reporting within the organization and are globally dispersed (e.g. McDonough et al. 2001). Without clear strategic direction via the PIC to involve suppliers in the NPD process, managers have no guidance as to whether and how to involve suppliers.

Further considering that supplier motivation is generally high and information on supplier capabilities have become far more available online, an explicit direction to involve suppliers will be beneficial for NPD.

“S” Curves of Incremental and Radical Innovation

The “S Curve” innovation thinking is attributed to Richard Foster (1986) and made famous by Clayton Christensen in the book on the Innovator’s dilemma (Christensen 2013) where he discusses how each successive computer hard drive industry got wiped out.

Think of each “S” (see Fig. 4) curve as a technology platform. Movement up an “S” curve is incremental innovation while stepping down on a lower new “S” curve now, can lead to radical innovation, as the new “S” curve surpasses your existing “S” curve. The music industry, following some of the timeline of audio formats, is a great example.

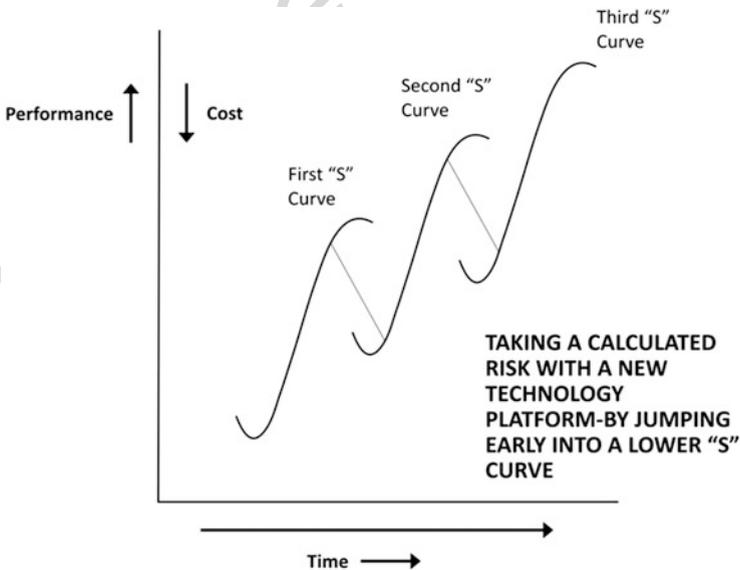


Fig. 4 The “S” curves of innovation

186 You had workers who specialized on manufacturing cassette tapes, there were
 187 specialized suppliers and of course the Sony Walkman that made music cassettes so
 188 special. Cassettes came in 60 min and then 90 min formats. Avid listeners (the final
 189 consumers) tried getting the 90-min cassette that must have involved a lot of
 190 incremental innovation by suppliers and personnel in the plastic music cassette
 191 industry. You can visualize six-sigma and total quality programs at cassette factories
 192 that reduced waste and defects in the product.

193 Suddenly you had music on CDs that improved quality a whole lot and “Sony
 194 Discman” became popular as the cassette industry started dying, just as vinyl records
 195 had died before that. The CD industry had its own players and supply chain.

196 Next off course you have the MP3 player, iPod and literally thousands of songs
 197 on your device and then the iTunes store on the cloud. The MP3 players and cloud
 198 also require a new set of employee skills and a differently skilled supply base.

199 If you think about each industry, it ignored the march of technology and refused
 200 to get started on the next technology “S” curve from the current technology “S”
 201 curve. This reluctance was because at the early stages, each new “S” curve looked
 202 unattractive from the existing “S” curve.

203 You see that the dominant players in each technology type became extinct just
 204 because they thought that the upcoming technology was too much behind—and *will*
 205 *never catch up*. By the time the new technology (second and third curves) became
 206 really comparable in performance and cost—the incumbents of older “S” curves
 207 were too far behind.

208 *Suppliers and “S” Curves*

209 The tragedy in Christensen’s account or the numerous cases of industries in decline
 210 (e.g. brick retail) is that e-commerce related suppliers did reach out to try and move
 211 the focal firm to the next phase of the market. Thus we can expect that various
 212 vendors went to pitch to brick retailers like Circuit City and Radio Shack that have
 213 closed and Sears and Walmart who are in trouble, soon after Amazon was becoming
 214 a success. However, without a clear management directive to stay ahead of market
 215 trends, executives at these companies did not put e-commerce on the top of their
 216 priorities. In other words, the next “S” curve looked too difficult and too inefficient at
 217 the time. As a result, companies that appeared unshakable have disappeared while
 218 legends like Sears and Walmart are considered in trouble.

219 The technology space itself is not immune to the “S” curves of innovation (see
 220 Sood 2017). Large enterprise solutions like SAP and Oracle are facing competition
 221 from start-ups. The old model (traditional “S” curve) involved large expenses in
 222 setting up an enterprise application like SAP with enormous investments in custom-
 223 ization and training. Today, startups specializing in narrow niches are able to
 224 integrate their solutions to the backbone of large enterprise software. This makes
 225 weak solutions of large enterprise software less relevant and these large companies
 226 are struggling to become more agile. A major factor in entrepreneurs being able to

come up with specialized, more user friendly applications is the availability of “cloud” computing that is both affordable and reliable from services like Amazon web services (AWS).

Startups and Acquisitions as Resources for the Next “S” Curve of Radical Innovation

Since radical innovation in large organizations is so difficult (McDermott and O’Connor 2002) organizations like IDEO (Thomke and Nimgade 2000) offer consulting for design of new products to large organizations.

Given the growth in startups (Say 2016) enormous opportunities exist for larger organizations to collaborate with startups that have the agility to innovate much faster. However, such collaboration remains sporadic depending on the sales efforts of the startups and the receptivity of larger organizations given the current ambiguity in the Product Innovation Charter. Typically, integrating a start-ups offering as a purchased item can involve disruption in the routine and a temporary lower “S” curve for the buying firm leading to the “innovator’s dilemma” in a world of rapid growth of startups and disruptive innovation.

Without the ability to try out an innovation from start-ups at relatively lower levels of investment and risk, companies tend to go into acquisition straight away. Acquisitions can be far more difficult to manage (Zollo and Singh 2004) than contractual buyer seller relationships (Dyer and Singh 1998). I argue that the inability of organizations to tap into the creativity of startups without the “wait and see” approach of acquisitions is a result of no clear strategy guidelines with respect to involvement of suppliers in innovation in a Product Innovation Charter.

Early Stage Versus Later Stage of NPD and Finding Suppliers Online

The stage-gate model posits that the NPD process has several interrelated stages (e.g., Booz Allen Hamilton 1982; Cooper 1979; Cooper and Kleinschmidt 1986). To achieve parsimony, I use the terminology of early stage of NPD that includes idea generation, concept development and concept testing and later stage NPD that includes prototype development, production, product testing, market testing and launch. Intuitively early stage NPD can be visualized in the hiring of a design firm such as IDEO (Thomke and Nimgade 2000) or the contracting of an advertising agency for developing a new marketing campaign. Periodically, advertising agencies are fired (Davies and Prince 2010; Kulkarni et al. 2003) because the outsourcing firm and the old advertising agency are no longer able to come up with new ideas critical to the initiation stage of NPD. Similarly, at the implementation stage of NPD,

263 organizations in the global software development business have realized the impor-
264 tance of having onshore teams that interface with the client and offshore teams to
265 ensure that implementation is exactly as the client requires (Rai et al. 2009).

266 The early stages of NPD involve idea generation and conceptualization including
267 drawing up of designs and drawings. With the long tail of the Internet (Anderson
268 2004; Brynjolfsson et al. 2011) searching for potential suppliers for any skills the
269 internal NPD team needs is possible. Thus for design services for a particular
270 machine part idea can be searched online and several resources would appear
271 including companies that are fairly well developed, university researchers who
272 already work in the particular domain, market research companies that specialize
273 in concept testing (e.g. ACNielsen Bases) and freelancers who would be willing to
274 join the NPD team. Beyond locating potential *new* suppliers globally, the early stage
275 NPD skill suppliers would also help locate online feedback based on reviews of the
276 supplier. Thus, some amount of assurance of quality is frequently available through
277 reviews online. Most suppliers would be willing to work on a pilot basis till results
278 are seen.

279 Similarly, it is easy today to find *new* suppliers online for the later stage of NPD. In
280 fact, aggregators of manufacturers are available at Alibaba.com while for example if
281 you provided drawing and specifications a supplier can be found easily on Alibaba.com
282 including performance guarantee by Alibaba.com. Similarly, for a variety of
283 digital tasks including software development, crowdsourced resources are available
284 on portals such as Amazon Mechanical Turk, Fiverr, Upwork etc. Surprisingly, it is
285 not only small businesses with lower resources that use these services but also some
286 big brands are listed among the clients of such services. For example, Upwork lists
287 Airbnb and Dropbox among its users (Accessed UpWork.com August 31, 2017).

288 *Intellectual Property Concerns in the Early Stage Versus Late* 289 *Stage NPD*

290 Protection of intellectual property is a concern in NPD (Roy and Sivakumar 2011).
291 This could happen as the same supplier would be supplying to other competitors.
292 Thus a software supplier for managing clinical trials at one pharmaceutical company
293 would gather knowledge about a new drug being tested and intentionally or
294 unintentionally share information with a competing pharmaceutical firm.

295 However, intellectual property is more of a concern in the early stages of NPD
296 that is more amenable to patent protection. For this reason, in pharmaceutical
297 research, compounds are sourced without the supplier being made aware of the
298 pharmaceutical product being developed. In fact, pharmaceutical sourcing depart-
299 ments have a protocol of not allowing the supplier's scientists to meet the concerned
300 scientists at the pharmaceutical firm at any time so that inadvertent intellectual
301 property leaks may not occur (Roy and Sivakumar 2011).

In the later stages of NPD, counterfeiting is possible and occurs (Minagawa et al. 2007) primarily as suppliers either leak the manufactured product through the gray market or allow other manufacturers access to designs and tools so that the branded product is now sold at lower cost than the genuine brand. Surprisingly the sellers of counterfeit luxury goods are self-declared as “counterfeit” that is acceptable in foreign markets (Ahuvia et al. 2013).

Intellectual Property and Early Stage NPD 308

Intellectual property concerns are important in outsourcing innovation (Roy and Sivakumar 2011). Generally, early stage NPD i.e. idea generation, concept development and concept testing are most sensitive to intellectual property theft. It is critical that the outsourcing firm and supplier have an NDA i.e. Non-Disclosure Agreement. Particular attention must be paid upfront to the legal environment of the country of the supplier (Pai and Basu 2007). “Trust but verify” should be the watchword at this stage of NPD.

Intellectual Property and Later Stage NPD 316

The later stages of NPD generally involves organizations that area specialized and do work for multiple upstream businesses. Here intellectual property is less of a concern compared to leakage of plans and progress to competitors. Appropriate safeguards for “self -seeking with guile” (Morgan and Hunt 1994) must be discussed and implemented with close monitoring by the focal firm.

Why B2B Suppliers Are Experts and Highly Motivated 322

In Business-to-Business markets, suppliers are experts (Melander et al. 2014) and respond to Request for Proposals (RFP's) based on their expertise. Once suppliers develop expertise in a particular domain, they seek to expand growth by finding new applications for their product or expertise. Examples include Baking Soda applications for refrigerator de-odorizing and in laundry as whitener and 3M's post application in painter's masking tape. While these examples are visible to consumers, there are numerous industrial products in the upstream supply chain like zinc oxide that can be used with appropriate refining in rubber products, pharmaceuticals etc.

It may seem obvious that suppliers are naturally motivated because they want to sell their expertise. Thus, if either the buyer wanted to make changes in an upstream (Arda 2017) input from a supplier, the supplier would be willing to make changes for the purposes of developing a new market. An indirect measure of the motivation of sellers in the number of jobs in B2B sales in the world and compare it to the number of jobs in purchasing or innovation. In addition, the head of marketing and sales is

337 directly responsible to the CEO if the CEO does not herself/himself directly manage
 338 marketing. The reason might seem obvious, i.e. sales and marketing bring in the
 339 money that keeps the organization running. A famous quote from Peter Drucker
 340 (as quoted by Jack Trout in Forbes 2006) illustrates the above.

341 Because the purpose of business is to create a customer, the business enterprise has two—and
 342 only two—basic functions: marketing and innovation. Marketing and innovation produce
 343 results; all the rest are costs. Marketing is the distinguishing, unique function of the business.
 344 Peter Drucker

345 Apart from the motivation of bringing in money to the organization, there are
 346 frequently incentives and commissions for sales people that have spawned a large
 347 literature on sales force motivation and compensation (e.g. Franke and Park 2006).

348 Paradoxically, organizations that give high priority to marketing and sales appear
 349 highly closed to new suppliers. Purchasing or supply managers actively avoid sales
 350 calls even when there might be something innovative that the supplier might offer.
 351 The purpose of this chapter is to thus enshrine the supplier in the PIC so as to
 352 encourage active supplier involvement.

353 *Suppliers at the Input Boundary of the Organization*

354 If we think about the organization in “Input-Process-Output” model terms then the
 355 supplier is at one end of the value chain as in Fig. 5.

356 The input-process-output is a way of looking at the firm’s value chain. Supply
 357 managers handle the input coming in and the marketing folks handle the output
 358 coming out.

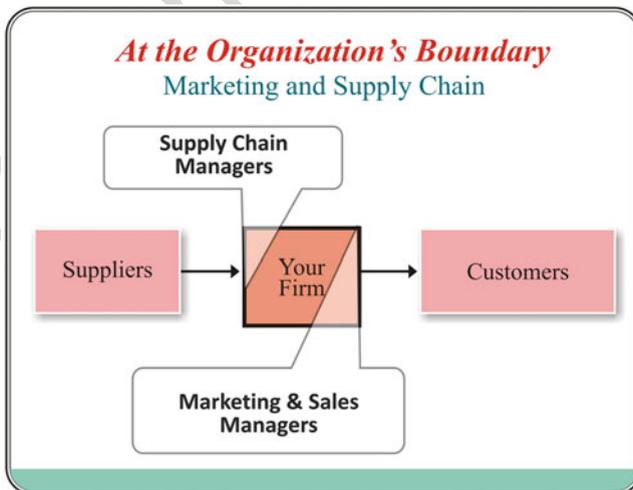


Fig. 5 Boundaries of the organization

Like: 359

global suppliers -> supply chain -> [firm-] -> marketing -> global customers 360

Supply and marketing folks are people who sit at either end of the firm and look at the world outside in the firm's value chain. The marketing manager reaches out to customers and supply chain managers reaches out to suppliers and also need to reach "in" to internal firm users. Both off course do not formally talk to one another—organizations are not set up to encourage the talking. Unless there are operations review meetings, that can become mindless and boring. ERP systems can help but ERP speaks to only data and not the gut feel of these important folks.

If you look at the firm as just a processor—focused on creating superior value for its customers—you start realizing how much firms miss out in tapping on to the combined knowledge and expertise of their input and output side teams.

Based on my involvement with professional marketers (American Marketing Association Professional Chapter) and supply/purchasing managers (Institute for Supply Management) over several years here are five observed differences between professionals in each group (From StratoServe blog)

1. Marketing managers being outward facing are constantly looking for opportunities sometimes without regard to what their organization can really do. Supply chain managers first look inside before looking outside at suppliers—to ensure a good fit.
2. Marketing and sales managers are more social compared to supply chain managers who are more conservative. The former does the chasing of prospects while the latter need to stave off marketing people who are the firm's upstream suppliers.
3. Marketing and sales people are measured by sales (volume and price) while supply managers are assessed first on availability of goods and services required by the firm, then on cost.
4. Marketing managers work on an open canvas of the market and prospective customers and use techniques like segmentation, targeting, market research and the 4 Ps. Supply Chain managers also have an open canvas of suppliers but they need to make supplies work in their firms value add process- any snags and they are in the direct line of fire! Supply managers are therefore much more risk averse and deliberative.
5. On a more fun and more social note you will find many more marketing groups on the web and off it than supply chain managers. And when it comes to professional meetings marketing people may have extremes of no food to open bar at a high price ticket. Supply chain meetings will stay steady with modest burgers, pizza, strict cash bars, and a predictable member fee.

Since supply managers and marketing and sales managers are so different in their orientation, it is critical for the focal organization to give clear guidance to its supply managers. This guidance is in the Product Innovation Charter as proposed in this chapter.

401 ***Internet Search and Changes in the Input-Process-Output*** 402 ***Model***

403 Before the Internet, it was difficult to locate a supplier globally. Traditional approaches
404 included contacts at international trade shows and conferences.

405 Today due to the massive and instant search capability on the Internet (e.g. Google)
406 the searching ability of all members of the organization has enhanced tremendously. If
407 you have a problem or want to research something, you can simply “Google” it and are
408 likely to find results (including videos) that speak to your problem. And this is early
409 days for the Internet, and things are likely to get much better.

410 Highly specialized functions can do their own searches online. Thus a highly
411 specialized pharmaceutical research scientist can identify leading thinkers based on
412 specialized conferences and Google Scholar. They are also able to identify suppliers
413 and collaborators that might be able to provide inputs and support for a new product
414 being developed by the research scientists’ team. Here, pharmaceutical companies
415 working on drug discovery encourage scientists to work with the supply department
416 to communicate with the supplier. This way direct communication between a scientist
417 and supplier are reduced, thus reducing the inadvertent loss of Intellectual Property.

418 The search functions for supply/procurement managers tend to be primarily in
419 indirect spend items (Cox et al. 2005) like stationery, travel etc.

420 Thus, when innovation teams within organizations need ideas or resources, they
421 tend to find their own sources and involve the supply function to place formal orders.

422 However, due to a lack of clear direction to all employees to seek ideas and inputs
423 that can help them innovate, there is a great deal of variability among employees who
424 actively try to integrate external resources (i.e. suppliers) to enhance the speed and
425 impact of innovative efforts. This chapter advocates such a clear mandate by
426 including suppliers in the Product Innovation Charter.

427 **Discussion and Tips on Execution Issues of Supplier in PIC**

428 Once enshrined in the PIC, suppliers need to be managed for innovation just as
429 innovation teams within the organization. For example, in pharmaceutical NPD the
430 expert (e.g. scientist in pharmaceutical research) working closely with an officer
431 specialized in purchasing in the supply department. This way the intellectual prop-
432 erty risks of using suppliers can be mitigated. Supply professionals have the skills
433 and resources to put in contractual and behavioral safeguards in working with
434 suppliers, particularly global suppliers.

435 A supplier portal on the website can be a useful mechanism to enlist suppliers with
436 various capabilities and resources that are useful to the focal firm’s innovation efforts.

437 Finally, a formal process of review of progress and supplier performance needs to
438 be put in place so that the contribution of the supplier can be tracked and improved
439 upon based on the feedback from internal personnel.

It is also critical (Yan and Kull 2015) that interaction and communication is kept up on a regular basis. Such interactions help in keeping channels of communication with suppliers open.

Figure 6 presents in red how the supplier might be included in the PIC depicted in Fig. 3. Following the above sections, if suppliers were to be included in the Bart (2002, p. 24) samples of PIC's they would have content as mentioned in red.

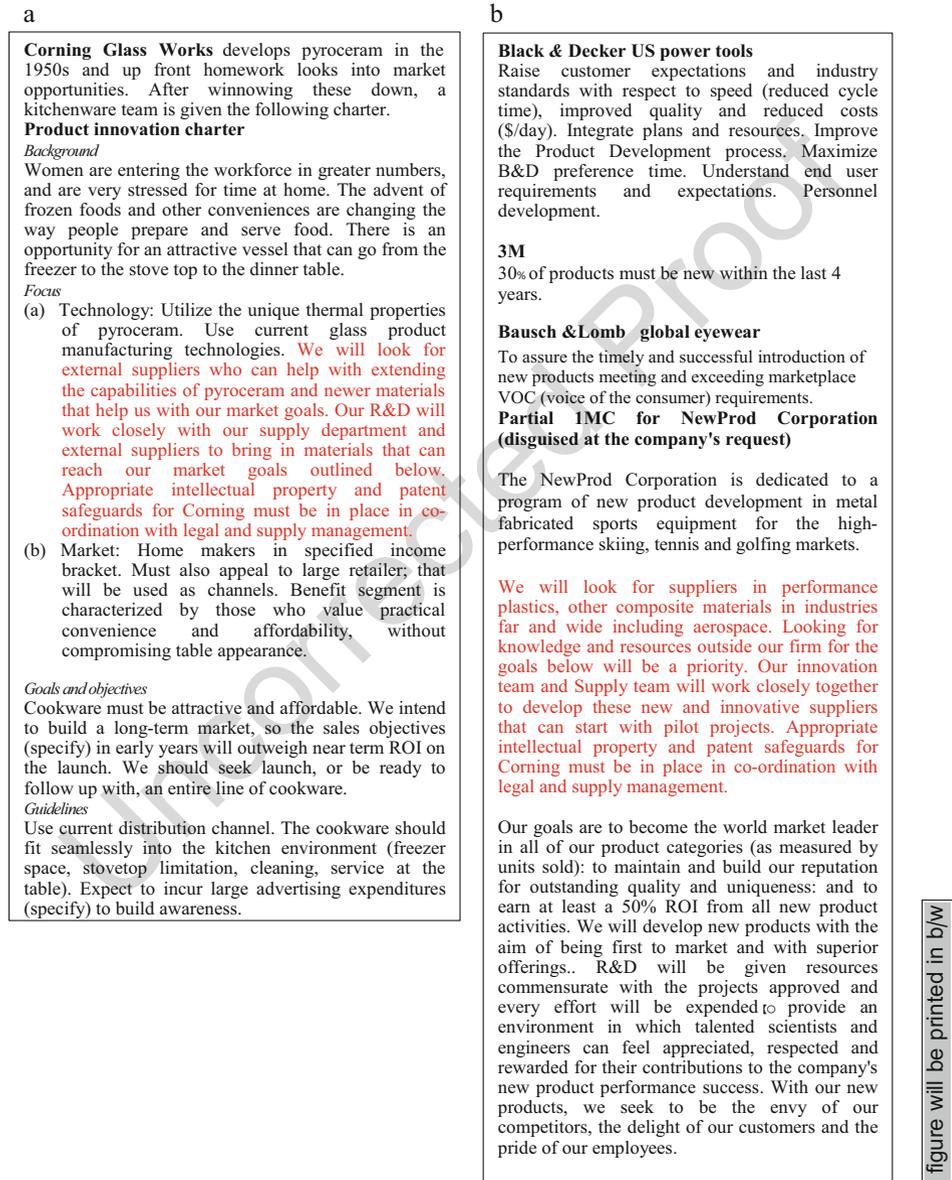


Fig. 6 Supplier included PIC sample

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446 *Guidelines for Interaction with Suppliers Detailed in the PIC*

447 Today global interactions for innovation with suppliers (Roy et al. 2004) have
 448 become easier with free social media (e.g. WhatsApp) and mobile based project
 449 management tools (e.g. Trello) instantly. The focal organization must take the
 450 initiative to keep interacting with the supplier on a regular basis. Some concluding
 451 tips for framing supplier relationships in innovation are as follows.

- 452 1. Suppliers are motivated globally to be involved in new product development and
 453 innovation.
- 454 2. Existing suppliers come up with new ideas (Christensen) but because all systems
 455 are working well, organizations are reluctant to try something new because of
 456 lower “S” curve cost/efficiency considerations. The product innovation charter
 457 should encourage the buying firm managers to be welcoming of new ideas from
 458 existing suppliers. These suppliers are often hesitant to offer new idea because of
 459 the reluctance of buying managers to work off a lower “S” curve.
- 460 3. For radical innovation new suppliers like startups tend to have high motivation
 461 and energy to make a success of innovation at the buying firm.
- 462 4. Acquisitions of companies (e.g. Biotech firms) at the radical early stage of NPD
 463 can be a pathway for growth of established firms (e.g. pharmaceuticals). Here a
 464 supply relationship is transformed to a part of the company in the ownership
 465 sense.
- 466 5. Particular care is needed for protecting intellectual property at the early stage of
 467 innovation from potential leakage via suppliers to potential competitors.

468 In summary, by explicitly including the supplier in the PIC managements can
 469 leverage the huge global resources, skills and motivation of suppliers for innovation
 470 that has become possible today.

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