

Review

Perspectives on the pharmacist's "product": a narrative review

David A. HOLDFORD 

Published online: 31-May-2021

Abstract

Clarity about the pharmacist's "product" is fundamental to developing and communicating the value of pharmacy offerings. It is clear within the profession that pharmacists use their scope of knowledge and technical skills to address medication-related needs of individuals and populations. However, confusion still remains in the professional and public literature about what a pharmacist precisely produces for society. Is it a drug, service, program, solution, or something else? As the profession evolves from one that focuses on dispensing drugs to a profession that seeks to achieve positive patient health outcomes, pharmacists need to better conceptualize and articulate what they produce. This narrative review explores ideas from the marketing, business strategy, and entrepreneurship literature to discuss diverse perspectives on the pharmacist's product. The four perspectives are the product as (1) a tangible product, (2) an intangible service, (3) a "smart, connected" good or service, and (4) a solution to a customer problem in whatever form provided. Based upon these perspectives, the pharmacist's product can be any combination of tangible or intangible, face-to-face or virtual offering produced by pharmacists that seeks to satisfy medication-related needs and wants of pharmacy patients and customers. Ideas discussed in this review include the total product concept, classification schemes from the services marketing literature, the theory of service-dominant logic, the concepts of "smart, connected" products and industrialized intimacy, and the jobs-to-be-done framework. These various perspectives offer lessons for pharmacists on how to innovate when serving patients and customers and to communicate the pharmacist's value proposition to the people they serve.

Keywords

Pharmacy; Pharmacists; Pharmacies; Pharmaceutical Services; Community Pharmacy Services; Pharmacy Service, Hospital; Drug Prescriptions; Health Knowledge, Attitudes, Practice; Marketing; Entrepreneurship; Models, Theoretical; Review Literature as Topic

INTRODUCTION

Pharmacists and the profession of pharmacy exist to serve society.¹ They do so by using their scope of knowledge and technical skills to address the medication-related needs of the public. Pharmacists serve the well-being of society through a production process, meaning the act of taking various inputs (e.g., material, labor) to create outputs of value (e.g., positive patient outcomes).² It is through the production process that pharmacists create utility for patients and the healthcare system. The production process and its output are the pharmacist's product.

No universal definition of the product of pharmacists currently exists in the literature. Many examples exist of what pharmacists do, how they do it, and the intended outcome, but it is unclear to the public exactly what pharmacists produce. Despite efforts to push the profession toward a more patient-centric approach to practice, patients, payers and many pharmacists still view their "product" as the tangible drug they dispense.

The current medication-centered focus is firmly entrenched in the minds of pharmacists despite efforts in the profession to change. A focus on the tangible is reinforced by the education and training of pharmacists, which stress learning about the physical drug. Pharmacy graduates come to know a great deal about medication characteristics such as their approved indications, clinical pharmacology, chemical structure, bioavailability, contraindications,

warnings, adverse reactions, dosage, administration, storage, and other features of the physical drug. Yet, they learn comparatively less about the intangible aspects of practice.

Clarity about the pharmacist's product is important because it is fundamental in the marketing of pharmacists. It is arguably the most important element of the marketing mix, also known as the "4Ps." In addition to Product, the other elements of the marketing mix are "Price" (what customers are expected to pay for the product), "Place" (how the product is delivered), and "Promotion" (what is communicated about the product). The product is vital to the study of marketing concepts such as the product life cycle, marketing channels, product portfolios, value propositions, innovation research, and competitive advantage. It is key to understanding pharmacy business models and the problems that pharmacists attempt to solve.^{3,4} It is vital to understanding and studying the competitive advantage of pharmacists and realizing the value provided for customers and stakeholders.⁵

Currently, there is confusion in the literature about basic concepts associated with pharmacists interventions.⁶ Constructs lack common definitions, taxonomies, and frameworks. Discussion of basic ideas, like the product of pharmacists, lacks deep theoretical debate about how constructs interrelate with each other.⁶ Pharmacists may deliver medications, educate patients, manufacture medicines, design formularies, provide comprehensive clinical services, and other tasks. But few pharmacists do all of these things, and there are key differences in how and what they produce.

David A. HOLDFORD, RPh, MS, PhD, FAPhA. Professor & Director of International Programs. Center for Pharmacy Practice Innovation, Department of Pharmacotherapy & Outcomes Science, School of Pharmacy, Virginia Commonwealth University. Richmond VA (United States). daholdfo@vcu.edu



This paper presents different perspectives from the literature about the pharmacist's product. It offers a nuanced discussion about the construct to help when designing, providing, marketing, and studying pharmacy offerings. The goal is to broaden the profession's perspective on what pharmacists produce and encourage thoughtful and innovative approaches to achieving positive patient outcomes.

PERSPECTIVES ON THE PRODUCT OF PHARMACISTS

The mission statement of the American Pharmacists Association declares that pharmacy exists to "To serve society as the profession responsible for the appropriate use of medications, devices, and services to achieve optimal therapeutic outcomes".⁷ Based upon this mission statement, inputs into the production process involve services, pharmaceuticals, and devices with a goal of benefiting society.

The pharmacist's scope of practice provides additional guidance by stating that pharmacist production activities include the delivery of patient-centered care, working within interprofessional teams, practicing evidence-based medicine, engaging in quality improvement, and utilizing information technology.⁸ However, the degree to which these activities are provided by pharmacists varies significantly based upon the complexity of care provided, the medical needs of the patients being served, the degree to which care is specialized, and the type of settings in which pharmacy is practiced.

Implementation science literature describes the pharmacist's product (i.e., implementation) as a specified set of activities associated with a service, program, intervention, or other innovation.⁹ Implementation science is generally concerned with the study of products that are novel and inventive, and it focuses on moving evidence-based products to widespread adoption in practice.

Based upon these perspectives, the pharmacist's product can be any solution produced by pharmacists that can satisfy the medication-related needs and wants of pharmacy patients and customers. Based upon this definition, a pharmacist's product can be an object (e.g., a syringe of antibiotic), a service (e.g., cholesterol screening), an activity (e.g., a poison prevention campaign), a process (e.g., Pharmacists' Patient Care Process) a device (e.g., a medication reminder app), a person (e.g., Bob, the clinical pharmacist), a place (e.g., a Good Neighbor pharmacy), an organization (e.g., the American Pharmacists Association), a program (e.g., smoking cessation), or a concept (e.g., patient-centered care). With this definition, products are solutions to customer problems in whatever form they take.

The rest of this article explores various perspectives on solutions that pharmacist may offer. It reviews perspectives of the product as (1) a tangible object, (2) an intangible service, (3) smart goods and services, and (4) a solution to a customer problem (Table 1).

Product as a tangible object

When the general public hears the word "product", they normally think of a material object that can be seen and touched. The Cambridge Dictionary defines a product as something that is made to be sold, typically through an industrial process or through farming.¹⁰ In everyday language, people tend to think of a tangible, solid good available for purchase from a store or other type of business.

Similarly, patients' perceptions of the roles of pharmacists are still associated with the provision of tangible objects. Studies show that patients and pharmacists have different perceptions of the pharmacist's role in healthcare, with patients primarily seeing pharmacists as dispensers of medicine.¹¹⁻¹⁶ This is to be expected since community pharmacists, the most publicly visible, operate under a retail business model, in which production processes revolve around the sale of merchandise.¹⁷ In the retail business model, success or failure of community pharmacies depends on the sale of tangible goods such as nonprescription drugs, prescription medicines, medical devices, durable medical equipment, and adherence packaging.

In many respects, the retail business model has handcuffed pharmacists to tangible products. Schommer and Gaither suggest that community pharmacists are locked into "a cycle of dysfunction" in which the product-related time pressures of their jobs hinder their ability to provide patient care beyond the dispensing of a product.¹⁴ The failure to provide patient care then forces patients to rely on friends, physicians, and the Internet for advice about medications and as a consequence, patients do not see the role of pharmacists as more than a provider of drugs.

The view of the pharmacist product as the tangible drug is further reinforced because objects are easier to perceive and value than intangible services such as counseling and therapeutic monitoring.^{18,19} People can touch, feel, taste, and consume a pill or liquid. They can understand that the medication will benefit them in some way. In contrast, it is more difficult to appreciate the less tangible steps involved in ensuring that the right patients get the right medication, in the right dosage, in the right route, at the right time, for the right reason, and with the right documentation. These are actions that cannot be seen, held, or touched, and they vary depending on the people involved and the service circumstances.

Table 1. Perspectives on the Product of Pharmacists

Product as...	Examples
Tangible object	Drugs, medical devices, durable medical equipment, adherence packaging
Intangible service	Comprehensive medication reviews, appointment-based medication synchronization, point-of-care testing, drug information services
Smart, connected goods and services	Smart insulin injection devices, smart pills with ingestible sensors, smart inhaler monitoring technology, industrialized intimacy
Solution	Solutions to problems, jobs-to-be-done



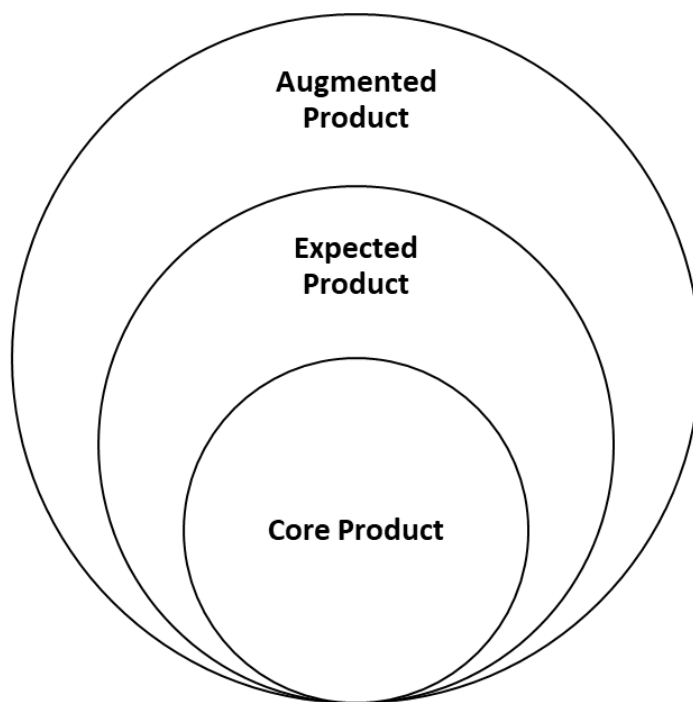


Figure 1. The total product concept

Still, tangible goods by themselves cannot achieve benefits without accompanying intangible services. Marketers recognize that tangible products need intangible service elements and have redefined the product with the Total Product Concept.^{20,21} The total product concept highlights the idea that customers purchase more than a tangible product; they purchase the benefit associated with it along with other related attributes. The idea illustrates how the total product can be represented by a series of concentric rings representing its tangible and intangible dimensions (Figure 1).

The total product concept can consist of up to five levels, but three levels are universal. The three levels are the core product, the expected product, and the augmented product.²² The core product at the circle's center is the benefit resulting from the bundle of tangible and intangible goods and services offered to the customer. It meets the underlying need that the overall product package satisfies and is what the consumer is really buying. For example, the woman who purchases an antihistamine is not buying a pill; she is buying potential relief from her symptoms and the ability to conduct her daily responsibilities. The middle-aged man who buys minoxidil formula for hair restoration is not buying a drug; he is buying hope for maintaining his youth and young appearance. For pharmacy consumers, the core product may be related to health (e.g., improved quality of life) or not (e.g., a feeling of control over one's illness).

With the total product concept, the consumer defines the core product—not the pharmacist—because the consumer is the only one who can assess whether an underlying need has been satisfied. Pharmacists often mistakenly assume that the core product patients seek is health, although this is not always the case. A man undertaking genetic testing may not be seeking avoidance of disease, but peace of mind. A woman may not truly have realistic expectations

that she will be able to achieve long-lasting weight loss; she may just be in search of hope that it might happen. Understanding the core benefit sought is critical for meeting the needs of patients.

The next circle in the total product concept is the expected product. This is what the consumer anticipates from the pharmacist. The expected product is situation specific; it varies according to the circumstances and the people involved. When dispensing drugs in a pharmacy, the patient may expect only to receive the correct drug in an accurately labeled container within a reasonable time period. In other circumstances, the expectation may be higher or lower.

Anything provided that is beyond what the consumer expects is called the augmented product. The augmented product is the bundle of tangible product(s), information, and services that exceeds the consumer's minimal expectations. It is also called the differentiated product because it distinguishes one offering from the next. Things that might augment community pharmacy services include counseling, therapeutic monitoring, insurance assistance, free home delivery, blood pressure monitoring, refill reminders, telephone and Internet refills, selection of nonprescription medications, patient package inserts, compounding, compliance programs, drive-through services, and disease management services.

The expected product and augmented product provide a bundle of benefits that result in the core product. A pharmacy's bundle of services and merchandise is meant to fulfill patients' health care and non-health care needs. The idea behind the total product concept leads to the conclusion that the value pharmacists provide is not in the physical drug; it exists mainly in the services that accompany the physical drug.

Table 2. Classification of pharmacist services
Services associated with a tangible product <ul style="list-style-type: none"> ○ Prescription vs. nonprescription medications ○ New prescriptions v. refills ○ Specialty medicine ○ Unique administration requirements (e.g., IV, IM, transdermal) ○ Complementary and herbal medicine ○ Durable medical equipment ○ Home testing equipment and diagnostics
Services provided to specific populations <ul style="list-style-type: none"> ○ Geriatric ○ Pediatric ○ Women's health ○ Disease-specific
Services associated with a practice setting <ul style="list-style-type: none"> ○ Hospital: Centralized services v. decentralized services ○ Independent v. chain v. mass merchandiser v. grocery store ○ Mail order or Internet ○ Long-term care ○ Home health
Reproduced with permission from Holdford ¹⁹

Product as an intangible service

For years, pharmacists have been attempting to redefine their product from being medication-centered to one that emphasizes professional services. Within the pharmacy profession, services are commonly grouped by association with a tangible product, by the type of population being served, or by the setting in which services are provided (Table 2).

Services can accompany a tangible product or be of value by themselves. Those that accompany a tangible product are often called value-added services. They add value by augmenting the value proposition of the tangible product. Pharmacist services enhance the value proposition of the physical medication in a variety of ways. Patient counseling and compliance services increase the effectiveness of drugs. Pharmacist services also make medications more accessible, easier to use, and safer. Value-added pharmacy services include most dispensing activities, automated telephone refill programs, help with the selection of nonprescription products, and compounding services.

Some pharmacist services need no tangible product to provide value to consumers. These are called pure services. Examples are drug information services, poison information services, patient and provider consultations, and disease-screening activities. Pure services are increasingly common with technologies like the Internet, smart phones, and other electronic communication devices.

Tangibility of the Product–Service Mix

Today, most pharmacists offer a mix of tangible goods or services. The relative tangibility of a pharmacist's offering can be described as existing on a spectrum from pure

goods on one side to pure services on the other (Figure 2).²³ On the left side of the spectrum, offerings are more tangible if services provide little additional value to the tangible good provided. For instance, offering nonprescription (over-the-counter) drugs falls on the tangible end of the spectrum because their sale requires few supplemental services beyond delivery and shelf stocking. Although pharmacists are frequently called upon to assist in the selection of nonprescription drugs, many people are perfectly satisfied acquiring them from vending machines or at gas stations. On the right side of the spectrum, the product-service mix is judged as increasingly intangible because services are more important to achieving the benefit received. This means that as one moves from the center of the spectrum from dispensing of refills and new medications to the provision of medication therapy management and drug information, the need for pharmacist services becomes more vital and intensive. This classification is significant because marketing strategies vary depending on the tangibility of the product-service mix.¹⁸

Other Service Classifications

Another way of classifying services is to ask whether they are directed at people or things.²⁴ When added to the tangibility classification, we can classify the pharmacist services as (1) tangible actions directed toward people's bodies, such as vaccinations and point-of-care testing; (2) tangible actions toward things, such as retail dispensing, veterinary pharmacy, and mail order; (3) intangible actions directed at people, such as patient education and drug information services; or (4) intangible actions working with intangible assets, such as pharmacy benefit design and drug-use review (Table 3).

This categorization is helpful because it forces pharmacists to answer some important strategic questions about their services, such as whether the consumer really needs to be physically present to benefit from the service. As we have seen as pharmacists have adapted to the COVID-19 pandemic, the answer is probably "no". Pharmacists can provide most medication-related services at a distant location and send the drugs by courier or mail. Yet, some services such as vaccination and point of care testing require the presence of the patient.

Another important question associated with the tangibility-intangibility spectrum is how mentally engaged and active the patient must be in the care they receive. Many elements of the patient care process require patients to be present, ready, and mentally attentive. If the patient is distracted or fatigued, much of the benefit of patient care will be lost. However, other services require little engagement such as those directed at people's bodies. For instance, vaccinations simply require patients to provide

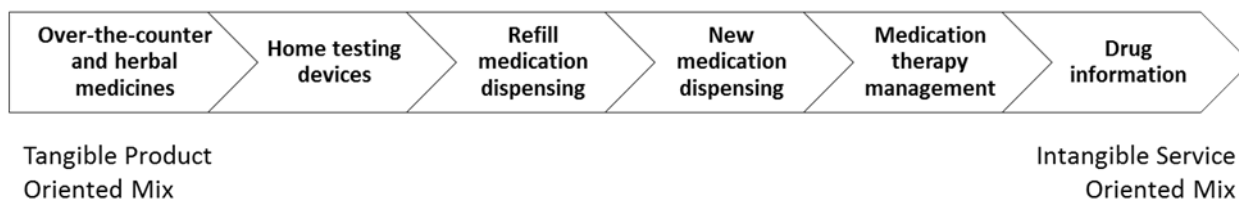


Figure 2. Product/service orientation



Action type	Directed at people	Directed at things
Tangible	Services directed at people's bodies - Vaccinations - Blood pressure monitoring - Cholesterol testing - Diabetes screening	Services directed at goods and other physical possessions - Drug dispensing - OTC counseling - Durable medical equipment - Herbal medicines - Veterinary medicine - Mail order pharmacy
Intangible	Services directed at people's minds - Patient education - Drug information services - Alternative medicine	Services directed at intangible assets - Drug insurance design - Pharmacy benefit management - Drug-use review

Reproduced with permission from Holdford¹⁹

consent and expose an injection site on their body—needing relatively little mental attention compared to other services. Of course, they might benefit from greater engagement (e.g., learning how to respond to potential injection side effects), but engagement is not needed to benefit from the injection.

In addition to the classifications in Table 3, service marketers offer other ways to classify pharmacist services (Table 4).^{24,25} One is by the type of relationship existing between the pharmacist and patient, such as having a formal contracted service to provide care. Other classifications refer to the intensity, complexity, continuity, standardization, and professionalism of the services provided. The final pharmacist product varies depending on how services are classified.¹⁹

Service-Dominant Logic

A new paradigm in marketing sees all value coming from services - meaning that all businesses are really service businesses.²⁶ The service-dominant logic sees the customer and services provided to the customer as central to the creation of value. Value only occurs through experiences, not tangible things, and value only occurs when the customer is satisfied with the experience provided by the marketer.

Tangible goods are only seen as a tangible storage package of services that may achieve desired outcomes. For example, a drug is really just the culmination of services going into the process of producing that drug. These processes include research and development, formulation, and manufacturing. Once that drug is dispensed to the patient, value only occurs when it is taken and the patient is satisfied with the outcome. With service dominant logic, the tangible and intangible are all just a package of services that only add value when the customer achieves their desired result, an outcome synonymous with patient-centric care and pharmaceutical care.

Pharmacists who adopt a service-dominant logic to their product see medications as only part of the overall value

package provided by pharmacists. Sometimes, value comes from not providing medications (e.g., not filling contraindicated prescriptions). In addition, with service-dominant logic, the customer is an essential co-creator of value and cannot be easily separated from the product offered. Indeed, the pharmacist cannot achieve desired therapeutic outcomes without the patient fulfilling their role in the production process (e.g., take a medication as directed). Pharmacists must actively engage patients to complete their roles as co-creators of health outcomes.

With a service-dominant logic perspective, value is always uniquely determined by the beneficiary. The value judgments of pharmacists are secondary to that of the customer. This means that objective measures of value like blood pressure readings and bone mineral density are usually less meaningful to customers than more subjective measures like preferences, functional status, and treatment satisfaction. It is up to the pharmacist to help patients use objective measures too in assessing their medication taking experiences.

Product as smart, connected goods and services

Smart, Connected Products

Information technology is transforming pharmacy products and complicating the way they can be classified. Medications were once made up solely of therapeutic chemical entities formulated into solid or liquid formulations for administration to humans. Now, they are increasingly being combined with companion diagnostics, mobile computer applications, cloud computing, machine learning, and integrated systems to form what are called smart, connected products.^{27,28}

Smart, connected products are physical devices embedded with technology such as sensors, processors, and software that enable the product to exchange data with humans or other technological devices (Figure 3). They are complex systems that use hardware, software, microprocessors, sensors, and connected communications to merge the diagnosis, treatment, and monitoring of patients.

Classification	Variables in classification
Pharmacist/Patient Relationship	Formal, Informal
Intensity/Time of Customer Contact	Intense, Not Intense
Complexity	Complex, Not Complex
Nature of Service Provided	Discrete, Continuous
Room for Customization and Judgment	Standardized, Customized
Professionalism of Services	Professional, Non-professional



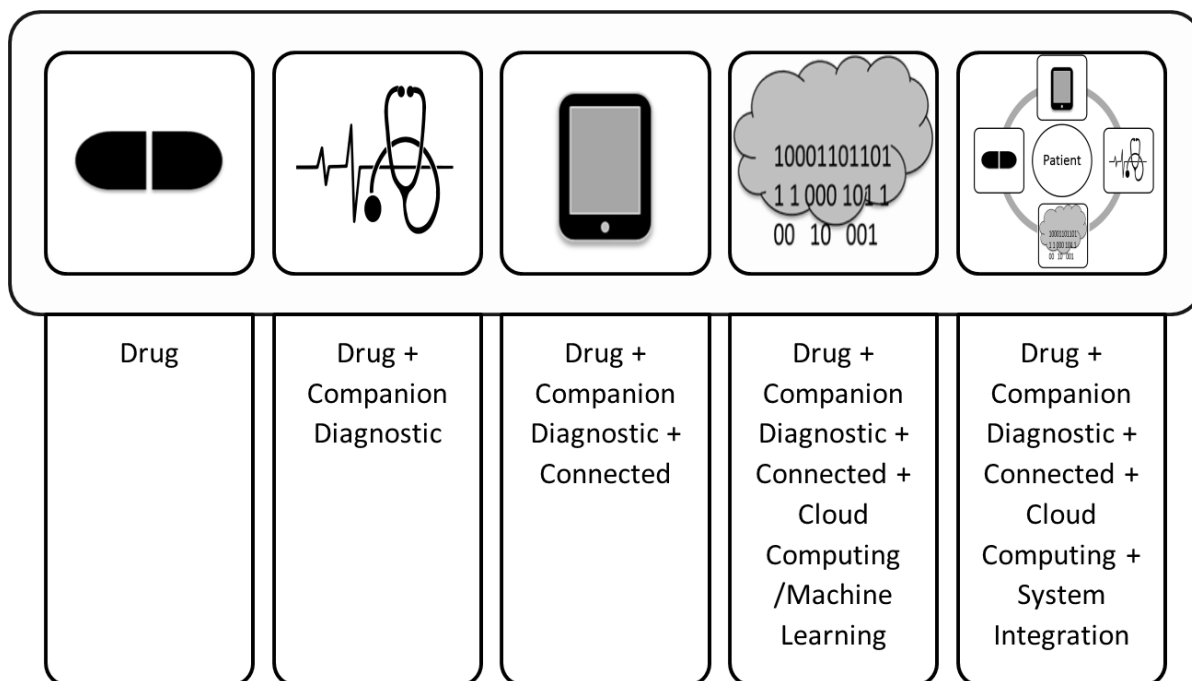


Figure 3. Contrasting traditional drugs with smart, connected medications

Functionality of the system exists both within the physical device and outside in databases in the internet cloud. Diagnostic data is collected from physical devices for analysis, prescribing, and therapeutic monitoring.

Smart, connected products have three primary features: physical components, “smart” components, and connectivity components.²⁷ For a smart, connected drug, the physical component might be a pill containing a medication. Smart components might consist of sensors, microprocessors, data storage, controls, and an embedded operating system. Connectivity components might be electronic wireless communications and user interfaces which connect the pill and the smart components to a system of individuals (e.g., pharmacists), cloud storage, and machine learning software.

The capabilities of smart, connected products allow pharmacists to have a much greater impact on patient health outcomes by improving the ability to monitor and control the performance of pharmaceuticals. Pharmacists can receive detailed and real time updates on patients’ conditions from embedded sensors. They can adjust dosing or work with patients on lifestyle changes guided by collected data. They have the capacity to collect detailed data on populations of patients through the smart devices allowing them to develop and apply algorithms to improve patient outcomes.

Smart, connected medications source of value lies in the drug and technology embedded in the physical, smart, and connectivity components of the systems. The provider appears to be secondary to the technology in these types of products. In contrast, some smart solutions place service providers at the center of the value proposition and use technology to support the product they offer.

Industrialized Intimacy

Industrialized intimacy has been proposed as a way to make services and service providers smarter when serving customers.²⁹ Industrialized intimacy blends technology with empowered workers to achieve a high level of contact, communication, and coordination with customers. Increasingly, this model of service design is becoming a standard of practice in some retail businesses.²⁹ Collecting data on customers and making it readily available to service providers can help personalize services and build customer relationships. With technology, pharmacists can have easy access to information about patient therapy, service preferences, insurance coverage, and best practices for their individual circumstances. Besides being effective in meeting needs, it can be highly efficient.

Pharmacies that integrate information and service technology into delivery processes can offer personalized, high-quality service with the efficiency of a standardized production line approach. Today, facial recognition software can identify patients as soon as they enter the pharmacy and contact the pharmacist with immediate information about the patient’s name, past prescription and non-prescription purchases, medical conditions, health and wellness behaviors, contact and reminder preferences, desired adherence packaging and methods of payment, and more.³⁰ Supported by other technology, the pharmacist can synchronize medications, monitor medication use, provide electronic reminders, and have prescriptions filled and ready for dispensing upon arrival. Service can be offered 24/7 via Internet, mobile devices, 24-hour pharmacies, self-service, and call centers. If needed, specialty, genomic testing, and other services can be provided for complex medical needs.

Product as a solution

Products exist to provide solutions to problems. The key to serving customers is to understand their problems and

Solution categories	Solutions sought by customers	
Functional - practical or usefulness	-Reduces effort -Simplifies tasks -Higher quality -Improves health -Offers wellness -More convenient -Gives variety	-Lowers risk -Connects to others -Integrates with other parts -Organizes things -Informs/Educates -Sensory appeal
Economic - pertaining to financial and non-financial costs	-Saves time -Lowers hassles -Lowers costs	-Makes money -Offers a deal
Emotional - arousing or characterized by intense feeling	-Provides hope -Makes one feel special -Lowers anxiety	-Offers nostalgia -Aesthetically pleasing -Fun/Entertaining
Symbolic - associated with symbolic meaning	-Providing a personal connection with others -Belonging to something bigger	-With like-minded people -Seeking a transcendent life

offer products that solve them. Although this sounds obvious, many pharmacists offer solutions first and then look for a problem that fits their solution. In other words, pharmacists often start with a vague idea to offer a clinical service without an in-depth analysis of customer desires, concerns, perceptions of value, and other drivers of behavior. Typically, they build something and hope that customers will come. This backward process often leads to product solutions that do not really meet the needs of customers.

Service and product designers use a process that focuses on understanding the problem before building and testing a product. Using processes such as design thinking, the best product is a precise solution to the customers' problem—nothing more and nothing less.³¹ Pharmacists would benefit from a design thinking approach to practice because of the frequent mismatch between what pharmacists offer and what patients want or are willing to pay for.¹¹ Common solutions sought by customers are shown in Table 5.³²

Jobs-to-be-done

Clayton Christensen, the individual behind the idea of disruptive innovation, describes product solutions in terms of the concept of jobs-to-be-done.³³ Christenson argues that success in business comes from a deep understanding of the job the customer is trying to accomplish (i.e., solution to a problem). Patients who buy a drug or visit a pharmacist are hiring a solution to a problem. The key to innovating in pharmacy is to identify jobs the customer needs to accomplish and to develop solutions for them.

The jobs-to-be-done framework encourages pharmacists to put themselves into the customers' shoes by asking "What job is the customer trying to get done?" For patients, the job of purchasing a prescription medication may comprise several jobs like acquiring the medication, fitting the medication into one's daily routine, and self-monitoring. Each job can be an opportunity for the pharmacist to offer a solution. The job for a health care insurer, in contrast, might center on keeping overall healthcare costs down and meeting key performance goals set by its employer clients.

A customer job can be a task that customers are trying to accomplish (e.g., change my unhealthy behavior, simplify my medication taking activities), a problem that they need solved (e.g., How can I manage my diabetes?), or a need to

be satisfied (e.g., reduce my chronic pain, feel good about myself). Customer jobs are identified by observing or interviewing potential customers as they go through a purchase or healthcare process. When observations are combined with interviews about tasks, problems, and unsatisfied needs, customer jobs can be identified and understood.

The primary jobs-to-be-done in healthcare revolve around diagnosis, treatment, prevention, and wellness.³⁴ Diagnosis jobs seek to identify what is wrong with someone's health, "I feel bad. Help me identify and understand what my problem is." Treatment jobs attempt to use therapeutic interventions to improve health, "I have these symptoms (or this condition). What should I do to treat it?" Prevention jobs try to avoid future health problems, "I would like to avoid feeling like that again. What steps can I take?" Wellness jobs help individuals take action to achieve a high quality of health and life, "What can I do to enhance my wellness?" Pharmacists can build viable business models by doing any number of customer jobs in healthcare.

IMPLICATIONS FOR PRACTICE

The four perspectives (Table 6) have implications for practice in pharmacy. The perspective of the "product a tangible product" is generally outdated because it uses a mass marketing framework in which pharmacy organizations appeal to all customers in a market with a single homogenized product offering. This perspective is not viable for long-term success in the profession because of consumer desires and needs for personalized offerings. The perspective of the "product as intangible service" allows greater personalization in meeting the needs of consumers. It emphasizes the role of service providers and service systems to offer experiences that satisfy the distinctive and changing desires of consumers. Pharmacists who use a services marketing framework can employ strategies in service design, service management, and service quality assessment to serve patients more effectively. Questions of interest using this framework include the role of patients in the co-production of pharmacy services, how to best communicate the benefits of professional services in meaningful ways to audiences, and the impact of omnichannel retailing and technology on the pharmacy profession.



Product perspective	Key literature framing perspective	Single sentence description	Contribution of the perspective
Product as Tangible Object	Mass Marketing	A product is a physical item offered for sale	Now considered outdated in an era where even manufactured goods are differentiated by value added services. Pharmacists who see their product as a tangible object are increasing risk of being commoditized.
Product as Intangible Service	Services Marketing	All value comes from services -- even tangible goods which are just storage packages for services	Completely reframes how businesses add value and compete in the marketplace. Excellent pharmacist services can be a source of competitive advantage because they are difficult to copy.
Product as Smart Goods and Services	Product Service Systems	Products are an combination of physical and intangible elements connected by advanced technology	Combines traditional products and services with diagnostics, mobile technology, cloud computing, machine learning, and more. There is risk to pharmacists if they do not become a key element in these systems.
Product as Solution	Design Thinking	Products are solutions to customers' problems and can come in any form	Reaffirms the centrality of customers in the production process and the solutions that they seek. Offers a framework for patient-centered and sustainable pharmacist services.

As technology advances, the idea of pharmacist products being either tangible or intangible offerings may also need to change. The product will increasingly comprise a combination of the physical and intangible connected by advanced technology. The perspective of the "product as smart goods and services" will see pharmacists as part of product service systems made up of physical devices, sensors, processors, software, medications, and diagnostics. Pharmacists will need to manage the complex systems of hardware, software, microprocessors, sensors, and connected communications in the diagnosis, treatment, and monitoring of patients. Pharmacists will still provide the human contact between the patient and the smart system, but informatics and engineering may become a greater part of their responsibilities.

The "product as solution" perspective differs from the previous three by its emphasis on the end result of the production process instead of the inputs. This perspective sees products as solutions to customers' problems in whatever form they are provided: tangible, intangible, or smart. It asserts the central role of customers and their needs in the production process. It uses a design thinking framework to understand and empathize with customer medication-related problems and other concerns. That understanding is used to develop and refine solutions. The product as solution perspective offers a framework for advancing patient-centered and sustainable pharmacist services.

CONCLUSIONS

How pharmacists define their product is critical for the study of pharmacist interventions and the marketing of pharmacist services. It specifies the pharmacist's purpose and frames how pharmacy problems are approached. Pharmacists who define their product as the provision of a drug will seek ways to deliver the drug faster, cheaper, and better than competing alternatives. A service-orientation or product-service system approach will lead pharmacists to emphasize the value associated with experiences, technology, and touch points with consumers. A solution-oriented definition will emphasize the centrality of understanding customers' problems and offering products that solve them.

Pharmacists can benefit from seeing their product from these different perspectives. It can encourage them to innovate when designing, providing, marketing, and studying pharmacy offerings. A broader perspective on what pharmacists produce can encourage innovative approaches to serving the needs of patients and customers.

CONFLICT OF INTEREST

The author states no conflict of interest.

FUNDING

No funding has been provided in support of this paper.

References

1. Brodie DC. Pharmacy's societal purpose. *Am J Hosp Pharm*. 1981;38(12):1893-1896.
2. Kotler P, Armstrong GM. *Principles of Marketing*, 11th ed. New York, NY: Prentice Hall; 2005.
3. Holdford DA. Understanding Business Models in Pharmacy Schools. *Am J Pharm Educ*. 2017;81(5):82. <https://doi.org/10.5688/ajpe81582>
4. Holdford DA, Carroll NV. Chapter 4 Strategic Planning Process. In: *Marketing for Pharmacists: Providing and Promoting Pharmacy Services*, 3rd ed. Richmond, VA: PharmacoEnterprise; 2015.
5. Holdford DA. Resource-based theory of competitive advantage - a framework for pharmacy practice innovation research. *Pharm Pract (Granada)*. 2018;16(3):1351. <https://doi.org/10.18549/pharmpract.2018.03.1351>
6. Garcia-Cardenas V, Perez-Escamilla B, Fernandez-Llimos F, Benrimoj SI. The complexity of implementation factors in professional pharmacy services. *Res Social Adm Pharm*. 2018;14(5):498-500. <https://doi.org/10.1016/j.sapharm.2017.05.016>



7. American Pharmacists Association. Vision and mission for the pharmacy profession. <https://www.pharmacist.com/vision-and-mission-pharmacy-profession> (accessed Jan 1, 2019).
8. Council on Credentialing in Pharmacy, Albanese NP, Rouse MJ. Scope of contemporary pharmacy practice: roles, responsibilities, and functions of pharmacists and pharmacy technicians. *J Am Pharm Assoc* (2003). 2010;50(2):e35-e69. <https://doi.org/10.1331/japha.2010.10510>
9. Livet M, Haines ST, Curran GM, et al. Implementation Science to Advance Care Delivery: A Primer for Pharmacists and Other Health Professionals. *Pharmacotherapy*. 2018;38(5):490-502. <https://doi.org/10.1002/phar.2114>
10. Cambridge Dictionary. Cambridge Dictionary Online. Cambridge : Cambridge Univ Press; 2016.
11. Isetts BJ, Schommer JC, Westberg SM, Johnson JK, Froiland N, Hedlund JM. Evaluation of a consumer-generated marketing plan for medication therapy management services. *Inov Pharm*. 2012;3(1):249. <https://doi.org/10.24926/iip.v3i1.249>
12. Schommer JC. Patients' expectations and knowledge of patient counseling services that are available from pharmacists. *Am J Pharm Educ*. 1997; 61:402-406.
13. Chewning B, Schommer JC. Increasing clients' knowledge of community pharmacists' roles. *Pharm Res*. 1996;13(9):1299-1304. <https://doi.org/10.1023/a:1016001428511>
14. Schommer JC, Gaither CA. A segmentation analysis for pharmacists' and patients' views of pharmacists' roles. *Res Social Adm Pharm*. 2014;10(3):508-528. <https://doi.org/10.1016/j.sapharm.2013.10.004>
15. Gammie SM, Rodgers RM, Loo RL, Corlett SA, Krska J. Medicine-related services in community pharmacy: public preferences for pharmacy attributes and promotional methods and comparison with pharmacists' perceptions. *Patient Prefer Adherence*. 2016;10:2297-2307. <https://doi.org/10.2147/ppa.s112932>
16. Worley MM, Schommer JC, Brown LM, et al. Pharmacists' and patients' roles in the pharmacist-patient relationship: are pharmacists and patients reading from the same relationship script?. *Res Social Adm Pharm*. 2007;3(1):47-69. <https://doi.org/10.1016/j.sapharm.2006.03.003>
17. Holdford DA. Chapter 1 Introduction to marketing. In: *Marketing for pharmacist: providing and promoting pharmacy services*, 3rd ed. Richmond, VA: PharmacoEnterprise; 2015.
18. Zeithaml VA, Parasuraman A, Berry LL. Problems and strategies in services marketing. *J Mark*. 1985;49:33-46. <https://doi.org/10.2307/1251563>
19. Holdford DA. Chapter 7 Characteristics of services. In: *Marketing for pharmacist: providing and promoting pharmacy services*, 3rd ed. Richmond, VA: PharmacoEnterprise; 2015.
20. Levitt T. *The Marketing imagination*. New York, NY: Free Press; 1986.
21. Kotler P, Keller KL. *Marketing management*. Upper Saddle River, NJ: Pearson Prentice Hall; 2011.
22. Holdford DA. Chapter 2: Important marketing Concepts. In: *Marketing for pharmacists: providing and promoting pharmacy services*, 3rd ed. Richmond, VA: PharmacoEnterprise; 2015.
23. Shostack GL. Breaking free from product marketing. *J Mark*. 1977;41:73-80.
24. Lovelock CH. Classifying services to gain strategic marketing insights. *J Mark*. 1983;47:9-20.
25. van der Valk W, Axelsson B. Towards a managerially useful approach to classifying services. *J Purch Supply Manag*. 2015;21:113-124.
26. Stephen L. Vargo, Robert F. Lusch. Evolving to a new dominant logic for marketing. *J Mark*. 2004;68:1-17.
27. Porter ME, Heppelmann JE. Smart, connected products are transforming competition. *Harv Bus Rev*. 2014;92:65-88.
28. Cohoon TJ, Bhavnani SP. Toward precision health: applying artificial intelligence analytics to digital health biometric datasets. *Per Med*. 2020;17(4):307-316. <https://doi.org/10.2217/pme-2019-0113>
29. Kolesar P, Van Ryzin G, Cutler W. Creating customer value through industrialized intimacy. *Strateg Bus*. 1998;12:2-12.
30. Willems K, Smolders A, Brengman M, Luyten K, Schöning J. The path-to-purchase is paved with digital opportunities: An inventory of shopper-oriented retail technologies. *Technol Forecast Soc Change*. 2017;124:228-242. <https://doi.org/10.1016/j.techfore.2016.10.066>
31. Institute of Design at Stanford. *Introduction to Design Thinking*. Des Think Entrep Small Businesses. 2010:1-15.
32. Almquist E, Senior J, Bloch N. The 30 elements of consumer value: a hierarchy. *Harv Bus Rev*. 2016:46-53.
33. Christensen CM, Hall T, Dillon K, Duncan DS. Know your customers "jobs to be done". *Harv Bus Rev*. 2016;54-62.
34. Christensen C, Waldeck A, Fogg R. How jobs to be done can help reduce chronic care cost. <https://www.innosight.com/insight/health-for-hire-with-jobs-to-be-done/> (accessed Jan 3, 2019).