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# Flipping the Diffusion of Innovations Paradigm: Embracing the Positive Deviance Approach to Social Change

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## **Abstract**

The classical diffusion of the innovations paradigm has faced criticism for reifying outside-in, expert-driven approaches to solving problems and for overlooking and rejecting local solutions. In this article, we argue that diffusion scholars should pay more attention to approaches such as positive deviance (PD) that enable communities to discover the wisdom they already have and then to act on it. PD is an asset-based approach that identifies what is going right in a community to amplify it, as opposed to focusing on what is going wrong in a community and fixing it with outside expertise. In the PD approach, the change is led by internal change agents who, with access to no special resources, present the social behavioural proof to their peers that problems can be solved. Given that the solutions are generated locally, they are more likely to sustain and be owned by potential adopters.

## **Keywords**

Classical diffusion, conceptualization, innovations paradigm, positive deviance

In his writings, Professor Joe Ascroft often emphasized the value of local knowledge and practices in solving social problems. In so doing, he questioned the tenets of the classic diffusion of innovations paradigm (Dearing & Cox, 2018; Dearing & Myers, 2010; Dedehayir, Ortt, Riverola, & Miralles, 2017; Melkote & Steeves, 2015; Rogers, 2003, 2004; Rogers, Singhal, & Quinlan, 2009; Singhal, 2011; Singhal & Dearing, 2006; Singhal & Svenkerud, 2018) that:

1. new ideas and practices (innovations) usually come from the outside,
2. their efficacy is validated through scientific evidence,
3. (3) they are promoted by a well-meaning change agency,
4. through expert and knowledgeable change agents,
5. who use persuasive mass, interpersonal and digital communication channels to plug existing knowledge-attitude-practice (KAP) gaps,
6. among a carefully targeted and segmented client audience,
7. by harnessing the influence of charismatic opinion leaders and
8. who serve as visible role models and reinforcers of innovation adoption for the non-adopters.

In this article, we broach an alternative conceptualization of diffusing innovations, which flips the classic diffusion paradigm on its head<sup>1</sup>. This alternative approach to diffusing innovations is known as the positive deviance (PD) approach. The PD approach is not proposed here as a substitute for the classic diffusion of innovations paradigm. Rather, we argue that the PD approach expands the solution space by working with a different set of principles, questions and mindsets, believing that often the wisdom to solve intractable social problems lies within the community. Thus, the PD approach validates the importance of local wisdom and practices as posited by Joe Ascroft.

The PD approach to diffusing 'new ideas and practices' has been employed—over the past 25 years—in over 50 countries to address a wide variety of complex social problems, including solving endemic malnutrition (Pascale & Sternin, 2005; Sternin, 2003; Zeitlin, Ghassemi, & Mansour, 1990), decreasing neo-natal and maternal mortality (Shafique, Sternin, & Singhal, 2010), reintegrating returned child soldiers (Singhal & Dura, 2009), reducing school dropouts (Singhal & Dura, 2012), cutting down the spread of hospital-acquired infections (Singhal, Buscell, & Lindberg, 2010, 2014; Singhal & Dura, 2017), enhancing female entrepreneurship in rural areas (Jain, Sachdev, Singhal, Svenkerud, & Agarwal, 2018) and reducing female genital cutting, sex trafficking and other intractable issues (Pascale, Sternin, & Sternin, 2010; Sternin & Choo, 2000).

In this article, we describe the PD approach, including its key tenets and principles, by analysing its historical origins in Vietnam to combat endemic malnutrition. Through the experience of this pioneering real-life application of PD in Vietnam, and another case of applying PD to address school dropouts in Argentina, we argue for an alternative conceptualization of diffusion of innovations—one that flips cherished conceptualizations of expert and outside change agents, the notion of filling KAP gaps, the traditional role of opinion leaders and the like.<sup>2</sup>

## What is Positive Deviance?

This narrative understanding of the PD approach begins with the invocation of a Sufi tale. In one of his hundreds of guises, the mystical Sufi character Nasruddin appears on earth as a smuggler. He would arrive at the customs checkpoint each day leading a herd of donkeys. The customs inspector would feverishly turn the baskets hanging upside down on the donkeys to check the contents, hoping to nail Nasruddin in an act of wrongdoing. He, however, never found anything of interest and hence had little choice but to let the smuggler pass through. Years went by, and Nasruddin's legend as a smuggler spread while the inspector grew ever more frustrated. One day, after Nasruddin and the inspector had retired from their respective occupations, their paths crossed. The former inspector pleaded, 'Tell me, Nasruddin. What were you smuggling?' 'Donkeys', Nasruddin replied.

Nasruddin's donkey story holds the proverbial key to grasp the underpinnings of the PD approach. Often the solutions to highly intractable problems stare us in the face but remain invisible in plain sight—out of an expert's frame, radar and range. What prevented the customs officer from seeing Nasruddin's donkeys? Part of the answer lies in the bounded rationality of an expert's mind that selectively processes what is meaningful and relevant, that is, inattentional blindness (Czarniawska, 2004; Mack & Rock, 1998; March & Simon, 1958). Some call this 'trained incapacity', a state where one's expertise and abilities function as constraints. Bateson (1972) and Goffman (1974) argue that the customs officer's frame, guided by selective representations, perceptions and interpretations of what constitutes contraband, specified the boundaries of what was visible or invisible. The baskets were visible, the donkeys were not (Singhal & Bjurström, 2015; Singhal & Svenkerud, 2018)!

So, how can one purposely and systematically discover Nasruddin's donkeys? The PD approach shows the way. The PD approach is based on the premise that every community has individuals or groups whose uncommon behaviours and strategies enable them to find better solutions to problems than their peers although everyone has access to the same resources and challenges (Pascale & Sternin, 2005; Pascale et al., 2010; Singhal & Dura, 2009). However, these individuals, akin to Nasruddin's donkeys, are hidden from plain view. Consider a nurse used her 'knuckle' (not her fingertip) to press the hospital elevator button and a patient, who saw this, had figured out a way (using winks and nods) to let the medical personnel know that they need to wash their hands before touching him. In both cases, these small, non-normative behaviours reduce the risk of spreading deadly infections, saving patients' lives (Singhal et al., 2010, 2014). However, such micro-behaviours are ordinarily invisible to others, especially to expert change agents.

In the above hospital scenario, the nurse and the patient represent 'deviants' because their uncommon behaviours are not the norm; they are 'positive' deviants because they have found ways to address the problem effectively, while most others have not (Singhal, 2013). By focusing on 'what is working,' the PD approach relies on unearthing the wisdom that lies hidden within ordinary people (or 'unusual suspects') and amplifying it in a process that leads to sustainable organizational and community transformation (Singhal & Bjurström, 2015). The

section that follows illustrates the various steps in the PD process by discussing its success in combating malnutrition in Vietnam.

## **Solving Malnutrition in Vietnam**

In 1990, *Save the Children U.S.* sent Jerry and Monique Sternin to Vietnam to implement a large-scale programme to combat childhood malnutrition. With 65 per cent of all Vietnamese children under the age of 5 years malnourished, Vietnamese officials challenged Sternin to come up with a sustainable solution and show positive results within 6 months. Tasked with the challenge, Sternin wondered if the concept of 'PD', codified by Tufts University nutrition Professor Marian Zeitlin, might hold promise. Zeitlin was investigating why some children in poor households were better nourished than others (Zeitlin et al., 1990). What were they doing that others were not?

Four village communities in Quang Xuong District, south of Hanoi, were selected for a nutrition survey since childhood malnutrition rates were high in this district. Some 2,000 children under the age of 3 years were weighed and their locations mapped. Sternin posed the quintessential 'what is working' PD question: *are there any well-nourished children who come from very, very poor families* (Singhal, Sternin, & Dura, 2009)? The response from the local officials was 'Yes'.

Indeed, there were some children from very poor families who were well nourished. These families who had managed to avoid malnutrition without access to any special resources represented positive deviants. Through a process of community-led self-discovery, it became apparent that the PD families practised a few simple behaviours that others did not:

- Family members collected tiny shrimps and crabs from paddy fields and added them to their children's meals. These foods are rich in protein and minerals.
- Family members added greens of sweet potato plants to their children's meals. These greens are loaded with micronutrients. While these foods were accessible to everyone, most community members believed they were inappropriate for young children.
- PD mothers and caregivers were feeding their children smaller meals three to four times a day, rather than the customary two big meals twice a day.
- PD mothers and caregivers were actively feeding their children, rather than placing food in front of them, making sure no food was wasted.

After some trial and error, a two-week nutrition programme was designed in each of the four intervention villages. Caregivers, whose children were malnourished, were asked to forage for shrimps, crabs and sweet potato greens. The focus was not on information-transfer but rather on the action, practice and embodied experience. In the company of positive deviants, non-PD caregivers of malnourished children learnt how to cook new recipes using the foraged ingredients. These caregivers practiced the behaviours that PD families had discovered on their own.

Before feeding their children, mothers weighed them. No food was wasted as the children were actively fed. Upon returning home, the non-PD caregivers were encouraged to feed their children three or four small meals a day instead of the traditional two meals. Such feeding and monitoring continued throughout the two-week programme. Caregivers could see their children becoming noticeably healthier. The scales were tipping in favour of the children! Then the project expanded to another 10 adjacent communities. Community members engaged in a process of self-discovering the PD behaviours, as opposed to importing them from neighbouring communities. The process of self-discovery was found to be as important as the actual behaviours that were uncovered.

Research showed that malnutrition decreased by an amazing 85 per cent in the first 14 PD communities. The programme was scaled up by building a ‘living university’ around these 14 PD communities. Teams from other communities with high rates of malnutrition spent up to 2 weeks directly experiencing the essential elements of the PD process. When they returned home, they would implement the PD nutrition programme in at least two local communities. Through this lateral expansion, the PD intervention spread nationally, helping over 2.2 million people improve their nutritional status, including over 500,000 children (Pascale et al., 2010). A later study, conducted four years after the programme ended showed that older children and their younger siblings in PD communities continued to be better nourished, demonstrating the acceptability, affordability and sustainability of the PD intervention (Mackintosh, Marsh, & Schroeder, 2002).

The Vietnam case illustrated in Table 1 shows the six-step process that characterizes a PD intervention. These steps, in whole or part, continue to guide the design and implementation of the PD approach to address social problems.

**Table 1.** The PD Process: ‘The 6 Ds’

6 ‘Ds’ of PD	Illustrations from Vietnam Case
1. <b>Define</b> the problem	<ul style="list-style-type: none"> <li>• Baseline data provided by Vietnamese officials: 65 per cent of children under the age of 5 were malnourished</li> </ul>
2. <b>Determine</b> existence of statistical outliers	<ul style="list-style-type: none"> <li>• 2,000 children were weighed by a community-led group</li> <li>• Some children from very poor families were well nourished, and their locations were plotted on a map</li> </ul>
3. <b>Discover</b> uncommon but replicable behaviours and practices	<ul style="list-style-type: none"> <li>• Community-led self-discovery involved interviews and observations to discover PD behaviours and strategies: What were PD families doing that other families were not?</li> </ul>
4. <b>Design</b> intervention	<ul style="list-style-type: none"> <li>• A two-week action-based nutrition programme was designed: PD caregivers taught non-PD caregivers their strategies</li> <li>• Non-PD caregivers practised the behaviours</li> </ul>
5. <b>Discern</b> effectiveness	<ul style="list-style-type: none"> <li>• Feeding and monitoring continued—families could see progressive weight gain during the intervention</li> </ul>

*(Table 1 continued)*

(Table 1 continued)

6 'Ds' of PD	Illustrations from Vietnam Case
6. Disseminate	<ul style="list-style-type: none"><li>• The project expanded to 10 adjacent communities</li><li>• Malnutrition decreased by 85 per cent in 14 PD communities</li><li>• The PD intervention spread nationally, helping 2.2 million people (500,000 children)</li><li>• 4 years later, a study confirmed sustained nutrition status</li></ul>

Source: Draws upon Singhal and Svenkerud (2018).

The systematization of the PD steps by Jerry and Monique Sternin in the rice fields of Vietnam greatly aided the dissemination of the PD approach to many geographies (over 50 countries) to solve many intractable social problems, including school dropouts in Argentina.

### Reducing School Dropouts in Argentina<sup>3</sup>

In 2000, a first grader in Argentina's rural province of Misiones would have a three in four chances of getting to 3rd grade and one in two chances of making it past the 6th grade in school. What explained this sharp school drop-out rate in Misiones? The answers lay in the deeply ingrained traditional roles that young children in Misiones played in local agriculture, which supported family livelihoods. School-going children dropped out of school to help plant the branches on which cassava grows, a staple food in Northeastern Argentina, and played a key role in harvesting tobacco, which required squatting low to pluck tobacco leaves from the bottom (a task that children carried out with relative ease). For parents, school attendance for their children was a relatively low priority. Survival took precedence over education.

However, not every elementary school in Misiones had such a high drop-out rate. Some schools did better, for example, the school where teacher Ramon Garcia was an active community citizen. After school hours, Mr Garcia could often be seen at his students' home, sipping a cup of *mate* (a cultural practice in Argentina in which one shares an herbal infusion sipped with a metal straw from a hollow gourd). He might ask parents about the well-being of the family pig that appeared to be pregnant and about the tobacco harvest: 'How much are they selling it for per kilo?' Mr Garcia might encourage Manuel and Lydia, the parents of his ward whom he knew on a first name basis, to continue sending their child to school. The boys and girls in Mr Garcia's class, as well as their parents, knew that Mr Garcia believed in their potential and would go the extra mile to encourage their continued presence in the school, even when they were absent. Mr Garcia's behaviours sounded like PD behaviours. A senior female teacher bellowed

*Senor, Argentina no es Vietnam* [Sir, Argentina is not Vietnam]. Your positive deviance approach will not work here in Misiones! We, the teachers, haven't been paid in months.

The parents of these children who drop-out are worthless and disinterested. And señor, you know nothing of our situation or problems

Other teachers, with crossed arms and defiant looks, nodded in agreement.

Jerry Sternin's story about the success with the PD approach in successfully combating childhood malnutrition in Vietnam was met with scepticism and resistance in Misiones. '*Senora, lo que usted dice es absolutamente verdad!*' [Madam, what you have said is absolutely true], Jerry replied

It is also true that some of you, sitting in this room at this very moment, have been able to retain over 85% of your students. So, yes, I know nothing about your situation. But I do know that the solution to your problem already lurks in this room.

An elder teacher noted, 'Yes, Señor, that is correct'. She added, 'but we are so often blamed for student drop-outs by both the parents and school administrators'. 'Is that the case *every* time?' asked Jerry. 'At *every* school? PD is not a magic bullet', Jerry noted with humility. 'But by looking at elementary schools in Misiones that can retain and graduate more students without access to any special resources, we might get somewhere', Jerry noted.

By the time the day ended, the tone of the meeting had changed dramatically. Some participants noted that they looked forward to continuing the discussion the following day. Jerry noted

Most surprising of all, some teachers asked if they could invite parents of some school-going children. Earlier in the day, the teachers had blamed the parents as being the cause of the drop-out problem. Now they felt that including parents in this workshop might bring them closer to a solution

On the second day of the workshop, 22 parents joined the meeting. Suspicious of the teacher's invitation, they looked palpably nervous. 'We're not sure what to expect', one parent said. 'I don't know what we can contribute', said another. As poor subsistence farmers, they were certainly not used to being asked for their opinions. Yet as happens in many iterations of the PD approach, the less likely suspects—in this case, the parents—were full of ideas and contributions. The parents discussed their own experiences in overcoming hardships to keep their children in school and identifying ways that their neighbours were able to do the same. And thus began the process of self-discovery. Jerry knew that self-discovery is critical to community ownership of the PD programme, significantly increasing the probability of adopting the identified PD strategies. In Alem and San Pedro, two communities in Misiones, self-discovery was introduced to the workshop participants, followed by a field-based PD inquiry (Dura & Singhal, 2009).

A reflection of the school drop-out problem in Misiones, Argentina, revealed the PD steps:

*First*, the problem was *defined*. Workshop participants, comprising parents, teachers and administrators, agreed on a definition of the problem: 'Schools in Alem retain only 56% of students through grade three'. Next, participants agreed on a desired outcome: 'Schools in Alem would achieve retention rates of 75% or higher'.



*Second*, the group was charged with *determining* if positive deviant schools existed in Alem. To determine if there were schools with retention rates of 75 per cent or higher, each group was given a calculator and a list of schools with data on the number of students enrolled in grades one to three from 1999 to 2001. They would then identify these schools and rank them accordingly. After calculating retention rates for all 63 schools in Alem, eight potential PD schools with retention rates ranging from 78 per cent to 100 per cent were identified. Through another round of review, six were narrowed as being PD schools (Dura & Singhal, 2009).

*Third*, the teams set out to *discover* uncommon practices by visiting the six PD schools.<sup>4</sup> The first day they carried out in-depth interviews with teachers and the headmaster/ headmistress and observed classes in session. Parent participants also interviewed parents from PD schools at their homes. The teacher-parent teams were to make general observations regarding the use of physical facilities, food distribution, general cleanliness, condition and utilization of school materials (Sternin, 2003).

The process of self-discovery is not just about looking at what is going well. For example, several groups reported that ‘teachers in the PD schools showed unusual respect for their students’, rather than identifying the *specific uncommon behaviours/strategies* through which that respect could be observed. Sternin (2003) challenged the group to identify specific and verifiable practices that led to good outcomes, asking: ‘Since *all schools* treat their students with love and respect, can we assume that this issue has no impact on retention levels and that schools with 56% retention rates treat their students in the same manner as those with a 100% retention rate?’

This PD inquiry process helped the group arrive at a more nuanced description of common practices, for example, how was respect for students operationalized? In a PD school, for instance, teachers warmly greeted parents whenever they visit the school. In turn, parents felt comfortable approaching the child’s teacher. Teachers also asked parents to RSVP to invitations for meetings, and when parents did not RSVP, teachers went out of their way to contact them. The PD inquiry yielded specific and verifiable practices in the way teachers and parents interacted with students, in the way classes were taught and assessed, in how the community was involved and how children’s nutrition schedule was constructed (see Table 2)<sup>5</sup>.

Upon conclusion of the PD school visits, and identification of common PD practices in schools with high retention rates, an action plan was developed by parents, teachers and administrators. Next, the PD programme was *designed* and implemented, building upon the foundation of making the local knowledge and solutions actionable. In subsequent years, the *dissemination* of these processes, and the *discernment* of their efficacy through monitoring, led to significant reduction in school drop-out rates in Misiones (Sternin, 2003).

**Table 2. A Comparison of Common and PD Practices in Schools**

Area of Impact	Common Practices	PD Practices
<b>School-family relations</b>	Parents with little or no formal education are not given opportunities to contribute to the educational process.	All parents contribute to the school. Parents hold skills workshops (i.e., sewing, woodworking). They also help maintain the school building (i.e., mend fences) and arrange student games/parades.
<b>Teaching methodology</b>	The whole class is given the same assignment to work on, regardless of ability or age.	The class is broken up into groups. Assignments are modified to reflect the abilities of the students in the group.
<b>Degree of community involvement</b>	There is little communication between the school and community leaders.	Schools identify community leaders (i.e., priest) and discuss problems with them. Community leaders are actively involved in increasing retention.
<b>Nutrition</b>	Children are provided with one meal at school (usually lunch).	Schools recognize that hungry children have difficulty learning. The school provides breakfast instead of lunch.

Source: Draws upon Singhal and Svenkerud (2018).

## Discussion and Conclusions

The pioneering PD experience in Vietnam and its follow-up application in Argentina turned the fundamental tenets of the classic diffusion of innovations framework on its head (see Table 3). The classic diffusion paradigm has been criticized for reifying expert-driven, top-down approaches to address problems and thus, by default, overlooking and rejecting local solutions (Papa, Singhal, & Papa, 2006; Singhal & Dearing, 2006; Singhal & Dura, 2017; Singhal & Svenkerud, 2018). Diffusion of innovation experts now increasingly believe, and humbly acknowledge, the value of local expertise and indigenous wisdom in finding culturally appropriate solutions to community problems. One such inside-out approach to innovation diffusion is exemplified by the PD approach.

The PD approach believes that solutions for solving complex social problems<sup>6</sup> that are generated locally are more likely to be owned by the potential adopters. When adopters are externally persuaded to buy into the vision of an expert from outside, they tend to demonstrate inertia and resistance, much like the Iowa farmers in the Ryan and Gross (1943) study who for an average of about 10 years resisted the adoption of hybrid seed corn.

The PD approach questions the traditional role of exogenous expertise, believing that the wisdom to solve the problem lies within the community. While social change experts usually make a living discerning community deficit and then implementing outside solutions to change them, in the PD approach, the role

**Table 3.** PD Approach Contrasted with the Diffusion of Innovations Approach

Diffusion of Innovations Approach	Positive Deviance Approach
Solutions reside outside	Solutions exist within the community
Change agency as pushing solutions	Community self-discovers solutions
Seeking adopter buy-in	Seeking community ownership
Emphasizing innovation attributes (relative advantage, compatibility, non-complexity, trialability and observability)	The solution, by definition, delivers better outcomes (relatively advantageous), is compatible and non-complex (as people with no special resources have adopted). Further, the PD behaviours are trialable (already being practised), and their results are observable
Expert change agents give advice	Change agents relinquish expertise, listen and facilitate
Focused on plugging deficits	Focused on identifying and amplifying assets
Moves from problem-solving to solution identification	Moves from solution identification to problem-solving
Adopters are persuaded	Adopters learn by doing
Susceptible to adopter resistance on account of exogenous solution	Open to self-replication on account of endogenous wisdom
Valorizes charismatic opinion leadership	Valorizes behaviours of ordinary people
Involves lengthy diffusion planning	Can begin now as solution resides in the now
Needs heavy investment of resources for dissemination	Needs limited resources as someone is practising those behaviours against all odds

Source: Singhal (2011) and Singhal and Dura (2012).

of experts is framed differently. The expert's role is to help the community find the positive deviants, identify their uncommon, but effective, practices and then design a community intervention to make them visible and actionable.

In the PD approach, the change is led by internal change agents who with access to no special resources present the social behavioural proof to their peers. If they can do it, others can too. As the PD behaviours are already in practice, the solutions can be implemented without delay or access to outside resources. Further, the benefits can be sustained, since the solution resides locally.

Perhaps, most importantly, the PD approach flips the dominant 'transmission-centered' innovation-decision framework on its head. As opposed to subscribing to the notion that increased knowledge changes attitudes and attitudinal changes change practice, PD believes in changing practice.

Diffusion of innovation scholars and practitioners will benefit greatly from embracing the tenets of the PD approach.

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## Notes

1. This piece draws upon the authors' previous writings—Singhal (2011), Singhal and Bjurström (2015), Singhal and Dura (2012, 2017), Svenkerud and Singhal (1998; 2019) and others.
2. This article draws upon the authors' previous writings on PD and diffusion of innovations.
3. See Dura and Singhal (2009) and Stermin (2003).
4. Teams were mixed, that is, they comprised parents, teachers and administrators from different schools, to prevent the temptation of presenting certain schools' practices in a more favourable light.
5. Observations were conducted with general categories in mind, and over the course of the workshop visits more refined categories emerged.
6. The PD approach is best suited to address complex adaptive problems—those that have multiple and intertwined underlying causes. The PD approach is not suited to address problems that have straightforward technical solutions.

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