

PAPER

Cisco's Flipped-Learning-Peer-Learning Initiative: Learning & Modeling the Best Practices of Top Performers

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ABSTRACT

This paper presents a new learning initiative that Cisco plans to roll out for its community of salespeople in collaboration with researchers from the National University of Singapore. Unlike Cisco's existing sales training programs, this initiative adopts a bottom-up approach for the purpose of capturing and leveraging the "wisdom in the crowd" that is unique to Cisco's products, services, processes, and markets. Specifically, learning content will be sourced from selected members of Cisco's sales community who have been identified as subject matter experts (SMEs) in some aspect of the sales pipeline. Content created by the SMEs will typically take the form of a short video that codifies their best practices but may include some other material. To support learners consume and internalize the learning content at scale, a stratified learning model comprising two active learning approaches is used—namely, flipped learning and peer learning. The model provides learners with opportunities for self-direction. For example, learners get to choose what and how to learn. Machine learning will be used to automate various processes, including SME identification, generating personalized content recommendations, and pairing learners with peer learning partners. The efficacy of this new learning initiative will be measured in terms of its impact on individual sales productivity, using an adaptation of the New World Kirkpatrick Model, a recent iteration of the industry standard for measuring corporate learning success.

KEYWORDS

flipped learning, Kirkpatrick Model, knowledge sharing, peer learning, self-directed learning

1 INTRODUCTION

According to U.S.-based management consulting firm, Knowledge Harvesting, the "majority of the important knowledge in an organization is in somebody's head" [29]. A recent study of businesses in the U.S. by asynchronous communication software provider, Panopto, further reveals that, on average, 42% of the organizational knowledge an employee acquires to perform capably in his or her current job role is not shared by his or her co-workers [25]. Therefore, when an employee leaves, the amount of lost knowledge his or her replacement will have to acquire from scratch

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is significant. In some cases, the overall loss in productivity from employee turnover can be detrimental to an organization's bottom line [9]. Panopto's study estimates that the average large U.S. business loses US\$47 million in productivity each year owing to inadequate knowledge sharing. A study by International Data Corp., a U.S.-based market intelligence and advisory firm, similarly found that Fortune 500 companies lose a combined total of at least US\$31.5 billion a year by failing to share knowledge effectively [3]. This organizational knowledge forms part of the organization's tribal knowledge, which may be described as "the collective wisdom of the organization" [6]. It includes unwritten processes and best practices, and implicit understandings of how things work, to name a few. Tribal knowledge is, however, not shared by everyone in the organization [28]. Therefore, one of the challenges that organizations face is identifying the "tribal knowledge gurus" in the organization [8], capturing what is useful, and sharing it in a way that others understand how to apply it [22]. In terms of sales enablement, this means providing salespeople opportunities to learn and model exemplary sales execution from top performers [19]. Cisco Systems, a large high-tech company with 22,000 salespeople, became acutely aware of this need and to address it in a scalable manner. For this purpose, they partnered a leading tertiary institution like the National University of Singapore.

This partnership has culminated in a new learning initiative that leverages flipped learning, peer learning, and machine-learning (ML)-driven processes, to afford a scalable solution. The advantages of "flipping" corporate training is well understood. See e.g., [14]. The use of flipped learning in the workplace is consequently not a new idea. Nederveld and Berge [23] cite some examples. Similarly, the use of peer learning in the workplace is not new, the most well-known example perhaps, being Google's G2G (or "Googler-to-Googler") program [5]. The novelty of Cisco's new learning initiative therefore does not lie so much in the fact that it brings together flipped learning and peer learning. Neither does it lie in the application of ML. Rather, its novelty lies more in the fact that it pays careful attention to potential barriers to success linked to human nature through (i) the inclusion of systems that encourage peer learning, knowledge sharing and learning transfer, and (ii) its emphasis on self-directed learning, one of the key tenets of how adults approach learning, to enhance the learning experience. Its novelty also lies in the use of a relatively new construct in some of the ML-driven processes, namely, learning agility. This construct was first introduced by [10] and subsequently refined in terms of how it is defined and measured, most notably by [15].

The next three sections form the main body of this article. In Section 2, we describe the flipped-learning-peer-learning (FLPL) model and the timelines of the different learning phases; the different learning paths available to learners; the supporting ML-driven processes; the motivational drivers for peer learning, learning transfer and knowledge sharing; and the learning platform that will be adopted, all of which collectively form what we call the *FLPL system*. Section 2 also briefly describes the user support that will be made available to both learners and knowledge sharers. Section 3 describes how the learning success of the FLPL system will be measured. Finally, in Section 4, we describe the main challenges that the research team from the collaborating University faced and the consequential limitations to the proposed learning framework.

2 THE FLPL SYSTEM

2.1 The FLPL model & timelines

At the core of the FLPL system is the FLPL model which comprises three distinct learning phases, as depicted by the 3-layered pyramid shown in Figure 1. As will be

explained below, this model has its roots in leading adult learning theories, namely andragogy [18], self-directed learning [21], and social learning theory [4].

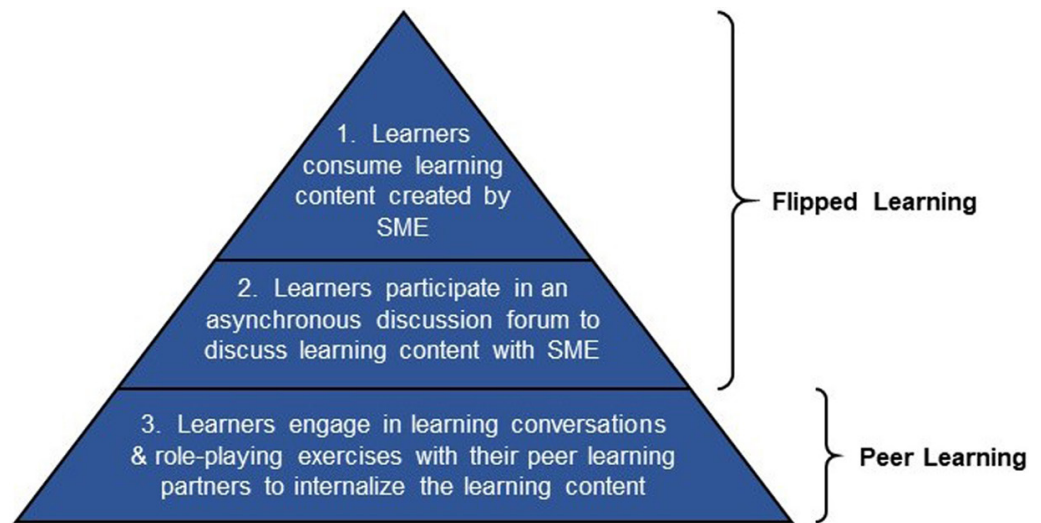


Fig. 1. The three learning phases of the FLPL model

In Phase 1, learners consume learning content created by a knowledge sharer, i.e., an internal subject matter expert (SME) on some aspect of the sales pipeline. The learning content will typically take the form of a short video (i.e., less than 20 minutes long) explaining or demonstrating the SME's best practices, but may include a document, or other material such as a checklist or template, at his or her discretion. (Some companies interview the SME and create content from the SME's responses to the interview questions [29]. We do not favor this alternative approach as it is less scalable.) Besides consuming learning content, learners can also rate the quality of the content in terms of e.g., completeness, usefulness and novelty. To avoid the consumption of content become a passive task, it is important to have specific activities associated with the content, such as opportunities for inquiry [24]. Therefore, in Phase 2, learners participate in an asynchronous discussion forum. In this online space, learners can ask the SME questions and raise any issues they may have. Phases 1 and 2 constitute the flipped learning stage of the FLPL model, with the SME playing the role of the instructor. Since learners will be able to learn at their own pace and review content on their schedule, this stage agrees with the notion of self-concept in andragogy which means that learners strive for autonomy and self-direction [18].

Phase 3 is the peer learning stage of the FLPL model. Here, learners are paired to form peer learning partnerships—i.e., reciprocal helping relationships between individuals of comparable learning status who share a common learning objective [11]. The peer learning partnership model provides opportunities for learners to engage in critical reflection with their partners [7]. It acknowledges the expertise of the learner drawn from past learning experiences and augments the role of the learner to helper, and consequently, is consistent with andragogy, self-directed learning, and social learning theory [11]. Within these partnerships, learners engage in role-playing exercises and learning conversations—i.e., dialogues wherein learners give reciprocal feedback and share rather than impose their perspectives and interpretations [7]. As learners exercise autonomy and self-direction and tap on the experience of their partners within these dialogues, learning conversations are thus consistent with andragogy as well. Additionally, since role-playing involves modeling the behavior of the SME, it is also consistent with social learning theory. Through these activities,

partners support each other in internalizing the learning content. In other words, Phase 3 is where peer learning scaffolds the transformation of codified knowledge shared by the SME into operational knowledge to replicate his or her best practices.

Completing a full FLPL cycle (i.e., all three learning phases) will take ten weeks, of which, the first four go to the flipped learning stage. Learners will be encouraged to complete Phase 1 within two weeks. The learning content will nevertheless remain accessible to learners beyond the initial two weeks to support learning and learning transfer. The opening of the discussion forum in Phase 2 will coincide with the start of Phase 1 since the learners will be learning at different rates. The forum will be kept open for participation for four weeks, after which all discussion threads will be set to “read-only.” In Phase 3, learning partners will meet fortnightly over six weeks for three rounds of learning conversations and role-playing sessions. One might consider three rounds far too many. If we, however, consider the subprocesses that make peer learning work, there is justification to not stop at, say, two. For example, it takes time to develop trust in a relationship and a “trusting relationship with a peer who holds no position of authority might facilitate self-disclosure of ignorance and misconception, enabling subsequent diagnosis and correction” [30].

SMEs will initially be identified through manager/peer/self-nominations. Subsequently, SMEs will be identified using an ML approach which we describe in Section 2.4. Either way, once an individual accepts an SME nomination, he or she will have a maximum of five weeks (including two 1-week extensions) to create learning content, and will receive weekly reminders to do so.

2.2 The different learning paths

To provide learners with further opportunities for self-direction, learners will not be required to go through all three learning phases. Instead, they get to choose *how* to learn by picking one of the following four learning paths afforded by the FLPL model.

1. Engage in Phase 1 (i.e., consume learning content) only.
2. Engage in Phases 1 and 2 (i.e., consume learning content and participate in forum) only.
3. Engage in Phases 1 and 3 (i.e., consume learning content and participate in learning conversations and role-playing) only.
4. Engage in all three learning phases.

Additionally, learners will be able to choose *what* to learn. Hence, learners can skip the learning content created by a particular SME if they do not associate much value to it. In particular, learners can choose different paths for different learning content. In this way, they can control how much time they wish to invest in each learning content. For example, for content that a learner perceives to be more (respectively, less) valuable to his or her professional development, he or she may be inclined to pick learning path 3 or 4 (respectively, 1 or 2).

It should also be noted that an individual can be an SME in one FLPL cycle, and a learner or neither in another cycle.

2.3 Encouraging peer learning, learning transfer & knowledge sharing

Given the aforementioned scaffolding role of the peer learning activities in Phase 3, learners should clearly be encouraged to engage in the peer learning stage

if the likelihood of learning transfer occurring is to be elevated. To this end, three main motivational drivers will be implemented.

Arguably the most important is *FLPL Blogspace*, a blogspace within the FLPL system for sharing, in part, success stories that showcase how FLPL has improved their sales productivity. Contributions to *FLPL Blogspace* will be by invitation. Other motivational drivers to be implemented include virtual medals and leaderboards to recognize learners who choose learning paths that involve peer learning, and an internal announcement from Cisco's upper management at system launch highlighting amongst other things, that (i) harnessing the tribal knowledge of Cisco's salespeople is crucial to Cisco's survival in the digital economy, (ii) the FLPL system is a novel learning solution that has been specifically designed to meet this need, and (iii) a key feature of this system is peer learning which all are encouraged to embrace as a new constituent of Cisco's corporate learning culture. Over time, this initial announcement will evolve into a regular internal announcement from upper management to highlight newly created content. Riding on it will be the same message to encourage Cisco's salespeople to engage in peer learning.

To further support the transfer of learning to the job, a mentoring system will also be put in place. Learners' managers will serve as mentors with the objective of encouraging changes in behavior—i.e., learning transfer. Mentoring will commence at the start of the peer learning stage of each FLPL cycle, and remain in place for a period of three months, thus exceeding the duration of that learning stage. A 3-month mentoring period is chosen because research has shown that more than two months is needed on average for a new behavior to become automatic. For example, researchers [20] found that 66 days is needed on average. Cisco's proprietary *Team Space Check-In* system will be used as the mentoring platform. Mentoring sessions will thus take the form of "Check-In conversations" which are asynchronous.

To incentivize SMEs to share their knowledge, monetary-based rewards will be drawn from Cisco's existing employee recognition and reward program, *Connected Recognition* (CR). This program empowers individual contributors, not just managers, to nominate co-workers for a CR award for their good work. The award takes the form of spendable virtual currency capped at US\$500, which could be used to, for example, take a vacation or donate to charity. Under the FLPL system, an SME's manager will nominate him or her for a CR award each time he discharges one of his or her two key responsibilities, i.e., creating learning content and hosting a discussion forum. To further incentivize SMEs to share their knowledge, SMEs whose content have been highly rated by learners in terms of usefulness and completeness will be featured in *FLPL Blogspace* to provide social recognition for their contributions to the professional development of their co-workers.

Financial rewards and social recognition are instances of extrinsic/hard and intrinsic/soft rewards for knowledge sharing, respectively. Such rewards have been found to have a positive influence on knowledge sharing behavior [12, 31]. At system launch, both rewards will be introduced by Cisco's upper management within the aforementioned internal announcement to signal that knowledge sharing is valued by the organization. This is important because lack of feedback from upper management on knowledge sharing has been found to have a positive influence on knowledge withholding [2].

2.4 The supporting ML-driven processes

There are three key processes that support the operationalization of the FLPL model. The first is the identification of SMEs. We hypothesize that a top-performing

salesperson is necessarily an SME in certain aspects of the sales pipeline; an SME in contrast, is not necessarily a top performer. In other words, the top-performing salespeople are a subset of the SMEs. Therefore, by identifying SMEs as opposed to top-performing salespeople, we are tapping on a wider pool of potential knowledge sharers.

To identify SMEs, the following data will be used: (i) individuals' sales productivity indicators, to be retrieved from Cisco's Salesforce management system; and (ii) individuals' learning agility scores, to be measured using the Burke Learning Agility Inventory (BLAI) [15]. Learning agility should not be confused with learning ability which is synonymous with cognitive ability [16]. Learning agility is more about knowing how to seek developmental and other beneficial experiences (e.g., challenging assignments and collaborative tasks), extract useful lessons including constructive inputs from others (e.g., different perspectives and feedback), and integrate them with newly acquired information quickly. We therefore view a measure of an individual's learning agility to be an indicator of his or her proficiency to accumulate tacit knowledge from experience, and hypothesize that a learning agile individual is more likely to be an SME in some aspect of the sales pipeline than someone who is low on learning agility. For this reason, an individual's learning agility score will be used in conjunction with his or her sales productivity indicators, to predict if he or she is an SME.

Next is the process of matching learners to their peer learning partners. This task will take into account the following: (i) demographic factors (e.g., age, gender, ethnicity, and highest educational qualification); (ii) job-related factors (e.g., region, tenure in Cisco, and tenure in the information and communications technology sector doing sales); (iii) individual sales productivity indicators; (iv) the Big Five personality traits [13]; and (v) learning agility. The objective is to pair learners who are similar in as many ways as is feasible so as to avoid potential biases and conflicts between partners. While demographic- and job-related information will be extracted from Cisco's HR system, personality profiles of learners will be obtained by administering a Big Five personality survey. Individual sales productivity indicators will be obtained from Cisco's Salesforce management system and learning agility will be measured via the BLAI, as stated earlier.

The third process is the generation of personalized, learning content recommendations. Content will be recommended based on the skills that need improvement. To achieve this, each skill of interest will be tagged to a set of sales productivity indicators that is tracked in Cisco's Salesforce management system, using a tagging taxonomy that Cisco maintains. Additionally, videos will be tagged with the list of skills to which they relate as they are created, using the same taxonomy.

These three processes will be ML-driven to support the implementation of the FLPL model. For example, recognizing that the task of identifying SMEs is a binary classification problem, we will first solve it using logistic regression where the objective is to compute the probability that a salesperson is an SME. The independent variables will be individuals' sales productivity indicators and learning agility scores, while the value of the dependent variable will be given by the initial manager/peer/self-SME nominations. Subsequently, using the same data, several supervised deep learning models featuring different hyperparameter values will be implemented and their performance compared in order to pick the best model for deployment. The logistic regression classifier will provide the baseline performance which the deep learning models are expected to surpass.

2.5 The learning platform & user support

From the learning platforms that Cisco currently have, the MindTickle Sales Readiness platform, hereafter referred to as MindTickle for brevity, was chosen as the learning platform for the FLPL system. MindTickle was chosen primarily because of its ability to import individual sales productivity data from Cisco’s Salesforce management system (which makes it a conducive environment to embed the aforementioned personalized content recommender), as well as its ability to support virtual role-plays. *FLPL Blogspace* will be hosted on MindTickle, while the three ML-driven processes described in Section 2.4 will be integrated into MindTickle as add-on capabilities. Further, virtual medals and leaderboards will be implemented using MindTickle’s gamification features. Figure 2 provides a visual summary of the FLPL system’s key constituents as we have described. Note that the different learning paths are subsumed under “FLPL Model” in Figure 2 and hence not shown explicitly.

Turning to user support, learners and SMEs will be provided with separate self-help manuals prepared by the research team from the collaborating University. The learners’ manual explains how learners can take control of their learning experience through the opportunities for self-direction afforded by the FLPL system and how to use MindTickle’s features to perform virtual role-plays with their peer learning partners, for example. The SMEs’ manual on the other hand, provides guidelines on video duration and what to focus on during content creation, tips on how to host a discussion forum, and walks the reader through MindTickle’s video editing tools and features to host a forum, for example. The latter manual will also explain the workflow that follows once content has been created, such as the sanity checks that will be performed. The project coordinator from the collaborating University can also be contacted for assistance should there be any issues or queries that are not addressed by these manuals.

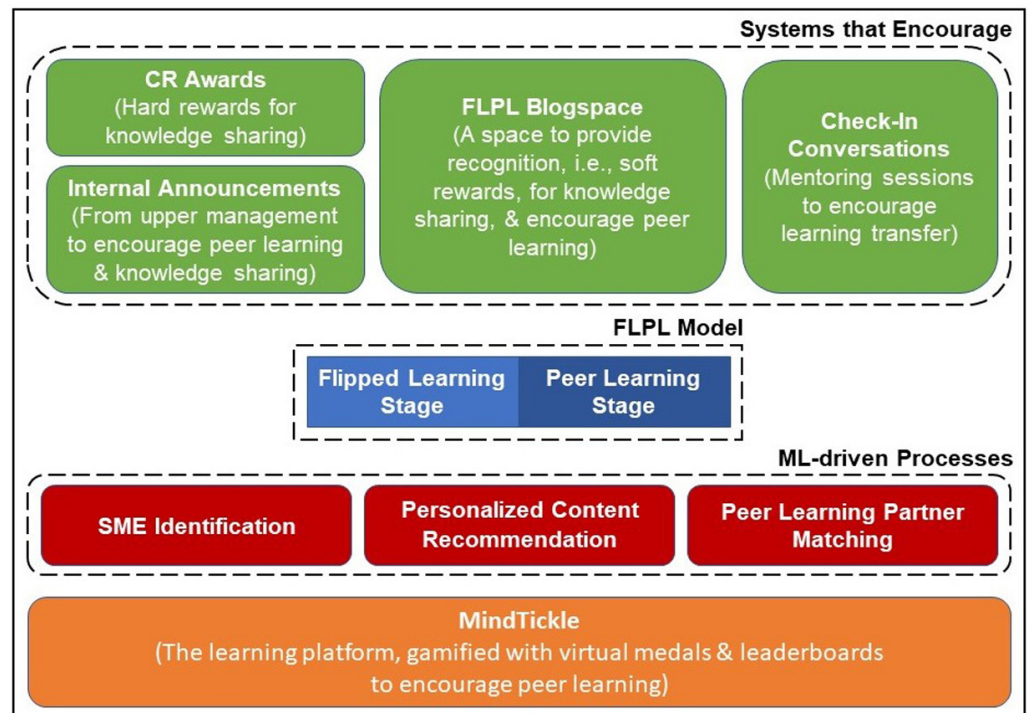


Fig. 2. Key constituents of the FLPL system

3 MEASURING LEARNING SUCCESS

To measure learning success, we will take three sets of learning outcome measurements at three different points in time. The first set of measurements (Measurement 1) will be conducted at the end of the flipped learning stage. The second and third set of measurements (Measurements 2 and 3) will be conducted three and six months following the completion of the flipped learning stage, respectively. Measurement 1 assesses engagement and satisfaction levels, the extent to which learners have been provided with new knowledge and skills, and attitude, confidence and commitment to transfer learning. Measurement 2 assesses the degree to which changes in behavior have occurred, while Measurement 3 assesses the extent to which the desired outcome—i.e., improved sales productivity—has been achieved. Measurements 1 and 2 will make use of survey instruments designed by the research team. In contrast, Measurement 3 will utilize lagging sales productivity indicators tracked in Cisco's Salesforce management system. Although Measurement 3 is what matters the most from a business leader's perspective, Measurements 1 and 2 are nevertheless needed to establish the evidentiary chain that any productivity gain observed in Measurement 3 is due to the FLPL system [26]. This framework to measure learning success is based on the New World Kirkpatrick Model (NWKM) [17].

Following the NWKM, leading sales productivity indicators will be monitored in the intervening period between Measurements 1 and 2 to predict if changes in behavior will make a positive impact on productivity; adjustments to the peer learning stage and/or mentoring system will be made if these indicators are "bearish." For example, steps may have to be put in place to ensure that learning partners respect each other's perspectives, interpretations, and feedback, while moving mentoring away from asynchronous to synchronous mode may be needed. Feedback from learners will be solicited to inform what needs to be adjusted.

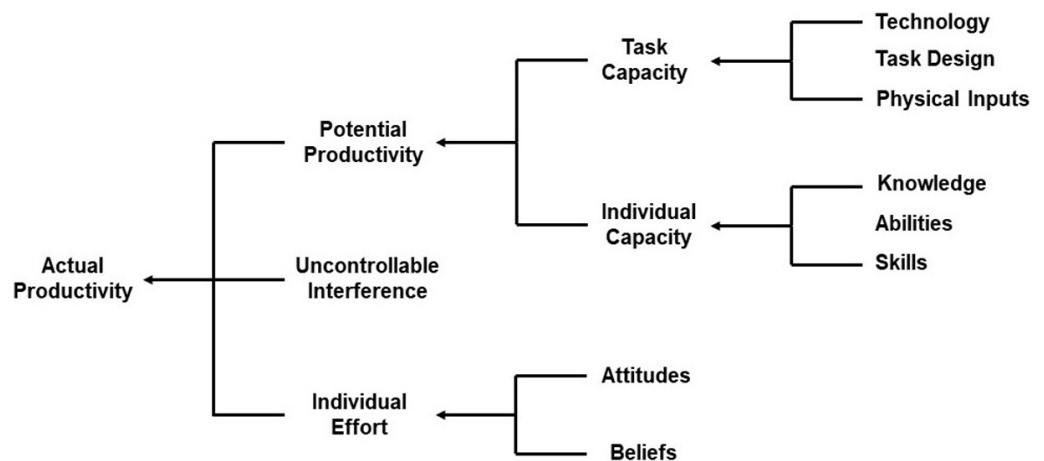


Fig. 3. Conceptual model of individual productivity (adapted from previous work [27])

To conclude this section, it is worth highlighting that Measurement 3 measures changes in actual productivity, after effort has been expended to close the gap between potential and actual productivity. To elaborate on this point from a theoretical perspective, we refer to the conceptual model on individual productivity in Figure 3. This model separates potential productivity, which is determined by task capacity and individual capacity, from the achievement of that potential. According to [27],

“When this potential meets individual effort, moderated by interferences beyond the control of the individual, actual productivity results.” The flipped learning stage expands the knowledge and/or skills of the individual, increasing individual capacity and hence potential productivity. The scaffolding role of the peer learning stage supports individual effort while by applying the Theory of Planned Behavior [1], one can argue that Check-In conversations and success stories on *FLPL Blogspace* influence individual effort by shaping attitudes and beliefs. If well executed, these components of the FLPL system will bring actual productivity as close to potential productivity as the uncontrollable interferences will allow.

4 CHALLENGES & LIMITATIONS

The main challenge faced by the research team in developing this new initiative is securing buy-in across the organization. While there has been no dispute that distilling the best practices from Cisco’s tribal knowledge and presenting them as learning content will be beneficial to the middle majority of Cisco’s salespeople, there are general concerns about how it will be done. The main argument against leaving it to the SME to create content is that an SME is not necessarily a good communicator. In addition, there has been some degree of skepticism across the organization stemming from the concern that the cost of time away from selling to create learning content, and internalizing that content through peer learning, will actually hurt rather than improve sales productivity. The way forward therefore, is to first establish proof-of-concept in terms of both feasibility and attainability of intended outcomes for a small subset of Cisco’s sales community. This should engender the emergence of allies within Cisco with strong social capital and authority to help pave the way for the FLPL system to be extended to a wider audience.

The cited difficulties have resulted in some gaps in the conceptual framework of the FLPL system. Firstly, it is not clear who the actors in the system will be, besides the SMEs, learners and their managers. For example, it is still not clear to what extent Cisco’s Sales Enablement team will be involved, if at all. Will the Sales Enablement team, for example, provide a list of guiding questions for learners to go through to add structure to the learning conversations, and seed content featuring best practices that are branded as the “Cisco Way”? Thus far, we have no concrete answers. Secondly, not everyone is going to respond to hard rewards for knowledge sharing in the way intended because hard rewards are instances of control-oriented motivational drivers, which may reduce people’s autonomy-oriented motivation to perform a certain behavior [31]. If something is measured, however, then that sends the signal that it is important [17]. Therefore, if contributing to the professional development of one’s co-workers becomes a criterion for career advancement within the organization, that would arguably drive and sustain a much needed knowledge sharing culture for the FLPL system to succeed. While there has been some discussion, it remains unclear whether such a criterion will eventually be imposed.

5 CONCLUDING REMARKS

A sequel to this article will report in due course, how the FLPL system performs in terms of the extent to which the different learning paths are able to move the productivity needle, the performance of the ML-driven processes (e.g., the accuracy of the SME identifier), and changes made to improve the system if any, amongst

other things. The aforementioned limitations notwithstanding, organization-wide deployment of the FLPL system is expected to reap the following benefits for Cisco's community of salespeople: (i) the best practices of top performers will be retained even if they leave; (ii) the productivity of the middle majority will be improved; and (iii) the learning curve of new hires will be shortened.

6 ACKNOWLEDGMENT

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7 REFERENCES

- [1] I. Ajzen, "The theory of planned behavior," *Organizational Behavior and Human Decision Processes*, vol. 50, no. 2, pp. 179–211, 1991. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- [2] N. A. Anaza and E. D. Nowlin, "What's mine is mine: A study of salesperson knowledge withholding & hoarding behavior," *Industrial Marketing Management*, vol. 64, pp. 14–24, 2017. <https://doi.org/10.1016/j.indmarman.2017.03.007>
- [3] P. Babcock, "Shedding light on knowledge management," *Society for Human Resource Management (SHRM)*, 2004.
- [4] A. Bandura, *Social Learning Theory*. New York, NY: General Learning Press, 1977.
- [5] R. Bhatt, "Googler 2 Googler: How Google mastered P2P learning," *LinkedIn Pulse*, 2019.
- [6] L. Bertain, *The Tribal Knowledge Paradox: Using the War on Waste to Align Strategy with Process*. United States: Bertain Consulting Group, 2011.
- [7] K. Collier and J. McManus, "Bridging the gap: The use of learning partnerships to enhance workplace learning," *Asia-Pacific Journal of Cooperative Education*, vol. 6, no. 2, pp. 7–16, 2005.
- [8] M. Collins, "A strategy to capture tribal knowledge," *IndustryWeek*, 2016.
- [9] J. Davis, "Knowledge loss: Turnover means more than losing employees," *HR Daily Advisor*, 2018.
- [10] K. P. De Meuse, G. Dai, and G. S. Hallenbeck, "Learning agility: A construct whose time has come," *Consulting Psychology Journal: Practice and Research*, vol. 62, no. 2, pp. 119–130, 2010. <https://doi.org/10.1037/a0019988>
- [11] M.-J. Eisen and C. T. West Hartford, "Peer learning partnerships: Promoting reflective practice through reciprocal learning," *Inquiry: Critical Thinking Across the Disciplines*, vol. 19, no. 3, pp. 5–9, 2000. <https://doi.org/10.5840/inquiryctnews20001931>
- [12] M. Gagne, A. W. Tian, C. Soo, B. Zhang, K. S. B. Ho, and K. Hosszu, "Different motivations for knowledge sharing and hiding: The role of motivating work design," *Journal of Organizational Behavior*, vol. 40, no. 7, pp. 783–799, 2019. <https://doi.org/10.1002/job.2364>
- [13] L. R. Goldberg, "The development of markers for the big-five factor structure," *Psychological Assessment*, vol. 4, no. 1, pp. 26–42, 1992. <https://doi.org/10.1037/1040-3590.4.1.26>
- [14] M. Gray, "5 reasons why I 'flipped' our sales training," *LinkedIn Pulse*, 2015.
- [15] D. F. Hoff and W. W. Burke, *Learning Agility: The Key to Leader Potential*. Tulsa, OK: Hogan Assessments, 2017.
- [16] D. F. Hoff and W. W. Burke, *Developing Learning Agility: Using the Burke Assessments*. Tulsa, OK: Hogan Press, 2022.
- [17] J. D. Kirkpatrick and W. K. Kirkpatrick, *Kirkpatrick's Four Levels of Training Evaluation*. Alexandria, VA: Association for Talent Development (ATD) Press, 2016.

- [18] M. S. Knowles, *The Modern Practice of Adult Education: From Pedagogy to Andragogy*. Englewood Cliffs, NJ: Cambridge Adult Education, 1988.
- [19] R. Koehler, “Sales enablement best practices: Leveraging examples from top-performing reps,” *Gartner Insights*, 2019.
- [20] P. Lally, C. H. M. van Jaarsveld, H. W. W. Potts, and J. Wardle, “How are habits formed: Modelling habit formation in the real world,” *European Journal on Social Psychology*, vol. 40, no. 6, pp. 998–1009, 2009. <https://doi.org/10.1002/ejsp.674>
- [21] S. B. Merriam, “Andragogy and self-directed learning: Pillars of adult learning theory,” *New Directions for Adult and Continuing Education*, vol. 2001, no. 89, pp. 3–14, 2002. <https://doi.org/10.1002/ace.3>
- [22] C. G. Myers, “Is your company encouraging employees to share what they know?” *Harvard Business Review*, 2017.
- [23] A. Nederveld and Z. L. Berge, “Flipped learning in the workplace,” *Journal of Workplace Learning*, vol. 27, no. 2, pp. 162–172, 2015. <https://doi.org/10.1108/JWL-06-2014-0044>
- [24] C. Nerantzi, “The use of peer instruction and flipped learning to support flexible blended learning during and after the COVID-19 Pandemic,” *International Journal of Management and Applied Research*, vol. 7, no. 2, pp. 184–195, 2019. <https://doi.org/10.18646/2056.72.20-013>
- [25] Panopto research report, *Workplace Knowledge and Productivity Report*, 2018.
- [26] R. B. Pearlstein, “How to use Kirkpatrick’s taxonomy effectively in the workplace,” in *Handbook of Improving Performance in the Workplace*, K. H. Silber, W. R. Foshay, R. Watkins, D. Leigh, J. L. Moseley, and J. C. Dessinger, Eds., 2010, vol. 3, pp. 142–160. <https://doi.org/10.1002/9780470592663.ch62>
- [27] W. A. Ruch, “Measuring and managing individual productivity,” in *Organizational Linkages: Understanding the Productivity Paradox*. Washington, D.C.: National Academies Press, 1994.
- [28] Strategy, “Breakthrough, Transformation, Innovation (SBTI) white paper,” *The Secret of Harnessing the Power of Tribal Knowledge*, 2016.
- [29] J. Thilmany, “Organizational development – Passing on know-how,” *Society for Human Resource Management (SHRM)*, 2008.
- [30] K. J. Topping, “Trends in peer learning,” *Educational Psychology*, vol. 25, no. 6, pp. 631–645, 2005. <https://doi.org/10.1080/01443410500345172>
- [31] W.-T. Wang and Y.-P. Hou, “Motivations of employees’ knowledge sharing behaviors: A self-determination perspective,” *Information and Organization*, vol. 25, no. 1, pp. 1–26, 2015. <https://doi.org/10.1016/j.infoandorg.2014.11.001>

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