

INFORMS Subdivision Council

Report by the 2019 Ad Hoc Committee on Effective Subdivision Practices

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Abstract

The INFORMS Subdivision Council prioritized several initiatives proposed by its members during a retreat on February 1-2, 2019. Among these initiatives was the identification and sharing of effective practices from among and across the various INFORMS subdivisions. Seven council member volunteers and one INFORMS representative formed the *Ad Hoc Committee on Effective Subdivision Practices* to pursue this initiative from February through September of 2019 via the following charter.

Committee Charter

1. Identify, document, and disseminate Effective Subdivision Practices (ESPs) from within the INFORMS Subdivisions (i.e., societies, sections, chapters, and fora) for use by subdivision leaders to review, adopt, and/or modify for use within their own organizations.

2. Identify practices for which there is no identified ESP to inform possible INFORMS Subdivision Council activity in 2020.

3. Set future goals to measure the impact of the dissemination of ESPs.

This report documents the general process and specific outcomes of this endeavor. Chapter 1 presents the process used by the committee to address its charter; Chapters 2-5 respectively present and discuss the ESPs identified among societies, sections, chapters, and fora; and Chapter 6 recommends actions to extend the utility of this work by both the INFORMS Subdivision Council in 2020 as well as INFORMS members, at large.

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Chapter 1

Process for the Ad Hoc Committee on Effective Subdivision Practices

The committee sought to identify effective practices from the subdivisions listed in Table 1.1 using three sources of information: (1) the 2018 Activity Report for Sections and Societies; (2) input from selected INFORMS staff, and (3) input from the respective subdivisions.

Table 1.1: INFORMS Subdivisions Targeted for ESP Collection

No.	Societies	Sections	Chapters	Fora
1	Analytics	College of AI	Boston	JFIG
2	Applied Probability	Auctions & Market Design	Chicago	Minority Issues
3	Computing	Aviation Applications	Cincinnati/Dayton	WORMS
4	Decision Analysis	Behavioral Opns Mgmt	Dallas/Fort Worth	
5	Health Applications	Data Mining	Deep South	
6	Informations Systems	EBusiness	Houston	
7	Military and Security	Energy Nat Resrc Envir	New York Metro	
8	MSOM	Finance	Northern California	
9	Optimization	GDN	Pacific Northwest	
10	Simulation	Location Analysis	Philadelphia	
11	Marketing Science	MCDM	Polish	
12	Trans. Sci. & Logistics	Org Science	Rocky Mountain	
13		The Practice Section	South Florida	
14		Qual Stats and Reliability	Southeastern	
15		Railway Applications	SE Michigan	
16		Revenue Mgmt and Pricing	Taiwan	
17		Public Sector OR	WINFORMS	
18		Service Science		
19		Social Media Analytics		
20		SpORts		
21		Strategy Science		
22		Tech Innov Mgmt & Entrp		
23		Telecommunications		

The 2018 Activity Report was helpful, given 30 out of 35 (i.e., 86%) of the societies

and sections rendered an annual report. In particular, 11 out of the 30 reports provided an answer to the question, "Describe any special, unique or 'rock star' events that your community may have hosted during 2018. (For example, community service projects)." Among the 10 self-reported events were seven subdivision-sponsored conferences or workshops, two competitions, and an awards ceremony. Most relevant, this input helped frame communication with specific subdivisions to garner their input to this process.

The solicitation of INFORMS staff was not productive. The committee contacted selectively identified INFORMS staff because their directorates' interactions with subdivisions was perceived to enable an assessment of respective subdivision strengths. To help frame the discussion, the solicitation provided a set of example categories and types of practices that subdivisions typically perform, as presented in Table 1.2. Presumably due to other business demands having a higher priority, the INFORMS staff did not provide input to the committee's process.

Table 1.2: Example Categories and Subdivision Practices to Consider for ESP Identification

Category	**Example Practices**
Recruiting	Gaining new student membership
	Converting student members to regular membership
	Gaining new regular membership
Providing Value	Planning & organizing subdivision meetings
	Orchestrating clusters at the INFORMS annual meeting
	Making annual subdivision business meetings productive
	Enabling collaboration among members
	Fostering mentoring within the subdivision
Communicating	Sharing professional opportunities (e.g., employment info)
	Seeking input and ideas from subdivision members
Leading	Developing new initiatives
	Encouraging volunteerism
	Transitioning subdivision leadership
	Cultivating new leaders
	Growing a diverse subdivision membership and leadership
Finances	Developing sponsor relationships
	Leveraging resources productively and efficiently
Recognition	Recognizing contributions to the discipline
	Recognizing contributions to the subdivision
	Recognizing developing potential within the subdivision
	Developing and operating award committees
Other	Managing and providing awards
	Other practices you may have noticed

Each of the preceding efforts was intended to frame the direct solicitation of subdivision leadership. Subsequent to the first two efforts, committee members requested input via individual email (i.e., not a singular mass email or survey) to respective subdivision leadership, asking for their assistance. The email responses, follow-up questions,

and additional detail provided most of what is reported in Chapters 2-5.

We attained a 62% response rate from subdivisions. A total of 10 out of 12 societies (83%), 12 out of 23 sections (52%), 12 out of 17 regional chapters (65%), and 1 out of 3 fora (33%) provided input to this report.

Based on the format in which subdivisions provided responses, the committee identified that listing the ESPs by subdivision was preferable to imposing the taxonomy from Table 1.2 on the input; to wit, the resulting report is easier and more interesting to read. To assist a reader with identifying categorical contributions within a given subdivision, **boldface** type is used to identify key words or phrases relating to their effective practices.

Of note, almost every subdivision queried was modest about their organization's contributions, seeking more to learn from others than purporting to have wisdom to impart for others' consumption. This culture of humility made it challenging to collect effective practices; however, it is also a valuable element of the INFORMS culture that fosters collaborative improvement. We note this characteristic because the absence of input to this report by a given subdivision does *not* imply a lack of effective practices by any subdivision; despite committee efforts to encourage the sharing of such practices, the absence thereof may just as likely indicate professional modesty.

Chapter 2

Society-level Effective Practices

This chapter documents the practices identified by leadership among the 12 INFORMS societies listed in Table 1.1 as being notably effective for their respective societies.

2.1 Analytics Society

The Analytics Society has several effective practices pertaining to **recognition** via the awards managed by the Analytics Society. When developing and operating award committees, the society formally defines an *award coordinator role* as the person who is responsible for press releases, recognition of winners, and competition logistics so that award chairs can focus on executing the competition. Moreover, the society does not rely solely on general announcements and communication blasts to promote award competitions; they also generate a list of organizations that are likely to make competitive contributions and utilize both personal emails and phone calls to encourage submissions (e.g., "here's what this award is"; "you really ought to submit"; "if not this year, then next"). To support and sustain these awards, the Analytics Society works to negotiate multiple-year sponsorships of awards to ensure continuity and to amortize the effort required to enact a sponsorship agreement. On a final note, the society offers award winners who will receive cash the opportunity to do good by donating the cash award to support Pro Bono Analytics.

In general, the society seeks to provide value for members via **effective meetings**. They work to orchestrate interesting clusters at the INFORMS Annual Meeting. They focus on topics of interest to practitioners including real world applications, emerging analytics, analytics leadership and process. They also identify practice-related talks as such to distinguish them from general or theoretical talks, so interested attendees can find them on the program. The Analytics Society also plans and organizes regional society meetings to provide society members and others with an opportunity to attend a single-day conference in their region. Attendees enjoy the opportunity to share, learn, and network with a cost and time commitment far smaller than that required to attend a national or international conference.

When it comes to leading the society, they **encourage volunteerism** in many ways. First, they ensure as many people as possible are familiar with the community and its activities through aggressive recruitment and definition of roles. To maintain institutional knowledge, the Analytics Society appoints "chairs-in-training" for award chairs, cluster chair for the INFORMS Annual Meeting, and other key positions. These chairs-in-training take over after a year's worth of mentoring. The society also works to cultivate new leaders, allowing for one or more "special projects" roles to be filled by individuals who participate in leadership calls, through which they can gain a deeper understanding of community activities, issues, *et cetera*. These individuals can then be encouraged to run for office within the society. Regarding new initiatives, before initiating a new activity, the Analytics Society ensures they support the proposed activity's financial and other (especially volunteer) requirements. If need be, they also consider terminating an existing activity to support new initiatives.

Analytics Society leadership **communicates** with members to keep them informed via monthly updates using INFORMS Connect or an INFORMS publication (e.g., Analytics newsletter). They also seek input and ideas from subdivision members, and the society periodically sponsors a webinar featuring an update on the state of the subdivision, a guest speaker, and an opportunity for attendees to ask questions & share ideas.

Among their efforts to enhance **recruiting**, the society offers free dues to students to garner new members. For new and existing members, the Analytics Society publicly recognizes contributions to the subdivision; they host an annual recognition breakfast at the INFORMS Analytics Conference in the spring to both recognize and thank individuals who serve the society, including INFORMS staff members.

When managing **finances**, the society cultivates sponsor relationships. They take every opportunity to recognize and thank award sponsors, and they always include the name of the sponsor in any formal communications. With respect to financial management, they work actively to leverage resources productively and efficiently, and they maintain reserves to cover (a) future revenue shortfalls and/or (b) strategic initiatives.

2.2 Computing Society

One of the notable successes for the INFORMS Computing Society (ICS) is their system of **transitioning leaders to maintain continuity**. The ICS leaders communicate their society's best practices to their successors. This practice is supported by having both an ICS Chair and ICS Chair-elect. The Chair-elect serves for two years before assuming the duties of the ICS Chair, allowing them to learn how the society is administered and managed before taking over. Of note, the current ICS Chair-elect had actually been on the Board of Directors for a few years prior to assuming their current ICS duties. The ICS also documents their processes to ensure consistency and, in turn, allow ICS members to know what to expect year-after-year.

Another strength of ICS is their **culture of volunteerism**. Many ICS members

want to be involved by arranging special issues (e.g., of the INFORMS Journal on Computing), managing conferences, and organizing sessions for the society at conferences. Each of those roles is important and recognized as such. Moreover, that volunteerism fosters a camaraderie that is a vital and integral part of ICS.

As an aside, when asked about challenges or obstacles faced by the society, ICS did express an interest in learning more about how to facilitate either conference or book proceedings from the INFORMS Computing Society conference.

2.3 Decision Analysis Society (DAS)

To facilitate **recruiting**, DAS makes deliberate efforts both to understand what student members want from the society and to include them in the annual conference. It is not clear how effective these actions are at converting student members to regular members, but the society reports that students express appreciation for these efforts. Among such efforts, the student paper award and coffee with a DAS member are the most popular. The society does not have efforts aimed to actively recruit more regular members.

The society formalized and documented the processes for all of their **awards** in 2014, and they recommend that other subdivisions also do so. DAS has found that this keeps them on schedule and is especially helpful in letting new chairs and judges know what to do.

Probably the most-successful DAS practice relates to **leadership**. DAS has an established chair & co-chair system for all standing committees, as well as an analogous system for cluster chair for the INFORMS Annual Meeting. Each chair/co-chair serves two years, one as the "junior" co-chair and one as the "senior" chair. This technique does require a lot of volunteers, but it spreads the workload and reduces the need to reeducate the committees each year.

Regarding challenges, DAS sees a need to improve its communication with members. At present, DAS membership has a negative impression of INFORMS Connect, which presents a challenge to its adoption and effective use.

2.4 Health Applications Society (HAS)

Among the ways HAS provides value to its members is the **organization of a large number of sessions** (i.e., typically 50-75) within the HAS Cluster at the INFORMS Annual Meeting, including the HAS Distinguished Scholar Lectures and an **HAS Job Market session** for student members who are on the academic job market. These sessions are well-received and well-attended. The annual subdivision meeting is also productive; this meeting is not only informational, but it also provides an opportunity to discuss the direction of the society and, of course, it provides a networking opportunity for researchers with similar interests. HAS is also in the process of estab-

lishing strategic relationships with academic journals to provide additional value to its members.

HAS **communicates** with its members via two newsletters per year, one each in the fall and spring. They also frequently use the HAS INFORMS Connect site to post information regarding awards, upcoming conferences, special issues of journals, and job, internship, and post-doc openings.

Regarding the **leadership** of the society, HAS has several award committees, many sessions at the annual meeting, and various positions for the HAS Board and the Council. HAS members have many opportunities to volunteer their time to the society, and many do so. HAS reports no shortage of volunteers. The society manages transition and continuity through multiple-year roles. The elected President serves for three years (serving in the sequential one-year roles of Vice President, President, and past-President) and the other HAS Board members serve in two-year roles. HAS leadership is in the process of revising and updating the society's policies and procedures documentation. The effort is expected to be completed by the end of 2019.

HAS recognizes research excellence and potential among its members through three annual **awards** and one bi-annual award. The three annual awards include the Bonder Award, Pierskalla Best Paper Award, and Mehrotra Research Excellence Award (this last award has just been endorsed, and will start in 2020); the bi-annual award is the HAS Best Student Paper Award. HAS provides the award committees with general guidelines and they report that it has been working well.

Regarding challenges, HAS reports a few concerns. The proportion of HAS student members is a bit lower than some other societies, and HAS leadership is examining how to address this. The society also does not have a formal mentoring program for students, recognizes its potential value, and is interested in others' techniques to do this. In terms of membership, HAS has identified the need to survey members to garner more input. Likewise, society leadership sees value in assessing the diversity of its membership as a precursor to outreach and targeted recruiting efforts. HAS does not currently have financial sponsors but acknowledges their merit; additional funds could be used to, e.g., help HAS student members attend the INFORMS Conference. HAS also currently lacks both an aligned INFORMS journal and a society-specific conference, either of which might provide additional revenue to support the society's efforts.

2.5 Manufacturing and Services Operations Society (MSOM)

Some of MSOM's greatest strengths lie in its standardization of processes, decentralized decision-making to prevent the society's large size (i.e., 1858 members as of December 31, 2018) from being an encumbrance to activity, its transition of leadership, and its communication with members.

Supporting **process standardization**, MSOM provides written documents to each elected board member that outlines their duties & responsibilities, timelines for recurring activities, and routine processes. These documents are 'living:' each MSOM President updates them to ensure they maintain the society's institutional knowledge. MSOM also has standardized procedures for business meeetings; a common framework is passed from president-to-president for both the Business Meeting at the INFORMS Annual Meeting and the Business Meeting at the MSOM Summer Conference.

Because MSOM is large, they have several Special Interest Groups (SIGs), and MSOM leadership empowers the SIGs to enable **decentralized decision-making**. Each SIG identifies cluster chairs for the INFORMS Annual Meeting, and there are SIG-specific tracks. SIGs can be created and closed down relatively quickly as the needs and interests of the society evolve. This SIG-oriented structure keeps MSOM nimble, despite its size.

To foster **leadership transition**, MSOM recently established a past-president role. This change allows for a three-year cycle of elected leadership to transition between the one-year positions of president-elect, president, and past-president, thereby allowing newly-elected leaders to shepherd an initiative for three years and better ensure its successful implementation.

To **communicate** with members, MSOM has found success using the MSOM page on INFORMS Connect.

Among the challenges faced by MSOM, the society is working to create a greater sense of inclusion among its members and to foster a sense of community. An extension of these efforts are the society's initiatives to both recruit new members and encourage MSOM members to run for society-leadership positions, thereby making it clear that *any* member is both welcome and encouraged to help lead the society and/or provide input to society decisions. Other challenges are relatively minor, including being responsive to the INFORMS office for certain deadlines (e.g., conference organization actions). Regarding the health of MSOM, there is an interest in greater policy clarification by INFORMS regarding society finances, and what authority INFORMS has over subdivision finances.

2.6 Marketing Science Society

The Marketing Science Society is content with their current practices, as adopted and implemented. Among their practices were two of particular note.

First, given a robust set of 10 various Marking Society **awards**, the society has a *VP of Practice* position that helps solicit and encourage high-quality nominations for the Gary L. Lilien ISMS-MSI Practice Prize. In this effort, the VP of Practice actively solicits high-potential members and companies for their Practice Prize-worthy submissions, following up and working with them until a winner is determined from among the nominees. This practice was highly successful in 2017. In 2018, the society identified a need to better publish and clarify the criteria for the award to potential

nominees.

Second, the Marketing Science Society emphasizes **recruiting** via a membership drive, which was implemented by Gui Liberali, and has been quite successful. This drive consists of the following three related components, the first of which is ongoing, while the latter two are in development.

1. Reaching out to non-members who attended our conference in the previous year. Remind them that they can save money when registering for this years conference by becoming members of our society before registering for the conference. The society hopes that, by attracting them first to the society, they can convert them in the subsequent year into becoming INFORMS members as well. Surprisingly, very few researchers are aware that they can become members of a society without becoming a member of INFORMS. The society can be used as a tool to attract members who would not come to INFORMS otherwise.

2. Making it explicit on the conference registration site how they can become a member of the society and benefit from a discounted conference rate. This action has not been taken; the Marketing Science Society is proposing this measure to be considered for the 2020 conference.

3. Requesting INFORMS to adapt their systems to send an automatic email to the VP of Membership for each society with the respective Subgroup Roster spreadsheet every fortnight, or every month. This action would give INFORMS a more systematic way to monitor membership changes and make it easier to compare numbers across societies. As of this report, this action has not been coordinated for implementation.

2.7 Military and Security Society (MAS)

In lieu of sharing existing effective practices, the Military and Security (MAS) Society is actively working to *develop* effective practices. These efforts seek to recover the society from a temporary downturn in activity, reconstitute membership, and re-energize initiatives in the aftermath of the US federal government budget sequestration in 2013, resulting from the Budget Control Act of 2011. Given the scope of MAS, a notable proportion of the society is either in the federal government or supports it. The temporary effects on MAS of the aforementioned federal fiscal policy were restrictions on conference travel for a subset of the society, and both membership and member activity temporarily waned. Since 2013, MAS has focused on maintaining participation at the INFORMS Annual Meeting and administering awards. Recently, MAS has developed and implemented strategic actions to recover activity and establish society resilience against future shocks. Although it is premature to assess the success of these actions, the initial results are promising.

The first sustaining effort has been **maintaining participation within the MAS cluster** at the INFORMS Annual Meeting. In recent years, the number of sponsored

sessions within the MAS cluster has been 15 in 2014, 19 in 2015, 13 in 2016, 15 in 2017, and 15 in 2018. MAS projects a sponsorship of 18 sessions in 2019 and, of note, the sessions in 2018 and 2019 comported with the newer "4-5 presentations/session" guidance from INFORMS that replaced the "3-5 presentations/session" guideline. To achieve these outcomes, MAS aggressively recruited session chairs in recent years. This recruitment began at the annual business meeting, asking members to indicate (in writing) their interest in chairing a session for the subsequent year. The recruitment has recently been extended to civilian companies and governmental agencies that conduct military or security analyses but have not shared their work at meetings in recent years.

The second sustaining effort has been **administering MAS and MAS-related INFORMS awards**. At present, MAS has the Koopman Prize for the best published paper or report on military operations research topics related to the goals of MAS; the Seth Bonder Scholarship for Applied Operations Research in Military Applications to promote the development and application of process modeling and operations research analysis to military issues; and the J. Steinhardt Prize for outstanding contributions to Military Operations Research over a career.

The first initiative was to **re-establish a functional society council**. At its most-challenging point in 2018, the MAS Council consisted of over 50% U.S. active duty military members, including the society's president, vice president, and secretary/treasurer. With the demands of other military duties as well as travel restrictions, this council composition was not effective. In 2018, MAS identified a more-diverse pool of potential leaders and held special elections to fill both society leadership and council vacancies. With this new leadership and council in 2019, MAS has re-established monthly VTCs to enable the identification and pursuit of new initiatives.

The second initiative was to **expand the focus of the society**. Many researchers are involved in national security and related endeavors that do not fit the previous name of the society, the "Military Applications Society". After socializing the idea at business meetings in 2016 and 2017, MAS held a special election and updated their bylaws, becoming the "Military and Security Society." This strategic rebranding is more inclusive of related endeavors in the fields of intelligence analysis, cyber security, homeland security, and policing.

The third initiative is to **expand the number and diversity of applicants and nominees for MAS-administered awards**. The awards committee in MAS has been working with the Bonder Foundation to change the title and focus for the scholarship to include work related to military applications *or* security applications. Moreover, a misconception exists among some INFORMS and INFORMS-MAS members that MAS awards are primarily for uniformed military members of INFORMS. That is *not* the case, and MAS seeks to market aggressively the award nomination criteria in 2020.

Other initiatives are ongoing, but it would be premature to discuss them here. MAS looks forward to learning from the other subdivisions.

2.8 Optimization Society

Regarding **management of activities**, the INFORMS Optimization Society (IOS) leverages a transition document that is passed from one treasurer/secretary to another. The document lists all of the activities that take place with a timeline and the actions required of either the secretary or treasurer (e.g., the call for prizes, election of new officers, ordering food for the business meeting). Each officer adds their own notes regarding what worked and didn't work into the same document to build institutional knowledge within IOS. This document helps throughout the year, prevents miscommunication, and supports new officers as they transition into their respective roles. IOS strongly recommends subdivisions adopt a similar practice, if they don't already have it in place.

In terms of providing value to members, although IOS has **biennial meetings and announces related society meetings**, the society is interested in having optimization conferences with refereed proceedings and which also provide best paper awards. IOS leadership is working to implement this idea within the society, but it will also require a change in culture that will take time in order to garner consensus before implementation. The society sees this as critical because competing communities have been doing this for many years. Society leadership sees significant benefits associated with these actions to the professional development of, and opportunities for, junior colleagues within IOS.

2.9 Simulation Society

The Simulation Society has attended to **recruiting** with great effort. The society encourages young participants to attend and engage during business meetings. Society leadership is also cognizant of the significant and relevant membership outside the United States, and they foster growth in such membership through workshops, sponsorships, and the like.

Regarding **awards**, the society works under the precept that "Giving out more awards is generally better." However, they are also very deliberate about appointments to awards committees and related positions. Such appointments can set an invisible agenda in motion, so it's important to make such decisions deliberately and after much consideration.

In terms of **communication**, the Simulation Society seeks to expound clearly and consistently on the potential utility of a society. However, they are conscious not to convey society news when there is nothing to communicate; doing so only habituates members to ignore communication.

For society **leadership**, they recruit, mentor, and encourage younger members to consider positions within the society to improve participation as well as diversity of both membership and their ideas. Regarding new initiatives, the Simulation Society seeks to ensure medium-term and long-term initiatives are clearly defined, with progress

reported to members.

Committee note: obviously the feedback from the Simulation Society leadership was very humble. The Winter Simulation Conference (WSC) would not exist without their (and others') contributions, and it has been publishing peer-reviewed proceedings from presenters since 1968.

2.10 Transportation Science and Logistics Society (TSL)

TSL provides notable value to its members via its **meetings**. TSL has SIGs within the society, and that structure helps the TSL Cluster Chair organize a large number of interesting sessions at each INFORMS Annual Meeting. TSL also has sessions to highlight prize winners, with positive impact.

The society also maintains a three-year cycle of workshops and conferences in the summer months (i.e., workshop → workshop → conference). The workshops are organized by proposers who submit a proposal to the TSL Board, are smaller than conferences, and serve a specific theme. The conference occurs every 3 years, and it is organized by a committee appointed by the TSL Board. These events are both highly valued by TSL membership, and they also help with recruiting new members.

For **communication**, TSL has a Twitter account and a newsletter that comes out a few times per year. Members are active in INFORMS Connect for TSL, and TSL previously had an active email list.

TSL has a large number of **leadership** positions in the society, which allow members to gain experience and then eventually run for TSL Board positions.

Regarding **finances**, TSL sometimes finds sponsors for workshop and conference events, and when these events make extra money, it's very helpful to the society. TSL also has a grant mechanism for supporting collaboration among members in different regions of the world.

TSL does have several **awards**, and the awards committees function well. However, most of the awards recognize contributions to the field and are not reserved to the subdivision. TSL gave a special award in 2018, and TSL leadership is considering formalizing it. They are also considering adding new awards and recognition pathways.

Chapter 3

Section-level Effective Practices

This chapter documents the practices identified by leadership among the 23 INFORMS sections listed in Table 1.1 as being notably effective.

3.1 College of Artificial Intelligence (CAI)

In the past few years, the best experience of CAI has been to sponsor and host the **INFORMS Data Science Workshop**. This newly-created conference offers a wonderful platform for AI-related researchers to exchange their research ideas, and it also provides a valuable opportunity to promote CAI. Since its inaugural meeting in 2017 and the subsequent meeting in 2018, the number of CAI members more than doubled, from 100+ to 300+. With a strong membership base, the new CAI team is working on other initiatives to further develop their community.

3.2 Aviation Applications Section (AAS)

The leadership of AAS identified two of their practices they deemed to be particularly effective. The first such practice is **communication** via the AAS Newsletter. AAS produces and disseminates an annual newsletter to update members on section activities, conferences, etc. They distribute this in the spring because fall communications are generally covered by preparation for, and in-person interaction, at the INFORMS Annual meeting.

The second ESP is the **student award program** within AAS. AAS bestows both the Best Student Presentation Award and the Best Dissertation Award at the INFORMS Annual Meeting. These prizes generate significant interest from students. Of note, there is not much overlap between the two awards. The presentation award is usually given a student at an earlier stage than the dissertation award. For graduated students, the Best Dissertation Award is AAS's flagship award, recognizing excellence in past research, whereas the presentation award primarily aims to build engagement among students who are working in the field. Both awards encourage longer-term

student engagement. Whereas the presentation award is a great way to engage early-stage students, the dissertation award engages recently-graduated students who have dedicated most of their PhD thesis to the questions in which the AAS community is interested, and such scholars are also most likely to remain in the field.

3.3 Behavioral Operations Management (BOM)

As one of the relatively smaller sections (i.e., 226 members in 2018), BOM leverages its size to foster a **culture of collegiality and inclusion** that is evident, both within their cluster at the INFORMS Annual Meeting and for collaboration in research endeavors. The section actively welcomes new research topics and methodologies, which may be contributing to a fast growth of researchers in this area.

3.4 Data Mining Section

Most of the effective practices within the Data Mining Section relate to maintaining a routine of **communication** and **planned activities** that set and meet expectations with predictability for members. The section meets every 4-6 weeks via teleconference (i.e., WebEx) to discuss issues and initiatives, and they both track and share meetings' minutes via Google Documents. As most subdivisions likely do, the Data Mining Section also seeks feedback from section leadership (i.e., senior section members and section council members) regarding possible keynote speakers, activities to be more aligned with certain journals, and nomination of possible future section leadership.

Of particular note are the Data Mining Section's **engagement activities**. At the 2019 INFORMS Business Analytics Conference, they co-sponsored the Freestyle O.R. Supreme Hackathon to encourage student participation, identify talent, and develop section interest. The section also co-sponsored a poster session competition at the INFORMS Business Analytics Conference. Prior to the INFORMS Annual Meeting, the Data Mining Section holds a pre-conference workshop to gather their community. This meeting includes a best paper competition for students to attract students who are about to complete their doctoral studies.

3.5 Section on Finance

The Section on Finance finds its **Student Paper Contest** to be effective. They always have a very good selection of papers and believe the interaction with students is mutually beneficial to the regular section members and the students. They announce the contest via the INFORMS Sections in Finance mailing list, and they also leverage other vehicles such as the SIAM-Financial Mathematics and Engineering mailing list and advertisements at long-time members' home institutions. The selection of the judging panel involves one chair and mixture of 2-3 other members, including officers

and/or other senior leaders in the field. The winner and honorable mention recipients are announced via the Section on Finance web site, and the award includes a cash prize. The submitted papers are generally of high quality.

3.6 Group Decision and Negotiation Section (GDN)

GND identified three of their practices to share. First, they organize an annual **GDN Conference**. The conference is held at many places around the world (i.e., so far, it has been held on five continents) and usually attracts 100+ researchers, including many from outside the section. There is no standing committee for the GDN Conference; major decisions such as where to hold a conference are made by the section council (see Figure 6.1 in Appendix A for criteria). Frequently, the council contacts potential organizers, asking them if they want to organize a conference, but there are also bids to do it. Then the program chairs and general chairs take over, and decisions are typically made during their regular Skype meetings. Items such as dates which need local information (such as when rooms are available) are decided in coordination with potential local organizers. Once a decision about where to hold the conference is reached, the following are established:

1. A local organizing committee, as large as the local organizers need.

2. The program committee, which is basically rolled over from the previous conferences. It is quite large; members are mainly asked to provide reviews of submitted papers.

3. Two or three program chairs, who make most of the decisions about the program (acceptance and rejection, which papers go into the proceedings book published by Springer etc.)

4. Two general chairs, one from the section, one local, who are involved in finding keynotes and other strategic questions (and might get involved more into operational decisions if they wish)

5. Streams are defined, with stream organizers who contact researchers from their specific subfields, organize sessions and coordinate the review process for their stream. Typically, streams and stream organizers are also rolled over from the previous conference.

6. Typically, starting about a year or so before the conference, the program chairs and general chairs hold regular Skype meetings about once a month to discuss the current status and make decisions. These meetings are formalized to a certain extent (there is an agenda and minutes are kept) to ensure we have a record also for following conferences.

Typically, one of the program chairs is local, and one comes from the section council or is a previous organizer and thus has the necessary experience. GDN has several documents to codify institutional knowledge and help organizers (see Figures 6.2 and 6.3 in Appendix A). GDN also typically creates a Dropbox folder for each conference, where all documents created during conference preparation are kept (e.g., schedule, templates for letters, minutes of Skype meetings, et cetera). That repository is then usually saved by one organizer and passed on to the organizers of the next conference.

Second, GDN holds a **doctoral consortium** as a part of the annual GDN Conference, wherein young researchers present their dissertation research to both their peers and mentors from the section. Typically, these are students supervised by regular attendants, who think it is a good idea. There are probably two main advantages for students to present in this consortium, relative to a regular paper. First, they can present their work at a very early stage, sharing just their ideas and plans, but they do not need to have results yet, which differs from a conference paper. Second, the DC is a kind of "safe" environment, where it is clear that the audience wants to help mentors students and encourage their professional growth. We also schedule only one presentation per hour, allowing time for discussion. Furthermore, the DC also helps students network with other PhD students working on similar problems. Mentoring is formal in that there are designated mentors. At some conferences, we also had a one-to-one mentoring, i.e., there were first some presentations, and then students individually met mentors (who had read their papers before) to specifically discuss their work. The technique selected depends on how much time is available.

Third, GDN has a **GDN INFORMS Section Award**. This award is bestowed every year during the conference to honor the achievements of outstanding GDN researchers, and it has gained considerable prestige in the community.

3.7 Section on Location Analysis (SOLA)

SOLA has encountered marked success via three specific endeavors. First, they have an active Twitter account to **communicate** with members. Check it out and subscribe by visiting @INFORMS_Sola.

Second, they have a **very friendly and welcoming atmosphere**, especially during the INFORMS Annual meeting, at the business meeting on Sunday evening from 6:15-7:30 PM, the social immediately thereafter, and the cluster of presentations. In 2018, SOLA sponsored or jointly sponsored 13 different sessions, running from Sunday morning through mid-day on Tuesday.

Third, SOLA does well at managing and providing **awards**. SOLA has four major awards that span the career of its members' contributions. Beginning in 2019, SOLA inaugurated an annual Student Paper Competition. For recently graduated scholars, they have the biennial SOLA Dissertation Award. To encourage the development of a new career, SOLA has the Chuck Revelle Rising Star Award. Finally, they also have the Lifetime Achievement in Location Analysis Award to recognize the most exceptional

of its members careers.

3.8 Multiple Criteria Decision Making (MCDM) Section

MCDM operates in a somewhat typical manner with a governance structure in line with INFORMS guidelines and definitions. The MCDM choices for board members and officers seems to work well in terms of balancing continuity and leading change. As a new initiative, they launched **The MCDM Junior Researcher Best Paper** Award in 2018. This award is having the desirable effects of showcasing and motivating high quality work in the field, as well as contributing positively to enhancing the section's visibility within the larger analytic community.

3.9 Railway Applications Section (RAS)

RAS has several successful practices, most of which can be categorized in terms of either **professional development** or **awards**.

To professionally develop its student and potential members, RAS hosts a paper competition for students, has a student liaison among the RAS leadership, and has a "student landing page" on the section website. They also increase student and others' knowledge on railway applications via an annual problem solving competition. RAS also has a poster session and competition at the annual meeting.

For its regular members, RAS seeks to connect industry and academia by holding an interactive session on actual projects being implemented in real life by railroad companies, as well as by holding a round table discussion involving industry experts at the INFORMS Annual Meeting. They also provide networking opportunities at the annual business meeting; establish links with practitioners and academicians in Asia, specifically China; and manage an award for senior distinguished members.

RAS is not without challenges. Time remains a challenge, as most activities require significant time and effort from officers and other volunteers. This relationship implies a dependency on the leadership for most initiatives. Leadership transition can also be challenging to maintain continuity for new regular operations and new initiatives. RAS currently lacks INFORMS-wide references for establishing/implementing new awards, and their leadership is seeking points of contact in sections where similar initiatives have already been implemented to enable emulation and/or adaptation of existing practices. RAS leadership is also working on how to best recruit new members beyond the existing competitions and awards, as well as how to establish activities outside the annual meeting to keep the members engaged throughout the year. Finally, RAS leadership is working to gain greater clarity regarding section expenses (e.g., cost of awards, postage, overhead) as processed by INFORMS.

3.10 Quality, Statistics, and Reliability (QSR) Section

QSR has been successful in **recruiting** by engaging industry contacts for INFORMS membership and diversifying the membership from international countries. To **provide value** for its members, QSR provides journal paper writing training and job hunting experiences for student members; organizes joint sessions with other subdivisions within INFORMS and societies outside INFORMS; and fosters organizing joint sessions sponsored by multiple clusters. They are also creating industrial sessions for the 2019 INFORMS Annual Meeting to encourage collaboration. Finally, QSR habitually creates subcommittees for new initiatives as a mechanism to **develop leadership** among its junior members.

QSR is a very energetic subdivision with a lot of activities. As an example, they typically have over 40 sessions in an INFORMS Annual meeting, with only about 250-300 members. However, because we are a relatively small subdivision, QSR is not very visible within INFORMS. For example, they do not have a lot of representatives in the INFORMS leadership. As a way to overcome this challenges, QSR leadership recommends INFORMS to create a best practice of promoting small but energetic subdivisions like QSR. An effective way is to have some representatives in the INFORMS leadership, a good opportunity for the senior QSR members (or members from similar energetic but underrepresented sections) to make yet greater contributions to INFORMS. Related to QSR's visibility challenge, they actively work to maintaining students' membership after their graduation and increase regular membership.

3.11 Social Media Analytics Section

Among its successes, the Social Media Analytics Section recently initiated a biannual **newsletter** to build some level of community. They also sponsored a **special issue** in Decision Analysis, which "was really interesting." With regard to **organizing the QSL cluster**, the section used a Google document to collect submissions for the invited 2018 and 2019 INFORMS Annual Meetings; this technique reduced emails and did not seem to affect sessions.

Among the section's challenges the timing of the INFORMS Annual Meeting and the section's leadership vis-á-vis workload structure. The section leadership assesses that their cluster would have more sessions if the INFORMS Annual Meeting was always scheduled to occur in November (i.e., rather than switching back-and-forth with October from year-to-year). They also are looking at formalizing a distribution of duties and responsibilities among leadership to leverage the full capability of the section's leaders and members.

3.12 SpORts Section

The SpORts Section hosts a **successful and popular section Business Meeting** at the INFORMS Annual Meeting. This meeting takes place away from the conference venue at a local restaurant, and they have seen significant growth in attendance, year-after-year. The section has also had pretty **strong continuity** between outgoing and incoming officers, enabling smooth officer transitions with little-to-no disruption of section activities and initiatives.

The major challenge to the section is a lack of clarity as to what a section actually does or can do. SpORts Section leadership recognizes the role of promoting the activities and interests of their section, but they are looking to learn about other sections' activities so they can both provide greater value for members and have a greater impact within INFORMS and the SpORts-related disciplines.

Chapter 4

Chapter-level Effective Practices

This chapter documents the practices identified by leadership among the 17 INFORMS chapters listed in Table 1.1 as being notably effective.

4.1 Boston Chapter

The Boston Chapter did not identify specific practices, per se. As part of the feedback provided by the Boston Chapter, it was noted that INFORMS could help the chapter by giving them a mailing list for the chapter so that they would not need to use INFORMS Connect. With the list, they can control when their members see their announcements of meetings and, because it comes from them personally, the messages are more likely to be read and acted upon. This can help the attendance of their meetings.

4.2 Chicago Chapter

The Chicago Chapter provides value to its members by **making annual subdivision meetings productive**. To prepare for the meetings, the chapter has selected board members as the person-in-charge (PIC) for each key activity in an event (e.g., Marketing, Logistics, Program chair); uses a Google shared drive and Google hangouts to facilitate easy document sharing and collaboration, which makes it easier for board members to collaborate offline and be caught up; maintains and transfers lessons learned, templates for actions, and processes from previous years via a Google shared drive. To enhance the meetings, they leverage members' professional networks to bring in great speakers and focused tracks in the annual conferences;

Their **leadership** arises from a chapter culture of volunteerism. All board members volunteer their time and efforts to make chapter events successful. They help each other out even if they are not PIC for an activity. Finally, they organize events at local colleges (with free registration) to help students gain insights into industry practices.

Regarding *finances* via sponsor relationship development, board members seek sponsorship from their own employers; both in-kind donations (e.g., use of space for

events) as well as financial sponsorship of the annual conference.

4.3 Cincinnati Dayton Chapter

The Cincinnati Dayton Chapter **organizes 2-4 meetings per year**: the Arnoff Lecture (with somewhat waning interest in recent years, but the Chapter is associated with this lecture), an annual technical symposium (with strong interest involving 20 presenters and 60-80 annual attendees), and 1-2 social events. INFORMS helps with the registration process and credit card purchases for the technical symposium, although it took about three years to set up this process and formalize it. After an occasional year or two with moderate attendance at some events, attendance improved notably after the chapter coordinated event planning with the academic calendars of regional educational institutions (e.g., the Air Force Institute of Technology, the University of Dayton, Wright State University). The chapter had presented their Outstanding Young Member OR/MS Award at the annual technical symposium through 2018, and they are now looking at expanding the number and category of awards given at the technical symposium, given increased interest by graduate students and academic faculty members.

As for challenges, the chapter notes that sustaining momentum regarding membership is challenging. The chapter also is moderate in size, so officer elections are not typically competitive. To improve communications, it would be desirable if the chapter leadership had the ability to add people to the INFORMS Connect site; they had this ability with their old mailing list. As such, the chapter uses a chapter-associated Gmail account for most business. They have tried heavily to use Connect, but the messages still appear spam like and are messy. Since losing their old listserv forum, they have lost significant communication and camaraderie. Regarding records management, it remains a challenge to ensure INFORMS records of chapter officers are up-to-date; changing the end-of-year reporting requirement by INFORMS to ensure it collects the contact information on newly elected officers, not past officers, would help.

4.4 Dallas/Fort Worth Chapter

Most of the Dallas/Fort Worth Chapter's **efforts have been to reinvigorate membership and chapter activity**. A new leadership team took over the chapter in the Spring of 2014. Since then, they have organized 2-3 events per year, some of them in coordination with INFORMS at UT-Dallas, a very active student chapter. The Dallas/Fort Worth Chapter leadership is comprised of members from both industry and local university faculty. In their most active year (i.e., 2017), the four top leaders of the chapter partitioned the chapter membership list and personally called or emailed the listed members in an attempt to reactive their membership and their engagement. This endeavor required much time and effort but was unsuccessful; most of the current

members were in academia, were former students who had moved away after graduation, or had outdated contact information listed so they were unreachable. Since 2014, chapter efforts to attract new members have not met with success. The chapter has announced their events via social media (i.e., LinkedIn), but the information may not be reaching the people with whom they want to engage. The limited attendance at events has been primarily students and a few professors, with little-to-no participation from industry.

Moving forward, the chapter looks to improve communication through social media channels to better reach current and prospective members. Also, chapter leadership is in contact with former INFORMS at UT-Dallas members who have graduated but remain in the area, inviting them to become Dallas/Fort Worth Chapter members. Of interest would be any advisory help from INFORMS (or other INFORMS subdivisions) regarding social media. Beneficial would be a subject matter expert who can assist the Dallas/Fort Worth Chapter with technical questions... or just general advice on how to create and maintain a social media presence that is effective.

Within the region, the chapter will look to recruit a chapter president from the industry, someone with good connections and leadership who will naturally bring other industry practitioners into the society. Only with a mixture of members from academia and industry does the chapter leadership foresee a synergy of participation and collaboration.

Lastly, the chapter is considering the idea of providing a preferential registration rate to members who graduated from school within the past three years as an incentive to recruit regular members.

4.5 Deep South Chapter

With respect to effective practices, the chapter routinely arranges **seminars, educational sessions, professional training sessions, volunteer activities, and social events**. However, some of the effective chapter-specific practices that worked best, along with selected notes for each, are worth sharing.

The Deep South Chapter arranges multiple **professional training sessions**. These activities include a Job Preparation Workshop, as well as mentoring on CV writing. These seminars yield a large number of attendees who appreciate them highly. Should another chapter wish to adopt this practice, it is worth noting that different sessions are required for graduate and undergraduate students, respectively.

The chapter also hold **academic sessions** that focus on different relevant topics with the OR/MS disciplines. These seminars are very helpful to graduate students since they tend to align with their research. The chapter also has held some basic academic sessions, e.g., basic computer programming fundamentals, that helped both graduate and undergraduate students.

Finally, the chapter holds **social events** to enhance the relationships among chapter members and newcomers. Arranging these outside events requires more effort and

sponsorship from the chapter, but they are a fundamental component of the chapter's activities.

The chapter continues work to address challenges as well. One challenges is attracting, including, and providing value to people having diversified interests, goals, educational expertise, and needs under a single organization. At times, some seminars and practices have become so specific that they might not benefit everyone in the chapter. However, they try to have more events to capture everyone's professional needs.

Chapter leadership intends to work with INFORMS to address another challenge: sponsorship. Of interest is whether INFORMS can help by arranging and sponsoring many small competitions within the regional chapters and, perhaps, offering a modest financial prize. Ideally, such competitions would be focused on topics to help develop (and recruit) student participation. If supported by INFORMS, this idea would likely result in small competitions and a (relatively) large number of awardees to benefit multiple chapters. Also of interest is whether INFORMS can also offer some sponsorship to chapters in the spotlights and highlights in *OR/MS Today*.

4.6 Houston Chapter

On *meeting locations*, the Houston Chapter usually hosts their seminars at Rice University. The benefits to this location are the price (free) and the ability for Rice students to participate. Drawbacks to this practice include paid parking and a lack of food options nearby when meetings occur during evening hours. To mitigate this challenge, the chapter hosts their happy hours at a brewery that lets them reserve a table without having to agree to minimum purchase amounts. Due to Houston being widespread without a good public transit system, the chapter has members who often cannot attend an event without driving over an hour each way. Ultimately, any meeting location will be more convenient for some and less for others, so leadership has identified the need to vary meeting locations from meeting-to-meeting.

Regarding *seminar topics* at chapter meetings, the Houston Chapter has had some difficulty finding speakers for their seminars, likely due to a combination of their small, just-starting-up-again chapter and the commercial organizations doing OR in Houston being very private. However, the chapter has received positive feedback for the speakers they have garnered.

Related to *chapter publicity and communication with members*, the chapter recognizes that people who do not already know of INFORMS also do not know that the INFORMS Houston Chapter exists. The chapter advertises their events on the INFORMS Connect page, their invitation-only LinkedIn group, and their public Meetup.com group. They chose not to run an email list, as each of the three platforms allows people to add and remove themselves. Chapter leadership has sent out an email to the email list they inherited from previous officers to let everyone know how to follow at least one platform; most people on the email list were already following one com-

munication venue. Meetup.com is their only way to advertise their events to people outside the private groups, and the Houston Chapter has many active Meetup groups in related fields. While they have seen growing interest in the chapter from Meetup members, they have had more spammers and inappropriate private messages sent on the site than expected, and they will be cancelling their subscription if it does not improve over the next few months.

As to challenges, the Houston Chapter notes that INFORMSConnect shows about 100 members of the chapter. If everyone were to pay their $10/year dues, they should have about $1000 a year to spend. This amount would be sufficient to cover the costs of advertising, seminar snacks, et cetera. However, they seem to be bringing much less money in, and joining officially is difficult for people not already in INFORMS and often confusing for those who are. A conjecture as to why the Houston Chapter seems short on dues: it might be that the program that allows a new INFORMS member to join a local chapter for free and does not include giving that chapter the money that the new member would pay in dues. Getting dues for all members would be very helpful to provide higher quality events for Houston Chapter members.

4.7 Northern California Chapter

The chapter has not been active at all in the previous year, as it was challenging to get engagement from members in the Bay Area. Chapter leadership is working to change that. Good ideas and assistance are welcome.

4.8 Pacific Northwest Chapter

The Pacific Northwest Chapter holds **bi-monthly presentations** by local OR/MS or analytics practitioners, or academic affiliates. The chapter did organize a one-day conference in September 2018, and it went very well.

The greatest challenges for the Pacific Northwest Chapter is rooted in their large catchment area that includes British Columbia as well as the states of Washington, Oregon and Idaho. They have tried using teleconferencing for meetings in the past, but technology is not yet mature enough to provide a seamless experience. Also, most of the industry presenters have limitations regarding teleconferencing. The only successful solution to this challenge to date has been the aforementioned one-day conference, a venue for all members to get together. Hence, chapter leadership is examining a proposition to hold another one-day conference in 2020.

To provide additional value to students, this year the chapter is planning to organize a **resume review and mock interview sessions for graduate student**, organize a **chapter meeting during the INFORMS Annual Meeting**, and plan **semi-annual networking and happy hour sessions**.

4.9 Philadelphia Chapter

The Philadelphia Chapter has several effective practices and activities for maintaining an engaged membership that merit adoption or adaptation by other subdivisions (if they don't already have the same practices).

Chapter leadership commits considerable effort to obtain **high quality speakers at chapter events**, inviting thought leaders, leading researchers, and successful entrepreneurs to speak on topics of interest or relevance, such as privacy analytics, gerrymandering and voting district design, and effective altruism.

The chapter also **partners effectively with local universities**. For example, a recent partnership with Drexel University focused on collaborating on ideas to expand reach to attract more members and impact more beneficiaries, use facilities for INFORMS events, attract students to the chapter and the profession, and co-sponsoring events.

To improve **member participation**, the chapter uses membership surveys to gather feedback on recent events (e.g., quality of speakers, location, food), and they use member workplace zip codes to determine the best locations to hold events to make attendance easy for members.

The chapter **facilitates networking** by organizing a social event (with no speakers) once per year, at which members and potential members can socialize and share professional opportunities. This event is typically sponsored by a hosting company or business.

Among the recurrent challenges, the Philadelphia Chapter works to market and promote both the chapter and the value of INFORMS membership, working to stand out in a crowded environment full of open meetups and conferences. They are also working to (and are habitually challenged to) expand their reach to students to all major universities in the Philadelphia area. Welcomed would be (1) new and effective ideas for funding and organizing events exclusively for members of the chapter; (2) ideas on how to expand the funding base to support other programs and initiatives, such as member-only events, career fairs, mentoring programs, STEM promotion, hackathons/datathons; and (3) a cost-effective set of tools to maintain an online presence to communicate with members and market the chapter and its activities to potential audiences.

4.10 Polish Chapter

The Polish Chapter concentrates on planning and organizing subdivision meetings for dissemination and collaboration of research activity. It is their main activity and they note that they are doing it well.

4.11 Rocky Mountain Chapter

The Chapter's typical year consists of **5 meetings/presentations each year**, varying in topics from academic to industry, from optimization to decision analysis. They have met the MLB Colorado Rockies Analytics Team and the NBA Denver Nuggets Analytics Team. They have hosted student competitions, but without enough participation.

The Rocky Mountain Chapter is very small (40-60 members) and has been active for about 10 years (it was inactive for many years prior). During this time, nearly everyone has volunteered for some official role at some point, but the chapter has experienced some burnout among perennial volunteers. Moreover, nearly everyone is a member of other professional societies (in addition to INFORMS) and also of other subdivisions of INFORMS (i.e., societies, sections, and fora). Hence, given the challenges of not having enough young members and volunteers, the chapter is at risk of becoming inactive again. The Rocky Mt Chapter leadership thinks they could offer more services, but that would require more volunteers, which are in short supply.

The chapter's biggest competitor for membership is the Military Operations Research Society (MORS), which also has a Rocky Mountain Chapter. The Denver area has many DoD and DoD-related industry jobs but they can not offer meetings at the SECRET level, so they can not directly compete with MORS.

The chapter is aware of some chapter improvement ideas that were developed in the past by INFORMS but were not acted on (mainly because many of the ideas require that INFORMS take on an active role). One idea, in particular, was for INFORMS to help bridge the volunteer gap by helping to host presentations and the like virtually, through which, e.g., someone in Kansas City could host one meeting a year (a micro-volunteering effort), but that meeting could be attended by other small chapters, such as the Rocky Mountain Chapter. If INFORMS reinvigorates and supports this practice, it would be welcome; it would also help those in areas without a chapter (e.g., Albuquerque, Salt Lake City) to be active participants in a chapter that would otherwise lack sufficient members to be functional.

4.12 WINFORMS Chapter

From point of view for effective practices, the WINFORMS chapter identifies three practices that are considered to work well within the chapter. These practices are aiming to host one event per month, not repeating individual speakers more than once every three years, and using a variety of advertising media like MeetUp, LinkedIn and email. Upon developing effectives, the chapter states finding new speakers and board members could be challenging.

Chapter 5

Fora-level Effective Practices

This chapter documents the practices identified by leadership of the 3 INFORMS fora listed in Table 1.1 as being notably effective.

5.1 Junior Faculty Interest Group (JFIG)

Every year, JFIG organizes a **cluster of panel discussion sessions on different topics of interest to junior faculty**, from tips for writing successful research proposals to tips for successfully navigating challenges of faculty positions. These activities are well attended and highly valued.

JFIG also hosts an annual **JFIG Paper Competition**. JFIG has been organizing its annual paper competition since 2003, and the forum has gained experience along the way in different stages of the process from preparing the Call for Papers to managing the submission system and the review process.

JFIG has also been relatively successful at **getting sponsorship for events**. Each year, JFIG leadership reaches out to multiple institutions to find sponsors for the JFIG luncheon and the paper competition prizes.

The challenges JFIG seeks to address are diversifying JFIG membership, broadening the scope of JFIG activities in order to appeal to a broader audience (e.g., PhD students and postdoctoral fellows who are interested in pursuing academia), and seeking input and ideas from JFIG members. Regarding the last item, JFIG has conducted surveys in the past, but the response rate is typically low. Other means of getting input will need to be explored.

Chapter 6

Discussion, Conclusions, and Recommendations

6.1 Discussion & Conclusions

Revisiting the first element of its charter, the committee contends that Chapters 1-5 of this report successfully document many of the effective practices by respective INFORMS subdivisions for use by other subdivision leaders to review, adopt, and/or modify for use within their own organizations. The committee will disseminate this report by socializing it through both the INFORMS Subdivision Council and selected meetings at the 2019 INFORMS Annual Meeting (i.e., the Chapters/Fora Committee Meeting and the Sections/Societies Committee Meeting), and posting it on INFORMS Connect (e.g., the Subdivisions Council Library, the INFORMS Community Officers Library) for others to access and read.

Regarding the second element of its charter, the committee did not identify any specific practices for which no subdivision has an effective practice. However, some commonality does exist across subdivisions with regard to their challenges. Every subdivision works hard to attract students and to convert student members into regular members, each with varying degrees of success. Moreover, the techniques used for engaging students are many and varied – poster sessions, student papers & presentations, problem competitions, opportunities to receive feedback and mentoring at meetings, student-specific awards, and welcoming & collaborative cultures within subdivisions.

While it is important for a subdivision to consider the documented, effective practices for each of these student-related activities, one must recognize the importance of the *manner* in which these practices are implemented. This report cannot adequately capture important intangibles, e.g., the sense of camaraderie in a session or business meeting of the Section on Location Analysis or the collaborative nature of discussions in the College of AI. To learn from other subdivisions beyond what is documented herein, it is necessary to visit their sessions, attend their business meetings, and ultimately join them. Such mutual memberships should be encouraged as a means to

facilitate cross-fertilization of effective practices across the INFORMS subdivisions.

Of note, INFORMS does have a number of members belonging to two or more subdivisions. Reported in Table 6.1 are, for most INFORMS subdivisions, the ratio of memberships belonging to other subdivisions by members within a given subdivision to the number of members within that subdivision. Of course, this metric can exceed 100%. As an example of the calculations within Table 6.1, the Analytics Society had 2705 members, which collectively represented 6356 memberships in other societies, sections, and fora (i.e., 158 Applied Probability Society memberships, 943 Computing Society memberships, et cetera), yielding a measure of 235%.

Table 6.1: Ratio (%) of Out-of-subdivision Membership Registrations to Within-subdivision Members, as of December 31, 2018

Societies	%	**Sections**	%	**Fora**	%
Analytics	235	College of AI	266	JFIG	437
Applied Probability	245	Auctions & Market Design	*	Minority Issues	414
Computing	333	Aviation Applications	376	WORMS	316
Decision Analysis	296	Behavioral Opns Mgmt	*		
Health Applications	294	Data Mining	275		
Information Systems	176	EBusiness	476		
Military and Security	221	Energy Nat Resrc Envir	232		
MSOM	208	Finance	302		
Optimization	220	GDN	363		
Simulation	318	Location Analysis	369		
Marketing Science	135	MCDM	301		
Trans. Sci. & Logistics	233	Org Science	183		
		The Practice Section	287		
		Qual Stats and Reliability	236		
		Railway Applications	240		
		Revenue Mgmt and Pricing	317		
		Public Sector OR	431		
		Service Science	435		
		Social Media Analytics	457		
		SpORts	387		
		Strategy Science	*		
		Tech Innov Mgmt & Entrp	248		
		Telecommunications	470		

* Data not reported

As to the third element of its charter, the committee did not set future goals to measure the impact of the dissemination of ESPs; because there is no decision anticipated from collecting such data, it was decided that such an effort would be of questionable value.

6.2 Recommendations

The 2019 Ad Hoc Committee on Effective Subdivision Practices offers two recommendations for the INFORMS Subdivision Council to consider in 2020.

First, a more granular assessment should be conducted regarding mutual subdivision memberships for the purposes of (1) assessing the member-based opportunities for the spread of effective practices via experience and, as appropriate (2) encouraging more mutual subdivision registrations to prevent insularity. The results in Table 6.1 provide a crude point estimate regarding this measure of interest. Of greater interest would be the distributions of mutual subdivision memberships (e.g., within the Optimization Society, how many members belong to 1, 2, ... other subdivisions).

Second, given the plethora of INFORMS-level and subdivision-level awards identified during this study and acknowledging the 61% response rate likely did not identify many other awards within INFORMS subdivisions, it may be of interest to document the full set of student awards and general awards for which INFORMS members may either compete or nominate others. Such a list would be useful to supervisors, research advisors, and mentors seeking to provide opportunities to develop and recognize talent within the greater INFORMS community.

Appendix A - Useful GDN Section Information

Figure 6.1 presents the considerations used by GDN when identifying where to hold a section meeting. Figures 6.2 and 6.3 present the milestones used by GDN to plan section meetings.

Considerations in choosing locations for future GDN meetings

A. **Organization**
   1. **Program Chair:** Identify the proposed Program Chair
   2. **Organizing Committee Chair:** Identify the proposed Local Organizing Chair
   3. **Local organizational support:** Is the host institution committed to support the conference and cover any budget shortfall? (An indication from an officer of the institution is preferred.)
   4. **Financial support:** Describe the financial support to be expected from the host institution and other organizations
   5. **Support for the Program Chair:** Identify local faculty and staff who will support the conference

B. **Location**
   1. **Location:** Describe the location -- the host institution, the city, and the location of the meetings
   2. **Benefits of Location:** What are the positives of this location?
      a. What will make this GDN conference memorable from a professional point-of-view? Is there a conference theme or a set of special sessions that would be appropriate? (Be specific)
      b. Are speakers, seminar leaders, session organizers, etc. available locally?
      c. Why will this location attract outstanding keynotes?
      d. Will this GDN conference be memorable on a non-professional level? For example, are there excursions or local visits that would interest attendees? What can be included in the conference registration?
   3. **Accommodation:** Is there a range of hotel and other accommodation options? Describe both high-end and low-end accommodation.

C. **Other**
   1. **Local Supporters:** Are individuals based nearby willing and interested to attend a GDN meeting?
   2. **Travel to the Conference:** How difficult and expensive is it for people from around the world to travel to this location?
   3. **Travel at the Conference:** How difficult and time-consuming is it to travel from the likely accommodation to the conference venue? Can you make it easier and/or cheaper?
   4. **Meals:** Describe briefly any plans for a conference banquet and for lunches to be provided by conference. Is there a range of restaurants for other meals?

Figure 6.1: GDN Criteria for Determining Section Meeting Location(s)

Guidelines for GDN Conference Organizers (April 2017)

Key organizers:

General Chair: Typically, President or Vice-President Meetings
Honorary Chair: Immediate Past President (several months delay due to the calendars misalignment)
Conference Program Chair: Typically, a senior scholar from the organizing Institution. It is desirable that Council selects Program Co-Chair.
Local Organizing Committee Chair

Time (months)	**Activity**
-24 to -18	Search for the Conference Venue (Council)
-18 to -17	Submission of the Conference Venue proposal
-16	Selection of the Conference Venue (Council)
-16 to -12	Apply to local granting agency and organizing institution for funds/support
-15 to -12	General Chair(s) search for Invited Speakers (in cooperation with Program Chair(s)
-15 to -12	Program Chair(s) search for Invited Speaker from the Host Country
-14	Program Chair and Organizing Committee Chairs submit preliminary budget - Budget discussed and approved by the Council (no later than -12).
-13 to -10	Prepare the announcement and the mailing lists
-12	Presentation at the GDN Conference (Key Local Organizers)
-12	Selection of Organizing Committee Chair(s)
-12	Selection of the Doctoral Consortium Chair(s)
-12	Web site up and running
-12 to -6	Search for conference sponsors
-10	Local Committee finalized
-9.5	Database (spreadsheet) for call for papers verified and integrated
-9.5	Program Committee finalized
-9	Setting EasyChair account for papers
-9	First call for papers sent
-9 to -8	Invite track chairs, tutorials, panel sessions, etc.
-7	Contact Springer LNBIP
-7	Send second call
-6.5	Paper submission deadline for Springer volume
-6	Paper review deadline for Springer volume
-6	Setting up online registration and payment
-5	Paper revision deadline for Springer volume
-5 to -4	Papers finalized for Springer volume
-4	Springer volume preparation
-4	Conference Early Registration deadline (see note for 'Springer authors')
-3.5	Springer Deadline (may be earlier for some regions)
-2.5	Conference Registration deadline (may depend on local proceedings deadline)
-2.5	Program Schedule

Figure 6.2: GDN Section Meeting Planning Guidelines (Page 1 of 2)

NOTES:

Conference announcements

1. INFORMS GDN Web site (forward the announcement to the Section's Webmaster)
2. EURO Calendar (*to be inserted*)
3. GDN Journal print and web site (forward the announcement to the Editor)
4. Relevant local and regional web sites, including host organization (Local Chair)

Mailing lists sources

1. Most recent conference (Program Chair of the past Conference)
2. INFORMS Section list (Section Secretary or VP Membership)
3. GDN Journal Springer list (Editor)
4. Web search for new names (important)
5. Regional universities and other organizations

Infrastructure for General and Program Chairs

1. Dropbox may be used as a repository of all documents, spreadsheets, etc., for the key organizers perusal

Fixed sessions and other meetings

1. Opening Session: Announcement of the Section Award Recipient (Day 1)
2. Section Award Recipient: keynote presentation (immediately follows the Open Session)
3. GDN Section Business Meeting
4. GDN Journal Board meeting and Springer presentation
5. GDN Section Officers lunch meeting
6. GDN Awards Committee meetings

Springer Proceedings

1. Program Chair should to work with the key co-editor of one of earlier Springer volumes
2. Confirm Springer timeline (different for different regions)
3. Collect Springer materials and templates
4. Make one person responsible for all contacts with Springer

Local Proceedings

1. Deadline for the Local Proceedings need to be established by the local Chairs. This deadline depends on the local organization ability to publish local proceedings (the publication may be only electronic and distributed to participants). As a rule, this deadline is 1-2 months after Springer deadlines.
2. Program Chair needs to obtain ISBN number for the Local Proceedings.
3. It is recommended that Local Proceedings are published online as a free of charge Google Book (for that purpose Google Partner Program needs to be used).

Hints and suggestions for Program Chairs and Proceedings Editors

1. Invite stream and session organizers of the two last conferences to organize same
2. Invite Program Committee members to organize stream and/or session
3. Identify prominent scholars in the region (country) and invite to organize stream and/or session
4. Mailing of announcements: Make it personalized (e.g., Dear Dr. First Last or Dear FirstName) using, e.g., Excel + Word mass-mailing

Figure 6.3: GDN Section Meeting Planning Guidelines (Page 2 of 2)