

### Question 1 (65 points)

Top-Box Inc. is a small company situated in a village near Maastricht. The company produces carton boxes for different other companies. All boxes are of the same size. In production, the company employs full-time employees, part-time employees and temporary workers, mostly students from a university nearby. Top-Box sells the carton boxes for a price of €0.15.

- a) The dataset provided to you shows production data for the years 2017-2020. Based on the dataset, make a production forecast for the years 2021 and 2022. (15 points)
- b) Make an analysis of the production data. Take into account the different types of employees and failure rates. Based on your analysis, what recommendations could you give to Top-Box? (15 points)
- c) Finding temporary workers has always been an issue with Top-Box. The owner, Mrs. Guilders, is not sure whether to invest in a machine that could produce 100000 boxes per month. That machine could replace temporary workers and perhaps also part-time workers. Temporary workers are paid 16€ per hour, and part-time workers are paid 17€ per hour and wages are expected to remain stable. Costs of capital of Top-Box are 7%. What is the maximum price that Mrs. Guilders should pay for that machine? She wants to see an analysis over a period of not more than 5 years. (20 points)
- d) Mrs. Guilders wishes that some of her employees think more creatively, but she wonders how she could trigger more creative thinking in the firm. Help her. Explain three different ways to stimulate creative thinking in an organization in general, based on the literature of the course. This information could help her to move forward. (15 points)

### Question 2 (35 points)

Great Persons, Inc. (GPI) is a nonprofit corporation that was established in 1957 to create services that met defined needs of the local community. Initially, GPI worked with other existing agencies or created new agencies to provide services. Over the years, GPI started developing internal programs and its own services, evolving the company into a services provider in addition to the original goal. GPI currently provides services in the areas of health equipment; residential services for people with disabilities; family support services for children with disabilities; transportation for children and adults with disabilities; information and referral services; consultation and coordination with affiliated agencies; daycare resources and referral grants; and early childhood programs for children, their families, and caregivers. GPI operates on an annual budget of \$19 million and carries over \$7 million in net assets with 80 cost centers. Administrative operations account for approximately 5% of the total budget. GPI operates under the direction of a volunteer Board of Directors. A Committee of Directors—the business director, adult services director, human resource director, child and family services director, and communications and development director—reports to the executive director, Christine Sparkling, who then reports to the Board. (Note: The appendices provide summary information on GPI's mission, vision,

and values statements (Appendix A); services provided (Appendix B); accreditation (Appendix C); and financial and other data (Appendix D).)

At a recent Board of Directors meeting, Board member George Parsons complained that “the Board is only basing GPI’s performance and future on financial information. We need additional, nonfinancial information to help us assess GPI’s performance, however. We are not in business to make a profit. We are in business to provide services to the needy and disabled of the city. We need more information than we are getting. I want to examine whether we are satisfying the needs of the community and our clients. GPI’s finances are important but only as to how they permit us to provide services and satisfy our clients’ needs.” Mary Smith, another Board member, said, “How do we know whether we are providing our services in an efficient and effective manner? What are the critical factors that determine the success of GPI? The financial information provided to us doesn’t help in making these types of reviews.” Board member Rudy Bertrand, who works for the Multiple Sclerosis Society, chimed in to say, “Our purpose is to make sure that people with disabilities receive the services they need regardless of the cost. Our community cannot limit or ignore the needs of these individuals.” Business director Deb Young interjected, “Let’s not get carried away here. We need funding to operate and be successful. Without successful fundraising, we cannot provide the necessary services.” Board President Katy Williams concluded, “There seems to be a tendency here at GPI to focus on financial performance as a measurement of operational success. While some level of financial health is necessary, earning a profit is not one of GPI’s objectives. GPI’s main objective is to provide services to the community.” She turned to Christine Sparkling and said, “You need to have your staff develop a performance evaluation system that addresses the concerns expressed by the Board members today. Please have a proposal ready for the next quarterly Board meeting.” At the following week’s Committee of Directors meeting, Christine opened the discussion with how they could address the Board’s concerns. All of the directors had been at the Board meeting and were familiar with the discussion that had taken place. Mary Seehouse, director of adult services, was the first to speak. She said, “I think the Board members are correct in their concerns. We need to do a better job of focusing on satisfying the community’s needs.” Deb Young, who was also a recent MBA graduate, suggested “using a balanced scorecard. It is a mechanism to communicate goals and objectives, provide diagnostic information of agency operations, and allow for more informed, strategic decision making. This results in an environment conducive to quality improvement of services that can be measured and recognized while still considering the importance of adequate funding.”

After obtaining Christine’s support, Deb formed a Committee of Representatives from each of the directorates to develop the balanced scorecard.

The Committee decided that the best way to generate ideas for the balanced scorecard critical success factors (CSFs) was to use a variant of the nominal group technique. The first step was to have each Committee member write down his or her ideas on GPI’s CSFs. Then Committee members called out ideas from each list one at a time, while another Committee member recorded the idea on a flipchart. No discussion or evaluation of ideas was allowed at this point so that the focus remained on brainstorming. After each Committee member had finished reporting, new ideas were generated through group discussion then evaluated and added to the master list. The next step was to write each CSF on a Post-It note and place them randomly on the wall. The Committee was then divided into two teams: Team A and Team B. Team A grouped the notes however they felt was appropriate. They were only allowed to use nonverbal communication. Team B then reviewed and revised the groupings

through discussion of their ideas in this process. The Committee as a whole then reviewed the results, making appropriate revisions. Generally, a cluster of Post-It notes would produce a single balanced scorecard perspective through this process. The Committee identified and named the perspectives based on the similarities of the CSFs. Overall, they determined that client satisfaction, quality of services provided, efficient operations, and financial viability were critical to the success of the organization. Through the Nominal Group Technique process, the GPI Committee generated several CSFs for each perspective. In order to avoid the development of a tool that would be overwhelming in its implementation and use by the Board of Directors, the Committee decided approximately 20 CSFs would be identified for the balanced scorecard. To help identify the most important factors, the Committee used the example of returning from a two-week vacation: On the first day back from a vacation, what are the first items a director or manager looks at, in terms of the CSFs that were being proposed? If these factors are not important enough to review after an extended period of absence, are they critical? The Committee reduced the number of CSFs to five or less for each perspective based on these questions. In order to provide greater contextual justification for the CSFs chosen, the Committee also developed a strategy map. The strategy map linked a success on one CSF with the success of another CSF. For example, successful accomplishment of the employee training CSF should lead to success in another CSF, such as more efficient operations. That, in turn, should lead to the success of maintaining financial health.

Once the perspectives were identified and CSFs determined, the team discussed how GPI should measure whether a CSF was accomplished. The team brainstormed and openly discussed ideas, identifying one or two performance measures for each CSF. For these measures, targets for GPI's future performance were developed. Finally, someone was assigned to be responsible for reporting on the performance for each CSF and explain any variance from the target.

- a) Identify the advantages and disadvantages of having a balanced scorecard at GPI. (10 points)
- b) Develop a proposed balanced scorecard to be presented to the Board of Directors at its next meeting. (15 points)
- c) Diagram a strategy map for a set of CSFs that you have included in your balanced scorecard. (10 points)

## Appendix A

### MISSION STATEMENT

“Great Persons, Inc. (GPI) makes a positive difference for people living with disabilities, enhances community childcare, and strengthens families.”

### VISION

“We envision a future where our organization provides a broad array of services for people with disabilities, families with childcare needs, and all who may benefit from our services. The services we offer will be exemplary quality. Our staff will have integrity and will be dedicated, creative, well-trained, and committed to teamwork. Our work setting will be challenging and rewarding. The organization will be financially healthy, allowing us to be flexible and responsive to the needs of current and potential clients. The agency will be involved in partnerships with others who share our vision and values and provide consultation to groups and individuals as requested.”

### VALUES

1. Stewardship – Transparent and responsible use of our resources
2. Teamwork – Working together to bring out the best in each other
3. Integrity – Driven to do what is right
4. Quality – Innovative services, extraordinary outcomes

## APPENDIX B

### SUMMARY OF SERVICES PROVIDED

Services are provided through the combined efforts of paid staff and volunteers. Volunteers assist in the adult day program activity; assist disabled children with games, crafts, puzzles, and more; and perform clerical work in the main office. GPI employs 400 individuals (full-time and part-time) and has over 100 volunteers.

#### ADULT SERVICES (DIRECTOR IS MARY SEEHOUSE)

##### Transportation Services

GPI transports disabled children and adults and Head Start children to their educational, job, or vocational site. Riders range in age from 2 to 65 years old. Drivers are required to maintain excellent safety and driving records and be certified in CPR and first aid. Additionally, GPI operates a maintenance garage for its busses and other vehicles.

##### Health Equipment Program

The Health Equipment Program lends durable medical equipment to families that do not have health insurance or the ability to buy equipment. Equipment includes hospital beds, walkers, oxygen equipment, and so on. The equipment is loaned at no cost for as long as it is needed. This service often allows people to remain in their own homes.

##### Residential Services

GPI offers a community living program that provides residential services for individuals with mental disabilities, developmental disabilities, and/or acquired brain injury or mental illness. They serve over 400 people at 100 different residential locations. Clients may live in a single-family home, duplex, apartment, or group home within the local community. The residential services are individualized to meet the specific needs of the resident. Through interviewing the resident, GPI learns of the resident's dreams, preferences, ambitions, likes and dislikes, needs, and desires and then develops a community living program specifically designed for him or her. The amount of time provided to each resident ranges from a few hours to 24 hours per day. Residential services provided by GPI help residents learn to plan and shop for and prepare their own meals, do their own laundry, and clean their residence. GPI employees are available to help the resident make doctor's appointments, manage finances, and arrange transportation needs.

##### Employment Services

GPI offers job placement, training, and follow-up services for disabled adults. GPI attempts to match the client's skills, abilities, needs, and desires with an appropriate job. A GPI "job coach" works alongside the individual at the job site, providing training until the individual can work independently. Job placements include a variety of options such as supermarkets, retail stores, restaurants, and other opportunities. GPI also contracts with community businesses to provide work crew opportunities.

##### Day Habilitation Services

GPI provides day services for adults with intellectual disabilities. Clients participate in leisure and skill-building activities. A variety of activity opportunities exist such as arts and crafts, woodworking, computer skills, and preparing food. Pet and music therapy are also part of these services.

#### Multiple Sclerosis Services

This program provides support for people affected by multiple sclerosis and their caregivers. It is designed to help these individuals adjust to a life of chronic illness by providing counseling, current information (education) about the disease, and advocating on behalf of the clients with federal and state agencies, healthcare providers, and employers.

#### CHILDREN SERVICES (DIRECTOR IS MAY LOU STAB)

##### Children with Disabilities Services

GPI provides a respite program to families who must care for their disabled child around the clock. It provides in-home and out-of-home childcare services in order to provide a break for the caregiver. The service is provided by trained employees who are able to provide appropriate levels of care that match the needs of each child and family. This service is available to families with children up to 18 years old and young adults who have mental disabilities, physical disabilities, or behavioral difficulties.

##### Childcare Resource & Referral Program

This program provides resources, education, and advocacy for affordable and accessible childcare.

##### Early ACCESS Program

This program provides services for families with children under age three who have a health condition that may affect his or her growth and development or delays his or her ability to play, think, talk, or move. The program coordinator works with early intervention providers and families to find the services the family needs.

## APPENDIX C

### ACCREDITATION AND SATISFACTION

GPI is concerned about the quality of the service that they provide. Consequently, they earned accreditation from the Commission on Accreditation for Rehabilitation Facilities (CARF). CARF accreditation covers community housing, community integration, respite services, supported living, and community employment services. GPI also seeks input from their clients on the quality of their services through a fivepoint satisfaction survey

## APPENDIX D

### FINANCIAL AND OTHER INFORMATION

#### REVENUES:

State Funding	\$12.7 million (67%)
State and Federal Grants	2.3 million (12%)
Contracted Services	1.2 million (6%)
Client/Consumer Fees	1.1 million (6%)
Donations	0.8 million (4%)
Rental Income	0.5 million (3%)
Local Government Funding	0.3 million (2%)
United Way	0.1 million (1%)
Total Revenues	<u>\$19.0 million</u>

#### EXPENSES:

Adult Residential Services	\$11.7 million (62%)
Children and Family Services	3.8 million (20%)
Day Habilitation Services	1.0 million (5%)
Transportation Services	1.0 million (5%)
Employment Services	0.5 million (2.5%)
Property Management	0.5 million (2.5%)
Administration/Consultation	0.4 million (2%)
Total Expenses	<u>\$18.9 million</u>

The key for GPI to remain financially viable is for each division to have a profit margin of 1% or better.

<b>NUMBER OF PERSONS SERVED</b>	<b>2009</b>	<b>2010</b>
Disabled Adults	307	331
Disabled Children	69	75
Disability Programs		
Employment	73	112
Day Habilitation	109	117
Adult Residential	245	243
Transportation	251	234
Health Equipment	52	46
Multiple Sclerosis Services	420	435
Early ACCESS Evaluations	938	1,242
Childcare Children	4,502	3,910
Childcare Parent Referrals	2,851	2,385