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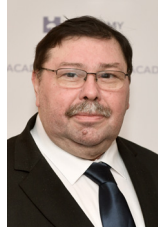
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Foreword

IDEA Academy's first journal in multidisciplinary applied research

This is a very important milestone for IDEA Academy. As a higher education institution IDEA Academy has as one of its main objectives, that of actively contributing to the improvement of society particularly from a work-related perspective. We have been doing this through curricula and teaching approaches that are always relevant to the respective industry sectors. In our vision however, we have also planned to contribute to knowledge advancement through research.

Over the past two years we have had students of ours who conducted significant research studies that served to better understand and even improve difficult situations in their work environments. It is therefore a duty and a pleasure for us to disseminate this work and in the process provide a medium where scholarly research produced by our Institution can be shared with fellow academics in a formal peer reviewed journal.

This is the first issue of a journal that is multidisciplinary and intends to span all the economic sectors to which we are contributing. With this in mind our editorial guidelines are easily summarised in three points namely:

- Research must be practical and relevant to industry,
- Ethical considerations must never be neglected,
- Research can use any methodologies and methods, but it must follow a rigorous process.

The papers selected for this first volume are clearly related to the world of work and they investigate issues related to human behaviour, political versus administration tensions, and health care scenarios amongst others. The selection is multidisciplinary, and the methodologies are various. We expect future issues to reflect this same typology.

This publication would not have been possible without the hard work of a number of people that I wish to thank. I start with the researchers themselves who showed commitment and rigour in their work. All the colleagues and directors at IDEA Academy, whose professionalism is commendable such that working with all of them is a real pleasure. Last but not least of course I wish to thank all members of the editorial board without whose efforts and professional contributions we would not have reached this milestone.

Ing. Vincent Maione
Principal & Director of Studies | IDEA Academy

01 The Relationship between Teamwork and Work Motivation of Nurses Working in Intensive Care Units

Cheryll Vella Catalano

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Abstract

Objectives: Intensive care units (ICUs) require effective and efficient delivery of service as they involve patients who are in a critical state of health. Due to stressful situations teamwork and motivation are deemed highly beneficial. This study explores the dimensions and relationships of teamwork and motivation in ICUs in Malta and determines whether the motivation of nurses working in ICUs is affected by the teams' effectiveness.

Methods: A deductive methodological approach was used to direct the research study, and quantitative questionnaires were used for data collection. Data was analysed using factor analysis, descriptive statistics, bivariate analysis, and predictive analysis to ensure validity and reliability.

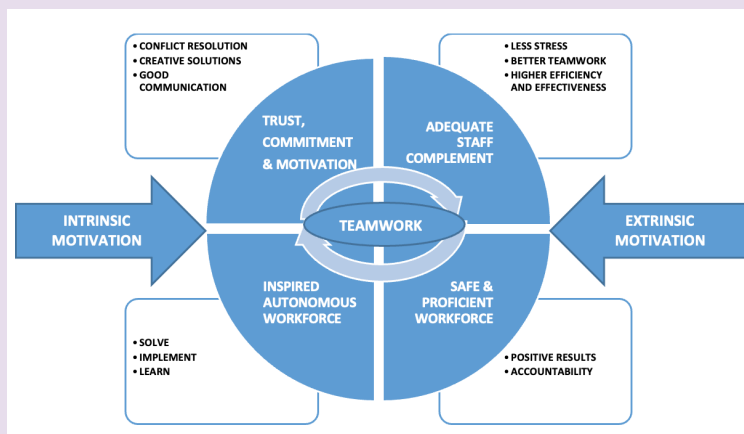
Results: Results were generated from 112 participants working within the nursing teams in ICUs in Mater Dei Hospital. Teams' sizes were recorded to assess whether size could influence teamwork and motivation. Different dimensions of teamwork and motivation of the nurses working in ICUs were analysed and relationships were compared. The results indicate adequate teamwork and motivation within the intensive care units.

Conclusions: It was found that adequate teamwork and motivation supports and enhances a safe and proficient workforce, as together, the team may solve, implement, learn, and interact positively to reach the desired objectives, while having an inspired and autonomous workforce. The importance of trust, commitment, results, and accountability, as well as intrinsic and extrinsic motivational forms also emerged in this study.

Key words: "Intensive care unit", "motivation", "nursing", "self-determination theory", "teamwork"

Highlights:

1. Teamwork and motivation cannot be forcefully imposed on staff but result from a healthy workplace culture,
2. Considering the needs and abilities of each team member enhances teamwork.
3. Aligning each team member and developing the abilities of the team enhances interaction and efficiency in reaching the desired objectives within ICUs
4. Extrinsic motivation supports intrinsic motivation and together they enhance motivation, commitment, performance and as an effect teamwork.
5. It is recommended that HR strategies are developed to ensure adequate staffing at ICUs since team size is found to affect motivation.
6. Conflict resolution training and practices are necessary to resolve conflicts and transform them into creative conversations.



GRAPHICAL ABSTRACT – TEAMWORK AND MOTIVATION IN ICUs

Introduction

Intensive care units (ICUs) offer service to severely ill patients requiring critical life-support therapy and various treatments (Ervin et al., 2018). Hence, ICU personnel face physically and emotionally demanding situations, requiring fast accurate decisions, to address the instabilities of patients' conditions. Consequently, due to stress, teams can be discouraged and lose motivation, potentially putting the patients at risk (O'Connor et al., 2016).

Nurses working at ICUs endeavour to deliver rigorous care by documenting and closely providing and monitoring adequate life support, together with the conventional nursing care for the recovery of the most critical and fragile patients (Scholtz et al., 2016). This requires that nurses are constantly going through processes of critical decision-making to follow ethical procedures while working their way through complex and challenging circumstances (Scholtz et al., 2016).

ICUs are therefore demanding and complicated environments in which teamwork becomes essential (Storesund and McMurray, 2009), since a positive and connected culture with motivated members affects the quality of performance, care delivery, safety, and efficiency (Rosen et al., 2018; Gharaveis, Hamilton, & Pati, 2018).

Forming a Team

Developing into a group of individuals who work together effectively (Gilliam & Siriwardena, 2013) is a challenging and long process. Even when the team is formed, lack of support to the team may lead to feelings of pressure and anxiety, as morale and satisfaction may diminish due to a constantly challenging workload (Scholtz et al., 2016). With few existing studies available on teamwork in ICUs (Ervin et al., 2018), performance and relationships within teamwork in the specific environment are still inadequately understood.

Challenges to Teamwork

Every ICU nurse usually delivers care to one or two patients during each shift. However, patient allocation may differ according to the exigencies of the unit (Almenyan, Albuduh, & Al-Abbas, 2021). Thus, nurses are known to face an excessive workload, long shift hours, very intense responsibilities and in some cases danger of jeopardising their physical health as they risk contracting infections from their patients (Mahran, Taher, & Saleh, 2017). Hence, nurses often argue

that financial reimbursement and work conditions are unsatisfactory and in turn this often leads to dissatisfaction and an intent to leave (McHugh & Ma, 2014).

According to Thake, Azzopardi, & Unah (2020), this, together with modernistic specialisations, increase in ageing of local population, as well as added demands and expectations within the health service, may be reflected in shortage of nurses. Indeed, in Malta, over the past few years, there have not been enough nursing recruitments to sustain the demands on the healthcare system. In 2018, an additional complement of 235 nurses were required. This causes imbalance in the nurse-to-patient ratio, adding further challenges for the nursing team, that may negatively impact organizational synergy, productivity, and outcomes. Consequently, team dynamics are hindered because of instability (Ervin et al., 2018; McHugh & Ma, 2014).

Lencioni's (2012) model, "5 Dysfunctions of a Team", identifies five core unhealthy behaviours or interactions within the group, namely, absence of trust, fear of conflict, lack of commitment, avoidance of accountability, and inattention to results. The same model also highlights that once the reason and the extent of dysfunction within the group are recognized, they can be addressed and solved.

Benefits of Teamwork

According to Baljoon, Banjar, & Banakhar (2018), where positive relationships, teamwork and respect were reported, motivation was enhanced energising employees and inspiring them to view work as rewarding and interesting. Hence, motivation strengthens the passion in teams enhancing employees' involvement, creativity, and commitment (Baljoon, Banjar, & Banakhar, 2018). In contrast, low motivation impacts behaviour negatively, possibly leading to burnout and conflicts.

Team Dynamics

According to Mathieu et al. (2019), the attitudes¹, behaviours², and perceptions³ of each member alter the whole team's effectiveness. When members feel and perceive trustworthiness, they perceive each other as competent and able to perform tasks successfully and accurately. Subsequently, trusted members feel more responsible,

are more accountable for their contribution to the team (Tarricone & Luca, 2002), sustain commitments and ensure that tasks are performed according to timeframes.

Research also shows that the occasional humour helps to lighten tense situations, enhancing members' mutual support and rendering challenging circumstances calmer. Mathieu et al., (2019) identify trust as another key element as it promotes positive and negative feedback, with team members expecting to find a solution to the problem rather than blaming one another. This leads to more willingness to seek help and admit mistakes.

Nevertheless, team conflicts can also occur and although largely viewed as disruptive attitudes, Cullati et al. (2019) demonstrate that conflicts do not affect patient safety when communication ensues. Hence, it can be argued that conflicts may also be identified as constructive rather than being exclusively disruptive.

Conflicts may be more significantly open within face-to-face teams which are based on trust (Breuer et al., 2019). Lencioni (2012) argues that a team which lacks trust can lead to internal disruptive conflicts where members do not openly discuss opinions. Thus, trustworthiness is crucial for positive and interactive outcomes, irrespective of the type of existing teams. Thereby, conflicts are tackled more functionally (Morgan and Hunt, 1994), when a team anticipates and/or develops conflict resolution strategies with the inclusion of all members (Behfar and Peterson, 2008). This leads to shared values, and a mutual understanding about which goals and policies are significant for the team members (Morgan and Hunt, 1994) hence achieving the outcomes more effectively (Lee et al., 2018). In such contexts differences are addressed productively (Patton, 2014) promoting a commitment towards achievement of goals.

When working in a team, discussing one's roles and responsibilities is critical to ensure accountability, effectiveness, and efficiency. Following the model of Lencioni (2012), avoidance of accountability indicates lack of goal orientation and commitment where individuals become more hesitant to accept responsibilities out of fear of damaging

the team spirit. Teng, Chang, & Hsu (2009), assert that adequate staffing, years of experience, and emotional stability impact patient safety. Hence, providing emotional stability through a positive work environment and adequate staff complement, can significantly influence outcomes.

A study conducted by Honyenuga and Adzoyi (2012) found that female nurses were more committed towards working with different nursing facilities, in relation to males. The most committed age group resulted within the 32–37-year bracket. On the contrary, research by Al-Hamdan, Dalky, & Al-Ramadneh (2018) indicated that there was no correlation between commitment and years of experience, marital status, or educational level, while gender had a significant impact on commitment. Although different level qualifications resulted as having insufficient effect on commitment, it had a significant influence on the quality of care and safety provided to the patients. Salary also impacted commitment significantly but had no significant influence on patient safety.

Motivation

Different employees require different stimuli to perform effectively. Indeed, motivation is affected by personal values, abilities and desires, job characteristics including one's position at work, as well as organisational practices including policies, protocols, and reward systems (Baljoon, Banjar, & Banakhar, 2018). Considering such factors helps to fulfil the needs of the individual and inspire each member accordingly.

The Self-determination Theory (SDT)

For the purpose of this study, the Self-determination Theory has been used. The Self-determination Theory (SDT) by Deci & Ryan (1985), identifies different motivational forms affecting one's performance and behaviour at the workplace and distinguishes differences between controlled and autonomous motivational approaches which can be altered according to one's values and pride (Moody and Pesut, 2006).

According to Gagné and Deci (2005), and Lohmann et al. (2017) the theory represents a continuum ranging from:

(i) amotivation - the individual chooses not to work.
(ii) extrinsic motivation - the individual works because of external benefits or perceptions, including:

(a) "social" regulation - An individual is driven by admiration, praise, recognition or ways to prevent complaints
(b) "material" regulation - An individual feels motivated by receiving rewards, incentives, promotion, and security
(c) "introjected regulation" - An individual feels motivated through reputation and beliefs of self-worth,
(d) "identified regulation" - An individual recognises personal values and goals to perform a particular action or achieve end goals. The individual desires to create a difference within the workplace.

(iii) intrinsic motivation - the individual does the work as a result of inherent satisfaction, corresponding to personal wellbeing, pleasure, and life purpose, thereby inspiring continuous gratification.

Socio-demographic motivational influences

Employees of different age groups, different experiences, and different values, may be driven by diverse types of motivation. Goal orientation may also differ between a younger adult and an older one (Depping and Freund, 2011) as experienced workers may be intrinsically motivated (Kanfer and Ackerman, 2004; Lambrou, 2010) in their career, with one looking for more fulfilling experiences (Rozman et al., 2017) as experience increases. Other motivational factors may include better interpersonal relationships, flexibility in the workplace, autonomy, working at one's pace, working from home, and being shown respect (Rožman, Treven, & Čančer, 2017). Hence an overall increase in comfort within the working environment enhances motivation (Kooij et al., 2007).

Rožman, Treven, & Čančer (2017) found that younger employees, 18-49 years, are more motivated through external motivation, particularly higher income, training, praise, and paid leave. Peters et al. (2010), recognise that advancing education through training opportunities, also

motivates employees towards a more meaningful and exciting career which in turn enhances personal growth.

External incentives are crucial to satisfy basic needs for the employees and if not met may inadequately influence performance (Aiken et al., 2001). Poor teamwork and demotivated employees within healthcare (Afolabi et al., 2018) lower performance, and the quality of care delivered to the patients (Okello & Gilson, 2015). Furthermore, staff shortages (Chimwaza et al., 2014) and increased workload lead to staff turnover due to a decrease in motivation, job dissatisfaction (Aiken et al., 2001) and burnout.

1 Attitudes incorporate the individual's beliefs, including honesty, trust, unity, and practicality.

2 Behaviours involve the type of communication, the amount of collaboration and commitment, and conflict resolutions.

3 Perceptions entail individual knowledge and information regarding particular subjects or tasks (Mathieu et al., 2008).

Methodology

This study explored whether there was a relationship between various antecedents, such as age, gender, marital status, qualifications, total years of experience, years of experience at current position, number of weekly work shift hours, and team size in relation to the total level of teamwork and motivation and determined the strength and direction of the relationships that may exist.

A deductive approach, using a descriptive experimental research methodology was performed. Data was collected using a census approach including all the nurses working in the Intensive Care Unit (ITU), Cardiac Intensive Care Unit (CICU), and Neonatal Paediatric Intensive Care Unit (NPICU) at Mater Dei Hospital, Malta.

In recognising the significance of team dynamics and work motivation within the workplace, "The Five Dysfunctions of a Team" by Lencioni (2012) and "The Multidimensional Work Motivation Scale (MWMS)" by Gagne et al. (2014) were selected as the instruments for the collection of data, to acquire sufficient evidence about the defined research problem.

Questionnaire Details	Source	Number of Dimensions	Number of Questions
Demographics	N/a	N/a	8
Teamwork	Lencioni, P. M. (2012). <i>The Five Dysfunctions of a Team</i> 2nd ed. San Francisco: Pfeiffer.	5	38
Motivation	Gagné, M.; Forest, J.; Vansteenkistec, M.; Crevier-Braudd, L.; Broeck, A.; Aspeli, A.; Bellerose, J.; Benabou, C.; Chemolli, E.; Güntert, S.; Halvari, H.; Indiyastuti, D.;	6	19
	Johnson, P.; Molstad, M.; Naudin, M.; Ndao, A.; Olafsen, A.; Roussel, P.; Wang, A.; Westbye, C. (2014). "The Multidimensional Work Motivation Scale (MWMS)" <i>European Journal of Work and Organizational Psychology</i> , 24(2), pp. 178-196.		

Table 2.1: Predetermined Questionnaires and Their Source

All necessary ethical and data protection approvals related to the use of these instruments were duly obtained. Participation in the study was voluntary and all respondents were kept anonymous, ensuring data protection and confidentiality.

A total of 72.25% of the population, 112 from 155 participants, were included in the survey. Such an approach ensured that all respondents had the same chance of participating, thus minimising bias.

Variables considered in this research

Table 2.2: Definitions of the Antecedents and Demographics Used

Variable	Definition of Variable
Age	The age of employee
Gender	The gender of the employee as male or female
Marital Status	The employee's present status with a choice of single, single with partner, married, divorced/separated, and widower
Qualifications	The level of education of the employee, with a choice of diploma, degree, Masters, PHD, or other
Total years of experience	Years of experience from one's nursing employment
Years of experience at current position	Years of work experience at Intensive Care Unit as the employer's current position
Number of weekly work shift hours	The amount of weekly shift hours, from 46 hours, 40 hours, 30 hours, or other rosters
Nursing-team size	The employee's perception of the degree in nursing-team size to be well-staffed, moderately staffed, under-staffed, significantly under-staffed

Table 2.3: Definitions and Operationalisation of the Five Dysfunctions of a Team

Variable	Definitions of variable
Teamwork	Evaluating the team's exceptional qualities and areas for development.
Trust	Where vulnerability and openness are practiced (Questions 1, 6, 10, 13, 17, 22, 32, 33).
Conflict	A team that is confident in engaging in difficult discussions (Questions 2, 4, 5, 7, 12, 18, 23, 27).
Commitment	A team that collaborates and participates in decisions made, therefore having minimal ambiguity (Questions 11, 19, 24, 28, 30, 34, 38).
Accountability	A team that feels responsible about one's performance and attitude, and is able to give a satisfactory reason for them (Questions 8, 16, 20, 21, 26, 35, 36).
Results	A team that collectively aims to achieve outcomes more than attainment of personal recognition or status (Questions 3, 9, 14, 15, 25, 29, 31, 37).

Source: Lencioni, P. M. (2012). *The Five Dysfunctions of a Team* 2nd ed. San Francisco: Pfeiffer

Table 2.4: Interpretation of the Team Five Dysfunctions Scoring Interpretation

Details	High	Medium	Low
Trust	The team has established vulnerability and openness as an ordinary environment.	The team may require to become more comfortable being vulnerable and open with each other about individual strengths, weaknesses, mistakes and needs for help	The team demands essential levels of openness and vulnerability about individual strengths, weaknesses, mistakes and needs for help.
Conflict	The team is happy participating in unfiltered arguments about critical instances.	The team may need to be trained to participate in more unfiltered arguments about critical instances.	The team is not comfortable participating in unfiltered arguments about critical instances.
Commitment	The team is proficient to actively participate in taking well-defined decisions allowing little room for ambiguity and second-guessing.	The team may struggle sometimes to actively participate in taking well-defined decisions. This could be creating ambiguity within the organization.	The team is not able to actively participate in taking well-defined decisions, leaving room for ambiguity and second-guessing.
Accountability	The team does not hesitate to challenge each other, concerning performance and behavioural problems.	The team may be hesitant to challenge each other concerning performance and behavioural problems.	The team hesitates to challenge each other concerning performance and behavioural problems.
Results	The team values collective outcomes more than personal recognition and achievement of position.	Members of the team may be placing too much importance on personal or departmental recognition and ego, rather than focusing on the collective goals of the team.	The team requires to set profounder value on the collective achievement of outcomes, rather than individual or departmental recognition and ego.

Source: Lencioni, P. M. (2012). *The Five Dysfunctions of a Team* 2nd ed. San Francisco: Pfeiffer.

Table 2.4 outlines detail of the Team Five Dysfunctions Scoring Interpretation where total teamwork was calculated by taking the arithmetical average of the scores for the five dimensions. A high score in teamwork was defined from 3.75 and over, a medium score had a value of 3.25 to 3.74, and a low score was defined as a score of 3.24 and lower.

Table 2.5: Definitions and Operationalisation of the Multidimensional Work Motivation Scale

Variable	Motivation Type	Definition of Variable
Motivation	Controlled, Autonomous, Extrinsic, Intrinsic	Incorporates Self-determination theory, about autonomous and controlled forms of motivation; and Extrinsic and Intrinsic motivation.
Amotivation	No Motivation	The degree of lack of desire towards working, behaviour is performed for unknown reasons investing poor energy towards the performance (Questions 1, 2, 3).
External Regulation Social and Material	Controlled Motivation Extrinsic	The extent of controlled forms through extrinsic motivation by means of rewards/punishments <ul style="list-style-type: none"> • Social: evaluates the desire to obtain admiration from others (Questions 4, 5, 6). • Material: assesses the attainment of material rewards, and avoids losing one's job (Questions 7, 8, 9).
Introjected Regulation	Moderately controlled Extrinsic	The degree of controlled forms through extrinsic motivation; the individual performs to prevent negative self-feelings or to acquire positive self-feelings (Questions 10, 11, 12, 13).
Identified Regulation	Moderately autonomous Extrinsic	The extent of autonomous forms through extrinsic motivation; the individual chooses to work because of recognised personal significance (Questions 14, 15, 16).
Intrinsic Motivation	Inherently autonomous Intrinsic	The degree of autonomous forms through intrinsic motivation, the individual takes interest and enjoys work (Questions 17, 18, 19).

Source: Gagné, M.; Forest, J.; Vansteenkiste, M.; Crevier-Braud, L.; Broeck, A.; Aspel, A.; Bellerose, J.; Benabou, C.; Chemolli, E.; Güntert, S.; Halvari, H.; Indiyastuti, D.; Johnson, P.; Molstad, M.; Naudin, M.; Ndao, A.; Olafsen, A.; Roussel, P.; Wang, A.; Westbye, C. (2014). "The Multidimensional Work Motivation Scale (MWMS)" *European Journal of Work and Organizational Psychology*, 24(2), pp. 178-196.

Table 2.5 describes the definitions and operationalisation of the Multidimensional Work Motivation Scale utilised. Total motivation was calculated by taking the arithmetical average of the scores for the six dimensions.

Research Database Design and Data Analyses Procedures

All data attained was analysed using statistical measurements through Statistical Package for Social Science (SPSS). The following analyses were conducted:

- (a) Reliability was measured by using Cronbach's Alpha.
- (b) Construct validity (validity of instruments) was attained by using Factor Analysis.
- (c) Descriptive statistics provided the basic statistics of the data collected.
- (d) Bivariate analysis identified the direction and strength (R) using

Spearman and Pearson correlations.

(e) Predictive validity was performed using Spearman analysis to compare correlations between the variables and determine relationships between two or more variables. In the present study, no manipulation of variables was required, ensuring validity. However, it evaluated the degree of relatedness within the variables. Thus, it identified the strength within the relationship of the variables.

The data analyses addressed nine research questions followed by hypotheses that led to either rejecting or accepting them. The research questions aligned with the research hypotheses and outcome of assessment are shown in Table 2.6.

Table 2.6: Summary of Hypotheses Testing Related to the Research Questions and the outcome of the assessment

Research Hypotheses	Result
<i>H1_o</i> : The level of teamwork of the nurses working in Intensive Care Units is poor.	Reject
<i>H1_A</i> : The level of teamwork of the nurses working in Intensive Care Units is adequate.	Accept
<i>H2_o</i> : There are no dominant teamwork dimensions that impact the nurses working in Intensive Care Units.	Accept
<i>H2_A</i> : Dominant teamwork dimensions are present that impact the nurses working in Intensive Care Units.	Reject
<i>H3_o</i> : The work motivation level of the nurses working in Intensive Care Units is poor.	Reject
<i>H3_A</i> : The work motivation level of the nurses working in Intensive Care Units is adequate.	Accept
<i>H4_o</i> : There are no dominant work motivation dimensions that impact the nurses working in Intensive Care Units.	Reject
<i>H4_A</i> : Dominant work motivation dimensions are present that impact the nurses working in Intensive Care Units.	Accept
<i>H5_o</i> : There is no significant relationship between the overall level of teamwork and work motivation of the nurses working in Intensive Care Units, and their respective dimensions.	Partly reject
<i>H5_A</i> : There is a significant relationship between the overall level of teamwork and work motivation of the nurses working in Intensive Care Units, and their respective dimensions.	Partly accept
<i>H6_o</i> : There is no significant impact of the team size on the level of teamwork and its dimensions.	Partly reject
<i>H6_A</i> : There is a significant impact of the team size on the level of teamwork and its dimensions.	Partly accept
<i>H7_o</i> : There is no significant impact of the team size on the level of work motivation and its dimensions.	Partly reject
<i>H7_A</i> : There is a significant impact of the team size on the level of work motivation and its dimensions.	Partly accept
<i>H8_o</i> : There is no significant relationship between the various antecedents and the level of teamwork and its dimensions.	Partly reject
<i>H8_A</i> : There is a significant relationship between the various antecedents and the level of teamwork and its dimensions.	Partly accept
<i>H9_o</i> : There is no significant relationship between the various antecedents and the level of work motivation and its dimensions.	Partly reject
<i>H9_A</i> : There is a significant relationship between the various antecedents and the level of work motivation and its dimensions.	Partly accept

Results

Construct Validity and Reliability of Instruments

Factor analysis using principal component analysis with varimax rotation, was utilised to validate the Teamwork and Motivation constructs. Results and Commitment dimensions correlated together

with no distinction. Hence, the questions for these dimensions were amalgamated to extract a single Results-Commitment dimension. The 38-question Teamwork instrument was adjusted to improve the correlating properties, resulting in having four dimensions.

An internal consistency analysis using Cronbach Alpha was performed to both the Teamwork and Motivation instruments, to ensure that the data gave accurate and consistent scores. The reliability tests indicated that the Teamwork instrument had a Cronbach Alpha of 0.942, while the Motivation instrument had 0.876 placing accuracy

of the overall data reliability within the good to excellent range.

Table 3.1 Descriptive Statistics

Statistic Demographics	Mean	Std. Deviation	Skewness	Kurtosis	Range	Minimum	Maximum
Antecedents							
Age	37.15	10.24	0.475	-0.803	38	22	60
Gender	1.78	0.418	-1.348	-0.188	1	1	2
Marital Status	2.4	0.843	-0.419	-0.723	3	1	4
Qualifications	1.87	0.664	0.155	-0.723	2	1	3
Work Experience	12.94	8.97	0.622	-0.436	35	0	35
Position Tenure	7.39	6.29	1.309	2.566	35	0	35
Shift Hours	2.09	0.62	0.393	0.841	3	1	4
Team Size	2.19	0.68	0.457	0.532	3	1	4
Teamwork							
Trust	3.52	0.56	-0.06	-0.448	2.5	2.2	4.7
Conflict	3.27	0.74	-0.71	0.517	3.5	1.0	4.5
Results/Commitment	3.47	0.56	0.10	-0.111	2.9	2.0	4.9
Accountability	3.30	0.61	-0.43	0.006	3.2	1.3	4.5
Total Work Team	3.35	0.47	-0.10	-0.592	2.1	2.3	4.4
Motivation							
Amotivation	1.32	0.79	4.46	26.047	6.0	1	7.0
External Social Regulation	2.96	1.45	0.44	-0.638	5.3	1	6.3
External Material Regulation	2.03	1.18	1.19	0.727	4.7	1	5.7
Introjected Regulation	4.71	2.06	-0.62	-0.949	7.0	1	8.0
Identified Regulation	6.33	0.93	-2.67	8.436	5.0	2	7.0
Intrinsic	6.14	1.23	-2.03	4.664	6.0	1	7.0
Total Motivation	3.94	0.68	0.16	0.356	3.8	2	5.8

Descriptive Analysis

The dataset was evaluated by computing several statistics as shown in Table 3.1.

Findings indicate that age had a mean of 37.1, with the highest frequency being within the age group of 26-35 years (N=42). The skewness towards females (N=87) when compared with males (N=25) occurred as females were more numerous within the teams. A bias towards married individuals (N=56) was observed. A degree qualification was indicated as highest (N=61) which appeared to approximate a normal distribution. A relatively wide distribution related to total work experi-

ence was noted, with 6-10 years of experience (N=27) being the highest, followed by 0-5 years (N=26). Position tenure, follows a pattern similar to work experience with the 0-5 years of position tenure (N=51) being the most common, followed by 6-10 years (N=33). Most of the participants in this study worked a 40-hour roster (N=74). It is noted that the team size, appears to follow the same distribution as the Shift Hours variable. Most respondents perceived their team size as being moderately staffed (N=69), followed by under-staffed (N=26), hence showing a slight right skewness.

Teamwork and Motivation Data

The findings regarding Teamwork indicate that total teamwork has a mean of 3.35, with a SD of 0.68. The mean values for the teamwork dimensions, trust, conflicts, results/commitment, and accountability which had a mean value of 3.52, 3.27, 3.47, and 3.30 respectively are also considered to be at a moderate level. Trust and results/commitment were found to be the dominant dimensions in teamwork. Nevertheless, according to Lencioni (2012), the teams may at times struggle and members may be hesitant of being actively open limiting participation in arguments and decision-making processes.

The total motivation had a mean of 3.94 with a SD of 0.68, suggesting an above moderate level of motivation with a narrow dispersion. The findings also suggest that amotivation (apathy), with a mean of 1.32, stands at a very low level. Identified Regulation and Intrinsic Motivation resulted

with highest dominant motivational scores with a mean of 6.32 and 6.14 respectively followed by Introjected Motivation with a mean value of 4.71. Thus, nurses tend to have a high tendency towards achieving goals willingly and enjoy performing the tasks required.

Team size was measured by calculating the mean as well as Spearman's Rho. Such outcomes are demonstrated below (Table 3.2 & 3.3). Significant correlations included trust, conflicts, results/commitment, total teamwork, and intrinsic motivation when team size was appropriate. Alternatively, amotivation also had a significant correlation when team size was inadequate.

Table 3.4 shows the bivariate analysis performed on all the variables within the study using Spearman's Rho. Significant correlations for the study are appraised in the discussion section.

Table 3.2: Team Size and Teamwork Dimensions

Team Size	Teamwork				
	Trust	Conflict	Results/Commitment	Accountability	Total Teamwork
Well-Staffed	3.91	3.77	3.72	3.31	3.70
Moderately Staffed	3.56	3.24	3.47	3.34	3.36
Understaffed	3.25	3.17	3.35	3.15	3.21
Significantly understaffed	3.25	2.19	3.38	2.94	2.94

Table 3.3: Team Size and Motivational Dimensions

Team Size	Motivation							
	Apathy	Extrinsic Social	Extrinsic Material	Extrinsic Total	Introjected	Identified	Intrinsic	Total Motivation
Well-Staffed	1.00	2.83	1.90	2.06	4.77	6.50	6.77	3.99
Moderately Staffed	1.27	2.79	1.96	2.11	4.43	6.41	6.25	3.90
Understaffed	1.42	3.22	2.13	2.39	5.33	6.21	5.74	4.01
Significantly understaffed	2.67	4.06	2.92	3.21	5.25	5.00	4.67	4.08

Predictive Validity: Stepwise Linear Regression Analysis

Predictive validity of the Teamwork and Motivation constructs was undertaken using linear regression with stepwise variable entry. Both models have a high predictive power with an adjusted R square value of .961 and .998 for the Teamwork and Motivation constructs respectively.

The stepwise linear regression for the Teamwork construct shows that Results/Commitment, Conflict, Trust, and Accountability entered the model in that ranking order. Whereas the ranking order for the Motivation construct was Extrinsic Social Regulation, Intrinsic Motivation, Introjected Regulation, Extrinsic Material Regulation, Identified Regulation, and Apathy.

Table 3.4: Spearman's Rho analysis

	Age	Sex	Marital Status	Qualification	Work Experience	Position Tenure	Shift Hours	Team Size	Trust	Conflict	Results/Com.	Accountable	Total Team Work	Apathy	Social	Material	Total Extrinsic	Introjected	Identified	Intrinsic Motivation
Gender	-0.106	1.000																		
Marital Status	.657**	-0.071	1.000																	
Qualifications	-.432**	-0.174	-.276**	1.000																
Work Experience	.873**	-.0158	.638**	-.363**	1.000															
Position Tenure	.591**	-.213*	.369**	-.200*	.640**	1.000														
Shift Hours	.212*	.394**	.085	-.087	.160	.080	1.000													
Team Size	.125	.031	.009	-0.072	.083	-0.024	.215*	1.000												
Trust	-0.100	.019	-0.043	-0.010	-.191*	.027	-0.048	-.348**	1.000											
Conflict	.217*	.134	.241*	-.210*	.134	.043	.211*	-.221*	.474**	1.000										
Results/Commitment	.098	.174	-0.025	-.211*	-0.026	.071	.117	-.207*	.584**	.496**	1.000									
Accountability	.126	.125	-0.024	-0.150	.100	.154	.126	-0.122	.243**	.355*	.475**	1.000								
Tot. Teamwork	.108	.122	.023	-.206*	-0.025	.055	.108	-.304**	.766**	.708**	.888**	.566**	1.000							
Apathy	.069	-0.077	.089	.013	.129	.177	-0.101	.344**	-.361**	-.334**	-.300**	-0.109	-.431**	1.000						
Extrinsic Social	.000	.018	.084	.026	.062	-0.029	.036	.175	-.206*	-0.102	-.211*	-0.058	-.229*	.224*	1.000					
Ext. Material	-0.089	-0.153	-0.091	-0.058	-0.019	.053	-0.103	.107	-0.134	-0.105	-.189*	.112	-0.158	.264**	.521**	1.000				
Total Extrinsic	-0.017	-0.054	.023	-0.018	.051	.019	-0.023	.147	-0.172	-0.107	-.205*	.004	-.203*	.304**	.870**	.814**	1.000			
Introjected	.232*	.049	.039	-0.061	.146	.079	.123	.118	.010	.145	.175	.152	.163	-0.071	.272**	.106	.229*	1.000		
Identified	-0.047	.042	-0.126	.023	-0.110	-0.092	.101	-0.167	.229*	.197*	.187*	.116	.241*	-.301**	.123	-0.025	.329**	.526**	1.000	
Intrinsic Motivation	-0.129	-0.033	-.186*	.039	-0.151	-0.027	-0.068	-.294**	.365**	.225*	.281**	.342**	.353**	-.281**	.034	.004	-0.016	.132	.526**	1.000
Total Motivation	.059	.003	-0.055	-0.018	.054	.041	.032	.054	-0.029	.052	.017	.166	.029	.087	.760**	.548**	.726**	.636**	.453**	.378**

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed)

Discussion

Level of teamwork of nurses working in ICUs

The findings suggest that teamwork was satisfactorily present within the ICUs, also indicating that an effective team would interact, adapt, and cooperate towards one common goal while following their assigned roles and responsibilities (Ervin et al., 2018). Nevertheless, difficulties and dysfunction in teamwork need to be recognised within an organisation as they may create feelings of pressure and anxiety, while diminishing morale and satisfaction because of a constant workload and working in silos (Scholtz et al., 2016; Ervin et al., 2018).

Teamwork Dimensions in ICU

Trust had a relatively high correlation with Conflict, Results/Commitment and Accountability. The findings support Hakanen, Häkkinen, & Soudunsaari (2015) who argue that trust directly influences communication, commitment, and reliability. Where there is mutual trust, team members willingly ask for assistance and acknowledge mistakes and feedback (Lencioni, 2012).

Although conflicts were present, the findings suggest that through the benefits of trust present within the team, members are inclined to discuss and find solutions, which significantly augments accountability and teamwork. Therefore, addressing conflicts in ICU teams is vital, since participating in unfiltered arguments can transform negative circumstances into beneficial results (Lencioni, 2012).

Commitment and results were also effectively indicated with accountability and total teamwork suggesting that engagement within the team is sustained. However, throughout the study it was noted that some teams lacked commitment and results, hindering the unit from reaching the desired common goal, thus questioning the effectiveness of their conflict resolution strategies. Consequently, the team may struggle to participate in decision-making (Lencioni, 2012).

Motivation levels in ICUs

The level of motivation influences the healthcare professionals' drive and willingness to apply energy towards their tasks, and thereby work diligence (Dagne, Beyene, & Berhanu, 2015). The research findings suggest that the overall motivation within ICUs is adequate, with only minimal apathy.

Such understanding is crucial to recognise the team's potential to perform and implement a particular task effectively.

Motivation Dimensions in ICUs

From the analysis of the results, nurses working in ICUs were most likely to have autonomous motivation from identified regulation and intrinsic motivation. Subsequently, introjected regulation, social regulation, and material regulation, were the next resultant dimensions that were measured within the ICU setting. Such forms are defined as controlled behaviours by the SDT model, intended to inspire individuals to reach the expected output.

The results indicated that nurses are identified regulation motivated, using a set of values and goals to perform their tasks. Employees have a high perception of their work and intend to make a difference within the workplace (Lohmann et al., 2017). Furthermore, having intrinsically motivated nurses, indicates that they enjoy their work and feel inspired in implementing their tasks.

Although identified regulation is recognised as extrinsic motivation, both behaviours would result as autonomous forms, with the individuals deciding how to perform their work to reach the expected outcome (Ryan & Deci, 2000). Therefore, the evidence suggests that the individual would likely persevere, out of a sense of competence and self-control over the particular action.

Members who indicated introjected regulation, suggested that their personal reputation and self-worth are important leading to a stronger inclination to connect with the team (Lohmann et al., 2017).

Social and material regulation, resulted to be appreciated by respondents and improved the overall organisational motivation (Phina et al., 2018). Positive compliments (Alhakami and Baker, 2018) encourage members to accomplish effective behaviours (Akpasubi & Callum, 2018), while adequate salary motivates nurses to work and maintain an adequate quality of service.

Relationship of teamwork and motivation in ICUs

Regarding amotivation, a negative correlation was noted with all teamwork dimensions (trust, conflicts, results/commitment, and accountability). This implies that the more teamwork dimensions are practiced, the less demotivated the workforce would be. A review made by Baljoon Banjar, & Banakhar (2018) argues that relationships that support effective communication influenced the nurses' work motivation. Respect, interpersonal relationships, support, trust and feeling part of a team, were all influencing factors enhancing intrinsic motivation (Baljoon, Banjar, & Banakhar, 2018).

The findings indicated that when autonomous motivators were evaluated, including identified and intrinsic motivation, positive correlations with trust, conflicts, results/commitment, and accountability were observed. Hence, it can be argued that such motivation promotes positive relationships within the organisation. This evidence is also supported by Eisenberger, Rhoades, & Cameron, (1999). Thus, when autonomous behaviours are encouraged within the unit, commitment within team members is enhanced.

This study shows that when tackled immediately, and intrinsic motivation was applied, conflicts led to positive relations, showing that nurses were inspired when a sense of autonomy was experienced during discussions. Thus, it is crucial for the organisation to discuss problems, exchange different opinions and encourage participative decision-making, to enhance autonomous behaviours and practices. Subsequently, autonomous behaviours encourage individuals to feel more committed and accountable towards executing tasks, thus achieving significant results for the team (Battistelli et al., 2013; Moody and Pesut, 2006).

Along with corresponding studies (Lohmann et al., 2017), this study also shows significant benefits resulting through autonomous forms of motivation. Yet, conflicting studies argue whether controlled environments and pressures enhance commitment to execute a task (Fernet et al., 2017). Additionally, individuals may expect to achieve rewards after putting efforts in their tasks (Toode, 2015). Hence, the research suggests that it is necessary to incorporate both types of motivational forms to achieve the best outcome for the team.

Team size on teamwork

Findings in this study suggest that a suitable team size improves teamwork and that a well-staffed team promotes trust amongst the staff, along with conflicts. Although no significant correlation was indicated on accountability, on results/commitment correlation was significant, hence suggesting that an adequate team size is fundamental for the unit. Delegation thereby, lowering workload of nurses and ensuring adequate nurse-patient ratios, is highly recommended to achieve a more stable and favourable environment.

Within an ICU context, the findings indicated that after "moderately staffed", "understaffed" teams were the second most common in terms of size. Additionally, most shifts worked on a forty-hour roster and withstood long working hours. This tends to caution practitioners according to Chan et al. (2013), who argue that insufficient nursing staff may increase adverse events especially when fatigue creeps in among the staff members, possibly leading to staff turnover and further altering staff ratios (Haddad, Annamaraju, & Tonoy-Butler, 2020).

Team size on motivation

The current study indicates that increasing the unit's team size leads to beneficial autonomous behaviours and actions within the unit, while a decrease in team size can significantly affect the level of individual motivation, causing a sense of apathy. On the other hand, intrinsic motivation resulted in a positive relationship with an adequate team size, thereby enhancing autonomous behaviours. Hence, it can be argued that maintaining an adequate nurse-patient ratio is highly motivating, prevents exhaustion and promotes best quality of care (Said et al., 2013).

Antecedents and teamwork level

Leggat (2007) implied that the significance of qualifications should not be the only attribute for consideration when forming a team, but one should also consider the skill mix and individual differences. A stronger skill mix led to an enhanced quality of care, safety, and patient satisfaction. The current research findings also confirm that qualifications had a low negative correlation with total teamwork and results/commitment. Hence, other attributes need to be considered to achieve effective teamwork.

The findings also suggest that different generations have contrasting habits and ways of thinking, and may express opinions and disagreements differently (Sedrak, 2011). Such divergences may generate an increase in conflicts. To mitigate this, roles and responsibilities should be clarified, in order to understand personal expectations and organisational requirements, thus reducing role conflicts (Mickan & Rodger, 2000).

Additionally, a correlation was found between conflicts and shift hours, where longer shift hours were found to create more disagreements and conflicts. According to Caruso (2014), this can be the result of a drop in neuro-cognitive functioning, causing higher degrees of fatigue, leading to errors. Consequently, disagreements and frustration may particularly result during stressful and demanding circumstances.

Antecedent and motivation level

The research findings indicated a low positive correlation between age and the introjected motivation dimension, suggesting that as one ages, important motivational drivers include promoting one's reputation and self-worth. Nevertheless, other studies provided conflicting evidence that older nurses are more inclined to seek financial

rewards and extrinsic motivation, when compared to the younger nurses (Baljoon, Banjar, & Banakhar, 2018). This implies that rather than a decrease in motivation, other motivational drivers may alter as one matures. Moreover, it was noted that longer shift hours led to a lower level of total motivation, thus suggesting that such demands also need to be checked.

Conclusion

Teamwork and motivation cannot be forcefully imposed on staff but result from a healthy workplace culture, where various principles are practiced considering the needs and abilities of each team member. Aligning each team member and developing the abilities of the team enhances interaction and efficiency in reaching the desired objectives (Senge, 2006). Some recommendations to achieve this include:

1. Organising frequent team-building activities and coaching to enhance interaction and bonding.

2. Introducing all aspects of motivational forms in ICUs to achieve the desired behaviour from everyone.
3. Developing strategies that ensure adequate staffing is provided in the unit.
4. Establishing conflict resolution practices to address different types of conflicts, placing the manager as the initiator and supporter of creative conversations.

Recommendations for future research

1. Investigate effective leadership traits to promote teamwork within ICUs.
2. Study relationships with motivation forms and commitment objectives that attain the desired behaviours.
3. Study the level of teamwork at an interdisciplinary level.
4. Study patients' perspective and degree of satisfaction in quality of care received.

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02 The Balance between the Political Interests and Administrative Interests in Malta

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Abstract

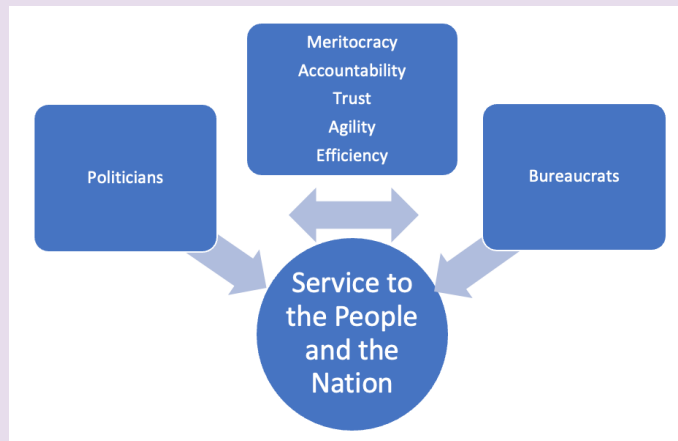
Objectives: Political and administrative interests within the Civil Service have drawn particular attention due to inefficiencies arising from conflicts between elected leaders and administrators. Some studies advocate the separation of politics from administration, whilst others believe that they complement one another. Malta adopts The Westminster System. Within this context, the research study attempts to determine whether dichotomy effectively exists between the political and administrative sides of Maltese politics, and to what extent. The focus of the study is to establish where/whether a line between political/politically appointed officials and career civil employees on Malta's politico-administrative spectrum can be drawn, as well as to identify whether/how policy values and resources are affected.

Methods: Inductive research was used through ten semi-structured interviews, which were conducted with democratically elected politicians from Malta's two main parties, and Senior public sector administrators.

Results: This study explored the level to which Malta's colonial history has had an impact on its ability to be apolitical by virtue of its ingrained etymological and historical trends towards favouritism, nepotism and clientelism. Results show no major differences in interests between Maltese politicians and bureaucrats. The main goal remains to serve the Maltese people and Malta. However, their thinking/practices differ greatly, especially in the case of young politicians. Participants mentioned agility, technology, and meritocracy as ways to improve Malta's administration.

Conclusion: Political and administrative interests may mutually benefit politicians and administrators if they complement/respect each other's abilities and ideas, communicate effectively, trust one another without ulterior intentions, and are competent.

Keywords: "Government administration", "Politics", "Public Sector", "Relationship"



GRAPHICAL ABSTRACT: The Balance between Political and Administrative Interests for Quality Provision

Highlights

1. Both politicians and administrators aim to give the best service to the people and the country.
2. Politicians drive practices to ensure as much as possible to see things done while they are in office.
3. Administrators follow bureaucracy to ensure transparency and accountability, even if this may result in a slower process.
4. The right balance can be reached if politicians and administrators have a share vision, the required competence, good communication, and trust one another without hidden agendas.

Introduction

Politics and administration are a perennial source for controversy and heated discussion (David H. Rosenbloom, 2006) and while separating them may be believed inappropriate since they encourage one another (Rohr, 1889), their separation would prevent a "spoils system" and promote administrative professionalism (Wilson, 1887). Indeed, different people and countries approach the political-administrative relationship differently. Lorne (2006) claims that public officials and politicians have a more complex connection. This study attempts to focus on the contrast between Political and Administrative interests, notably on democratically elected politicians from Malta's two major political parties (Labour and Nationalist) and high-up Public Sector officials.

There is a need to identify the line of demarcation between Politicians and Administrators on Malta's political-administrative spectrum. What are

the balances and structures to be found between the Political interests and administrative interests in Malta? Where on the spectrum of the Maltese political/administrative scenario, is the interface of politicians and administrators? How much do they influence the allocation of values and resources in policies? Furthermore, how does this, if at all, and to what extent, impact/influence the way Malta Government policies are delivered to all citizens in a non-partisan manner, as well as the response time of the Malta Public Sector?

This study aims to contribute to a new perspective in this novel field of study by the application of a fresh-eye approach without recourse to previous notions, references and studies, which at the time of study do not exist.

Methodology

An inductive approach was adopted to conduct this research investigation as meaning was to be derived from the data gathered. To reach the set objectives of the study it was necessary to investigate how individuals make sense of their experiences and then move towards a definition of what politicians and administrators in Malta consider to be the appropriate balance of political and administrative interests.

Hence the researcher interviewed the participants with an intention to study their input and identify patterns and links that emerge from the data to develop a theory (Louis, et al., 2007). This is best described in Figure 1 below.

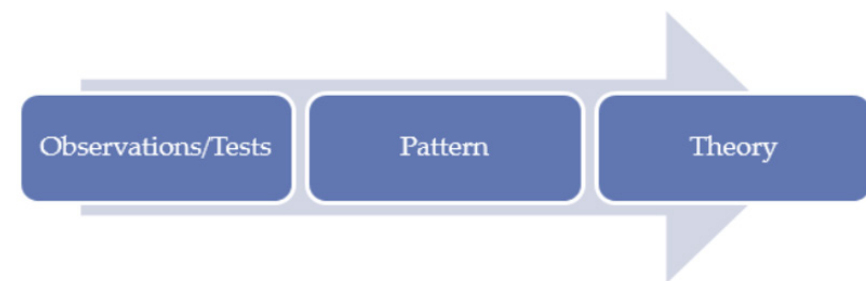


Figure 1: Inductive Reasoning (Smith et al., 2009)

Sampling method

The qualitative data was collected through semi-structured interviews conducted with elected Political Executives and Administrative Officials. Ten participants were selected, using purposive sampling based on two population criteria:

Participants

(a) Democratically elected politicians from the two main political parties in Malta, including a Head of Secretariat.

(b) Senior Administrators from various, Maltese government entities.

Procedures for data collection and analysis

- The interviews were digitally recorded and transcribed 'verbatim' for data analysis;
- The transcripts and audio recordings were analysed multiple times for the elicitation of salient themes and aspects;
- The data was organised using the qualitative data analysis software QDA Miner Lite;
- The software was able to generate basic reporting on code and case frequency;

- The master coding list generated by the software was imported into Microsoft Excel for further analysis;
- Pivot tables were used for the investigation of relationships between data points in the master coding list.

Thematic Clusters

Themes were re-evaluated through three, manually conducted analysis cycles. The first cycle highlighted 15 themes. After structural coding and analysis 11 thematic clusters were generated across the data 'corpus', namely:

Table 1: Thematic Clusters generated following coding and analysis

Thematic Cluster One	Common and Different Interests between the Politicians and Administrators
Thematic Cluster Two	Politicians' Aspects
Thematic Cluster Three	Administrators' Aspects
Thematic Cluster Four	Trust
Thematic Cluster Five	Relationships
Thematic Cluster Six	Structures and Key Positions
Thematic Cluster Seven	Regulations and Procedures
Thematic Cluster Eight	Accountability
Thematic Cluster Nine	Malta (Small State)
Thematic Cluster Ten	Effectiveness & Efficiency
Thematic Cluster Eleven	Local Government

Results

Common and Different Interests between the Politicians and Administrators

The common and different interests between the Politicians and the Administrators result in 4.1% of the coded data. This dataset highlighted the similarities and differences between the Political and the Administrative perspectives. Five of the participants (two from the Political side and three from the administrative side) pointed out that rather than having different objectives, it is the approach and methodologies to achieving their objectives and attain common goals for the good of the country and its people, which differed.

Thematic Cluster Two - Politicians' Aspects

A total of 8.6% of the coded data referred to political elements. These findings demonstrated that politicians have a vision, and provide direction, but are concerned with their public image and work for votes. Furthermore, since their positions are of a transient nature, politicians customarily demand that policies and projects are completed as quickly as possible during their tenure in office.

Thematic Cluster Three - Administrators' Aspects

Administrative components comprised 21.3% of the data coded. These findings established that administrators should be trustworthy individuals with integrity, in order to ensure a smooth transition of power in a country, to serve the people and the government of the day, to adhere to specific procedures (bureaucracy), to implement the Government's manifesto and to assist politi-

cians while in office. 90% of the participants interviewed mentioned Bureaucracy, followed by 80% who highlighted Continuity as key aspects.

Thematic Cluster Four – Trust

The Trust category accounted for 9.5% of the data coded. These findings demonstrated that the Political persons of trust are important to assist the Minister in office. Moreover, the data shows that the level of trust experienced between politicians and administrators is crucial.

Thematic Cluster Five – Relationships

The Relationship Category accounted for 14.7% of the data coded. Communication and Conflict were mentioned by 60% and 50% of participants respectively. Furthermore, 40% emphasised Dichotomy, Experience, Teamwork, and the character traits as fundamental in an Administrative – Political relationship.

Thematic Cluster Six – Structures and Key Positions

9.8% of the coded data related to structures and key posts available in Malta to balance the administrative and political spheres. The Principal Permanent Secretary and Political Advisors were mentioned by 50% of the Participants. 40% emphasised the significance of the Permanent Secretary role, followed by the Ombudsman, the General Auditor's Committee of Scrutiny and the Public Accounts Committee of Scrutiny. Suggestions on the way these roles should be appointed was also highlighted in this research by 40% of the participants.

Thematic Cluster Seven – Regulations and Procedures

The Regulations and Procedures category accounted for 4.1% of the data coded. These findings demonstrate that the regulations for new Recruitments with the Public sector and the procedures for Procurement were highlighted as the two main barriers in the system with 50% and 40% respectively.

Thematic Cluster Eight – Accountability

6.5% of the data coded referred to Accountability. When Politicians and Administrators were asked to whom Administrators should be accountable, 70% of participants mentioned the People of Malta and the Government of Malta. It was also emphasised that the Government of Malta did not automatically infer that political party in office on the day. Of particular interest is the fact that while most of the Administrators interviewed mentioned that they should be accountable to the citizens, most of the Politicians interviewed mentioned that the Administrators should be accountable to the Government of the day because the Government is representing the people.

Thematic Cluster Nine – Malta (Small State)

Components from the Malta (Small State) thematic cluster accounted for 4.1% of the data cod-

ed. Participants emphasised two points: the aspect of familiarity/insularity in a small country like Malta, where everyone knows each other, and the strong influence of British colonisation. Another predominant characteristic which was mentioned was that Maltese culture typically reflected clientelism and political favouritism. 90% of respondents stated that the probability that Malta would ever become politically neutral appears to be very slim.

Thematic Cluster Ten – Effectiveness & Efficiency

Category Effectiveness/Efficiency accounted for 7.3% of the data coded. Participants emphasised the importance of technology, meritocracy, education, project management, agility, and better wages for employees for better efficiency and effectiveness. Administrators highlighted technology, meritocracy and agility as the most important factors for a more effective and efficient country.

Thematic Cluster Eleven – Local Government

Most participants consider that the Local Government in Malta is the nearest to, and represents communities, is accessible to residents, promotes community identities, provides practical education in politics, and serves as a recruitment ground for higher positions.

Discussion

The Common and Different Interests Between Politicians and Administrators

The Executive Branch is the backbone of the Maltese Government. While the executive authority is vested in the President of Malta, since this function is intrinsically ceremonial, this allows the Maltese Government to appoint the Prime Minister, Deputy Prime Minister, Ministers, and Parliamentary Secretaries that make up the Government, from the majority party of the House of Representatives.

Interviews' findings indicate that the interests of administrators and politicians in Malta are often linked and shared. The significant difference found in this research is in their respective mindsets, which is in line with what Aberbach et al (1981) politicians and administrators inevitably take different standpoints and given different interpretations to the same subject. When politicians discuss social justice or individual liberty, administrators are inclined to consider social insurance, mathematical calculations, or cost-benefit analysis of market regulation.

In reality, the responsibilities are far more complicated, and the distinctions are less clearly defined. Kettl, D.F. (2019) states that the differences between administrators and politicians are becoming increasingly unclear. It is necessary to differentiate from the traditional view of the policy process whereby a political executive creates policies while an administrator would implement them (Hague & Harrop, 2004). As the challenge of balancing policy action with political demands rises, the tendency for politico-administrative hybrids may increase.

From findings in this study, it became evident that the policy process is evolving in Malta as well. In some cases, the relationship between administrators and politicians at times tends to be more symbiotic rather than dichotomous or divergent. For example, the Health Authorities' political and administrative factions in Malta tackled the Covid-19 Pandemic jointly with the Superintendent of Health, actively participating in policymaking with the Ministry of Health and Government. However, most participants from both sides in this study made it clear that Administrators in Malta are primarily responsible for implementing new policies, implementing the manifesto of the Government of the day, assisting the Minister

according to law, providing all government services to all Maltese residents, maintaining public administration throughout general elections and during ministerial changes, whilst also ensuring a seamless transition when a new government is elected.

Another distinction shown by this research is that politicians and administrators are sensitive to different factors. Politicians would want to seem sensible in the eyes of the public, particularly to members of their constituency; and are more likely to notice social crises. On the other hand, administrators are more tuned in to knowledge and expertise.

Political tenure and lifespans are transient while those of an administrator tend to be more permanent. Politicians are subject to the judgement of the populace who would elect and in turn be responsible for the dismissal of politicians through democratic election. So, it is in the politician's interest to see that the people are getting the required services and try to improve their living standards through advice on existing services, policies, and projects. However, this might be related or result in clientelism and favouritism toward politicians' supporters, especially in a small country like Malta, where politicians are very approachable to people and everyone knows each other.

Administrators are not subject to an election. They are normally employed on contracts of an Indefinite Terms of Employment nature. Their careers are not normally affected if a Minister is changed or has to resign. The extent of responsibility held by politicians is that related to government activity however this statement may be contentious. Most of the Administrators interviewed in this study argued that administrators possess the necessary skills, experience, and competence for their roles. Furthermore, they maintained that on the other hand, some politicians lack the competence, information, and even sufficient time to resolve the numerous policy issues confronting the Government daily.

This is in line with other research which found that Administrators have an advantage over Politicians in terms of expertise, incentives and information (Snellen, 2014). According to Aberbach et al (1981), the moral problem presented by administrators' policymaking is that of power without accountability; the moral dilemma presented by political policymaking appears as that of power without competence. Furthermore, while excessive, administrative power in policymaking may result in a crisis of legitimacy, overly political policymaking risks a crisis of effectiveness.

Relationship and Trust in Administrators

This research also emphasised the importance of a relationship of trust between political and administrative bodies and within high ranks of the Public Sector and of Government. Trust is most especially necessary amongst the Principal Permanent Secretary, the Permanent Secretaries and CEOs of different government entities. Any new Minister quickly learns that under modern systems of Government, they must depend on Administrators to create and execute policies (Tobias & Wegrich, 2018).

Both Administrators and Politicians interviewed agreed that trust was vital to both and that it needed to be mutually established. One of the Administrators argued that climate of trust in the first days of a new Politician in the office is not easy, but it develops gradually and needs time to build.

Many established democracies today have recognised the importance of political loyal and supportive key administrators. For example, in the United States, an incoming President selects around 3,000 personnel as persons of trust, a job which is a mammoth task for every new President (Hague & Harrop, 2004).

The interviewed Administrators and Politicians claimed that political trust alone is certainly not the only desirable or necessary quality and that one should also possess competence and integrity for these headship positions. Ministers seeking to accomplish things would be wise to rely on their administrative staff, rather than pursuing ever-closer political control (Hague & Harrop, 2004). Therefore, this research suggests that a good balance should be found.

Information leakage was also mentioned as one of the main issues that could cause many problems when Politicians have untrusted persons

around them. All participants in this study agreed that apart from trusted Administrators in the Public Sector, Ministers should have a limited number of political persons of trust employed on a definite contract, working in the Minister's office. For example, his driver, personal assistants, the Head of a Secretariat, to mention a few. Furthermore, it also emerged that newly appointed politicians may need guidance and support when engaged in a field in which they may perhaps not have had previous experience and expertise, therefore Technical Advisors that are selected and trusted by the Minister are also crucial.

The Principal Permanent Secretary & The Permanent Secretaries

The Principal Permanent Secretary and the Permanent Secretaries were highly mentioned in this study as acting as the fulcrum of the citizen, and the body responsible to ensure that Government's policies are consistently reflected and acted upon with a degree of clarity and congruence within the Civil Service itself. For instance, the Principal Permanent Secretary is also the Secretary of the Maltese Government Cabinet. Whilst this offers a certain synergy, all participants agreed that this person must be competent and of political trust to the Government of the day.

Structures and Key Positions

Participants in this study mentioned other important structures and positions which are crucial in maintaining a balance between the political and administrative interests in Malta. Examples of such positions may be the General Auditor, the Ombudsman, the Commissioner for Standards, the Selection Committee, and the Public Accounts Committee. According to the same participants, these positions and structures contribute to good governance and to a balance between the political and administrative interests.

Regulations and Procedures

According to Kettl, (2019), simply attempting to comprehend the rules and procedures of the civil service system is quite difficult and, in this regard, all interviewees in this study recognised that regulations and procedures are essential. The political side, however, expressed doubt as to where the line of demarcation should lie and as to what extent a government ought to be allowed to operate autonomously.

Another political participant mentioned how sometimes there might be politically desirable decisions, but the administrators apply stringent and limiting restrictions.

Kettl (2019) states that increased accountability, such as additional regulations limiting administrators' authority, may hinder efficiency by creating more barriers. On the other hand, streamlining Government to make it more efficient may result in less accountability on the part of officials. These fundamental problems define the size and role of Government at every step.

Bureaucracy

Most participants maintained that bureaucracy is the cause of drawn-out and inefficient processes. Here is where Politicians get frustrated, especially when they are new and have no experience in public administration rules and procedures. One of the administrative participants stated that the public sector is over-regulated and that the public sector is replete with obstacles when compared to the private sector. For instance, the procurement system and the procedure to recruit new staff were mentioned as the two most highly bureaucratic systems in the Public Sector. On the other hand, all participants agreed that one could not eliminate all bureaucracy because it might very well instigate a laissez-faire attitude that brings about chaos and less productivity with everyone doing as they pleased.

Bala (2017) claims that excessive restrictions add to the red tape and cause action to be delayed. Indeed, while the very bureaucratic rules are designed to promote fairness, competence, and accountability these same rules can ironically prevent quick and effective action on problems and weaken the administration's responsiveness to the public.

Procurement

The Electronic Public Procurement System (EPPS) is the Maltese national platform for e-Procurement (Public Service, 2020), designed and developed specifically for the public service administration to procure supplies, services and works. It covers the entire procurement cycle from, for instance, the notification of call of tender to the fulfilment of the contract. The main benefit of e-Procurement is the reduction of costs and bureaucracy (Bezzina, et al., 2021). Nevertheless, participants argued that much remains to be done.

Recruitment

Most participants also consider the rules and procedures to recruit new employees in the Public Sector as over-regulated. An example of this is that given by one of the administrators who mentioned that according to the current procedure, for instance, the Administrator still had to gather the interviewing board to provide a reason for non-eligibility, even in the event of a non-eligible applicant. Such bureaucratic procedures were time-consuming at the expense of service quality and efficiency.

The procedures that delay the execution of projects and recruitment of employees were the two primary causes for frustration mentioned by politicians.

Accountability

When asked who Administrators should be answerable to, all participants from both political parties responded that Administrators should be answerable to the current government. On the other hand, the Administrators argued that they are primarily responsible to the People and not the Government.

Some administrators mentioned the Government's Budgetary Measures as the measurement of their work and that they are accountable for implementing them on time and must report the progress periodically to the Minister and Cabinet. Furthermore, the employees in the public sector are obliged to be responsible and to administer the law to the best of their abilities, regardless of their personal beliefs. According to Bala (2017), the quality of government work is determined by those persons recruited and kept in the public sector, their devotion to the constitutional, and democratic system, and their respect for administrative responsibility and ethical conduct. The onus of instilling such principles falls upon members of society. It is dependent on family, school, and peer communication. This in turn will contribute to an accountable structure inside our political system.

Malta - Small State

When the researcher asked the participants on how possible it is for the public sector in a small state like Malta to become truly apolitical, no one from the political or administrative side believed that this could ever happen because of the country's history of colonialism, insularity, and familiarity, a culture of favouritism and clientelism, make it extremely difficult for an apolitical, public service to become a reality. These findings contrast and present problematic implications when read through theories as suggested by Snellen (2014).

Effectiveness and Efficiency

According to a study conducted by Ban & Riccucci (2002), the most crucial thing that central and local governments can do to improve the efficiency of their workforce is to enhance the quality of the people they hire.

Participants in this study identified three key aspects that are needed to enhance effectiveness and efficiency in Malta, namely: the need for educational opportunities for the employee; the need for appropriate compensation; and the need for good project management to implement new policies and new projects.

The interviewed Administrators also highlighted technology, meritocracy, agility and better employee wages, whilst the Politicians mentioned meritocracy, better service to citizens and agility of the Public Sector as principal codes to improve effectiveness and efficiency in implementing policies and projects in Malta.

No matter how many layers of accountability policymakers build, the responsiveness and effectiveness of public administration ultimately depend on the ethics of the individual, public administrators (Massey, 2019).

Technology

All participants mentioned the importance of technology in the Public Sector. Technology nowadays is a very influential, distinct aspect that will determine the present and future direction of public service reform in relation to service delivery (Bezzina, et al., 2021).

Although services, efficiency, and effectiveness in the implementation of policies and projects in Malta were recently greatly improved through the introduction of a variety of modern technological systems, one of the Administrators stated that there are still a few outdated work systems that

the Public Sector in Malta is still burdened with.

Meritocracy

The appointment of people in the Malta Civil Service is based on a system of meritocracy. One of the interviewed Administrators stated that the new manuals that the public service uses for recruitment and selection of new Administrators improved the balance for the number of appointees, clearly indicating the positions in which to appoint persons of trust, and positions for which selection ought to be based on a meritocracy.

This is important since for effectiveness and efficiency new recruits need to be qualified and suitable for the job. Hence, whatever political preferences a person might have, if one has the qualifications and ability to do the job, one should be chosen to work for the National Interest. However, if it transpires that the selected person creates difficulty and does not align oneself to the vision of the government in power, then, in that case, the administration of the Civil Service needs to address and solve these problems.

Agility

Neo, B.S. and Chen, G., (2007) state that the future demands a dynamic, flexible, and responsive organisation capable of addressing the confluence of demographic, socio-economic and political change, exacerbated by private sector innovation. Furthermore, agile organisations may transition to a citizen-centric culture that is highly responsive to social demands. Additionally, they can develop dynamic regulatory and compliance frameworks.

One of the administrative participants argued that agility is an essential criterion for the public sector:

"It is like you have to see the opportunities and threats you have, and you would try to turn the latter into opportunities. So, the organisational ability is that you see the changes around you. You try to anticipate them and take action before these changes occur to you."

This aligns with Kettl (2019), who states that success often results from anticipating issues and responding swiftly to eliminate bottlenecks. Another Administrator stated that while agility is important, this must not be fostered at the cost of adherence to law.

Better Service

Both the political and the administrative participants mentioned the importance of better service for citizens. One of the interviewed administrators argued that when a public sector employee has ten files in front of him, it means they have ten people asking for a service and behind these ten people, there are their families. Therefore, the public service should put the citizen at the service centre. Furthermore, the same interviewee argued that the public service needs to create a sense of ownership for all the workers in all grades, operate as a synergised team rather than working in individual styles or in silos.

Remuneration

It was a common thread among the interviewed Administrators and Politicians that the quality of people employed by the Public Sector is paramount. The people selected should merit being in that position and be paid according to their skills. One of the Participants argued that wages are relatively low in the Public Sector in general. Another participant argued that,

"Everyone has their priorities and ambitions, so it is a balancing act that you need to pay attention to constantly. In my opinion, both are very important, because it is not something unspoken of that people want to improve in their earnings."

Local Government

Hague & Harrop (2004) state that Local Councils ought to represent natural communities, be accessible to and represent residents, promote local identities, give a practical education in politics, serve as a recruitment ground for higher positions, operate as the first point of contact for citizens and distribute resources based on specialised expertise. Local governments, on the other hand, have distinct shortcomings. Furthermore, Hague & Harrop (2004) argue that Local Councils are often too small to supply services adequately, lack financial autonomy and are easi-

ly governed by conventional elites (Hague & Harrop, 2004).

Most participants working in Local Councils from both the administration and political sides mentioned Bureaucracy as the most significant barrier to the efficacy of Local Councils. They argued that Local Councils are almost entirely dependent on the Government, or a government entity, for practically whatever they do.

One of the participants argued that if Local Councils were to have better relationship with central government politicians, the Councils may achieve their goals more efficiently since most of the services are required from central government departments. Local governments, at their finest, demonstrate the benefits of limited scales. One of the Administrators argued that Local Councils are the closest organisations to communities and every service in any subject such as elderly people, persons with disabilities, health, sports, culture, youth services, amongst others offered by the Public Sector should be outreached to the communities, rather than leaving them centralised somewhere.

On the other hand, another Administrator involved in Local Government explained that in local councils, the mayor is like the Minister with the difference that,

"The mayor has the secretary who is always with him in his office and if a mayor has a complaint or wants something, the secretary is always there to help, resulting in less bureaucracy and therefore, more efficient to a certain extent."

When asked if the mayors should employ persons of trust in their Local Council, one of the participants stated that appointing persons of trust at such a micro level would result in 'personal supporters' of the Mayor instead of the Local Council.

Conclusion

No major disparities in interests between politicians of both major political parties and bureaucrats in Malta emerged. While it is evident that the main common objectives appear to be the assistance and service to the Maltese people and the nation, the approaches and practices greatly differ.

In line with Bezzina et al., (2021), a tentative definition drawn from this study, regarding the balance between the political interests and the ad-

ministrative interests in Malta, is that:

The right balance is most likely to be reached if politicians and administrators have the required competence, complement one another's abilities, respect each other's opinions, communicate well with each other, and trust one another without hidden agendas.

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03 Work Values of Public and Private Sector Employees on the small island of Gozo

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Abstract

Objectives:

The objective of this research was to assess whether divergences exist in the work values of public and private sector employees working on the island of Gozo. It also investigated whether other external variables such as accessibility impact the work values and career path of Gozitan employees.

Methods:

An attitude survey and four semi-structured interviews were used for data collection. A stratified random sampling technique was utilised since the populations being studied included the public and private sectors in Gozo. To increase dependability, the manufacturing, constructing and agricultural industries within the private sector were not included in the target population. The sample under study was of 420 respondents, of which 53.6% and 46.4% worked in the public and private sector respectively. 14 work values were analysed, and the Cronbach's Alpha test indicated an excellent internal consistency of 0.817.

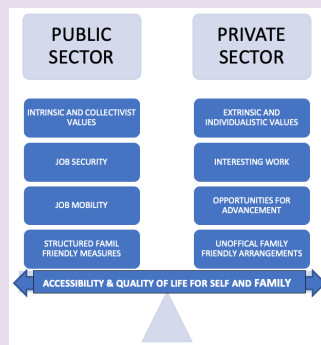
Results:

The findings revealed that work values in the public and private sectors in Gozo do exhibit similarities with mainstream literature. Public sector employees value job security; family-friendly measures; and collectivistic values. Private sector employees value individualist values. On the other hand, and varying from mainstream literature, this research found private sector employees to value interesting work over salary. More importantly, accessibility featured to be the overall vital contributor to changes in public and private sector employee's work values, as well as to their choice of a career path.

Conclusions:

Although similarities between the two work sectors were found, remarkable differences stemming from Gozo's unique island-state geographical characteristics emerged.

Keywords: "public sector", "private sector", "work values", "accessibility", "small-island state"



GRAPHICAL ABSTRACT - CAREER PATHS AND WORK CHOICES IN THE GOZO PUBLIC AND PRIVATE SECTORS

Highlights

1. Extrinsic values have been mostly associated to the private sector and intrinsic values to the public sector.
2. 'Security' as a work value featured as the main work value for Gozitan public employees together with 'added family responsibilities' which also influenced their choice of work sector.
3. 'Interesting work' was identified as a main work value for private sector employees in Gozo.
4. 'Family-friendly measures' were registered as present and important for both public and private sector employees.
5. The collectivist value of contribution to society and working with others ranked higher for public sector employees.
6. Accessibility emerged as the overall vital contributor to changes in public and private sector employee's work values as well as to their choice of career path. The commute and waste of time associated with having to travel for work to Malta is quoted as the major deterrent for Gozitan employees.
7. Gozo's double-insularity attributes to a change in the otherwise 'predicted' work values.

Introduction

The objective of this study was to identify whether differences exist in the work values exhibited between employees working within the public and private work sectors on the island of Gozo and whether these conform to work values identified in previous mainstream studies. This research also explored the influence that Gozo's size and position has on employee work values and career path choices made by its inhabitants.

As an island region, Gozo is the second largest island forming part of the Maltese archipelago, having an estimated population of 33,388 residents (National Statistics Office, 2020). Over the years, studies addressing the major differences between the public and private sectors have ensued however few studies were found which examine and discuss the possible causal relationship between the choice of career path, the island-state, size, and geographical position.

According to O'Toole (1993) the ethos of the public service sees employees placing the public good ahead of personal interests; working with others collectively and anonymously; and resolving different problems with complete integrity. In contrast, people preferring to work in the private sector tend to prioritise profitability, autonomy, and independence (Norris, 2003). The public sector also tends to have more formal employment policies and procedures.

Given the objectives of this study, the author delved into the following research questions and sought to confirm or rebuke the proposed hypotheses:

What are the work values that distinguish the private and the public sector in Gozo? Are these values the same or is there a different and distinct set of values for both sectors? Are Gozo's geographical characteristics causing a shift in Gozitan employee work values?

H1: Compared to public sector employees, private sector employees prioritise the value of pay over the value of security.

H2: Collectivist values are valued by the public sector whereas individualistic values are valued by the private sector.

H3: The work values of Gozitan employees in the public and private sectors are affected by Gozo's

geographical characteristics and this in turn alters their career path choice.

Salary as a work value

Mainstream literature suggests that employees who place a premium on high pay would typically choose to work in the private rather than the public sector (Irum et al., 2012). However, an increasing number of studies demonstrate that public sector employees, even those who are highly motivated to serve the public, still appreciate monetary rewards (Buelens & Van den Broeck, 2007; Wittmer, 1991 cited in Buelens & Van den Broeck, 2007, p.67; Wright, 2001). Such a perception also corresponds to a study conducted by Lewis and Frank (2002, p.398) wherein it was found that employees who ranked high pay as "very important" were found more likely to desire employment within the public rather than the private sector. Other dissimilarities also exist. Gabris and Simo (1995) found no significant differences in a study comparing 20 motivational needs, including monetary rewards. Another study comparing public and private engineers by Crewson's (1997 cited in Rashid & Rashid, 2012, p.26) also came to similar conclusions, finding no discernible variation in the importance placed on high pay.

Job Security as a Work Value

There exist various global studies reflecting how when compared to their private sector colleagues, public sector employees are more affected by job security than income (Torgler, 2011). Employees who are more risk averse than others are therefore more prone to seek work in the public sector (Bellante et al., 1981 cited in Lyons, Duxbury & Higgins, 2006, p.608) which offers "a job for life" (Bossaert & Demke, 2005 cited in Hugree, Penissat & Spire, 2015, p.32). Furthermore, according to data from the European Community Household Panel, public employees are less likely than private sector employees to be laid off (Dieckhoff, 2011). This statement reaffirms that job stability is more likely to be provided in the public sector.

Collectivism vis-à-vis Individualism

Cultural values, such as individualism and collectivism, have a significant impact on employment choice (Brown, 2022, p.48). In the framework of a welfare state, collectivism denotes a focus on the public sector, whereas individualism denotes qualities associated with the private sector (Kosietti, 1987). Several investigations have backed up this theory. Gossett et al. (2016) highlight how students who want to work in the private sector prefer autonomy and meritocracy. Students who espouse collectivist values are more likely to pursue a career in the public sector since according to Ng and Burke (2010) such values are consistent with public service motives (Perry and Wise, 1990 cited in Gabris & Simo, 1995, p.40). This includes high moral obligation and protection for others. It is also suggested that public sector employees are more inclined to emphasize community-building (Gossett et al., 2016) since employees within the civil service view their jobs as “useful to society” and “enabling them to help others” (John & Johnson, 2008 cited in Hugree, Penissat & Spire, 2015, p.10).

Gozo and its Geographical Characteristics

Small-island states are identified as “peripheries subordinated to mainland cores” (Weaver, 2016, p. 3), with one of the definitions of “periphery” being a location that is geographically isolated from other centers and core populations (Chapron & Theuma, 2015, p.51). Lying offshore to the mainland of Malta, the island of Gozo is both geographically and economically peripheral to Malta. This posits Gozo on the periphery of the periphery, and thus it also faces especially difficult core-periphery relations.

Although location is considered as having little impact in career conceptions, with individuals being seen as being able to overcome spatial limits by travelling between locations domestically and globally, some research has revealed that geographic location has a significant impact on career path decisions in a variety of ways (Duffy & Dik, 2009). When companies are looking to hire and recruit talented employees, a logical question to ask in the absence of such employees would be ‘What is restricting employees to apply for the position?’ Most recruiting professionals would typically identify elements such as insufficient salary when compared to expectations, no or low benefits, and an employer reputation of some concern, as restricting employees from applying for a position. However, according to Sullivan (2011), the geographical factor supersedes

all other factors in importance or in priority, in decision-making, and is constantly being overlooked. Sullivan (2011) continues to state that commuting difficulties, as well as unwillingness to re-locate due to incurred costs, living preferences and family issues, are all reasons which see employees opting to work in environments which are more prone to allow remote working and offer flexibility at the workplace.

The Malta National Statistics Office (2021) reflects that currently, approximately one out of every five employed Gozitans commute to Malta by ferry for work. According to the Association of Gozitan Employees in Malta, apart from wasting time, Gozitans’ commuting to Malta daily also incur significant travelling expenses (Borg, 2017). Moreover, with an absence of a fixed link between the islands, issues relating to transport predominantly feature in the Gozitan culture and provide Gozitans with higher constraints when compared to their Maltese counterparts (Briguglio, 2002). Decisions on career choices which are uninfluenced by common constraints such as extra economic costs, wasted travelling time, stress on mental health and well-being, and family separation are very rare, if not, non-existent.

Methodology

To investigate the research questions and test the hypotheses mentioned above, a mixed-methods approach was undertaken. This is depicted in Figure 1 below.

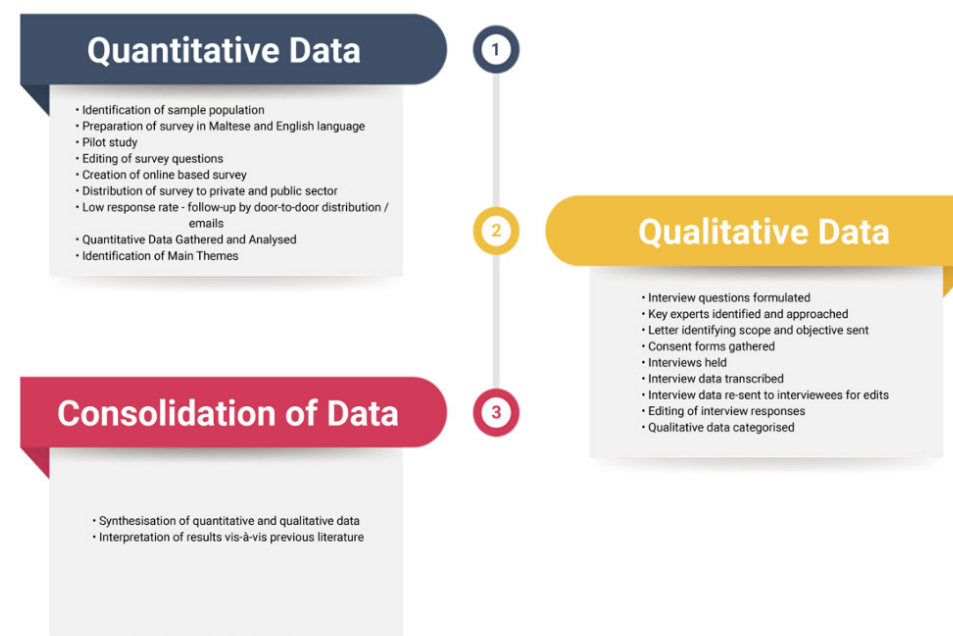


Figure 1: Mixed Methodology Data Collection Method and Strategy

Data was collected via an attitude survey and four semi-structured interviews. The data collection tools were prepared in both the English and Maltese languages, to ensure a higher response rate.

In order to obtain a sample population that best represents the demographic cohort under investigation being studied, a stratified random sampling technique was utilised since the populations under study included two separate strata, i.e. the public and private sectors in Gozo. To increase dependability, the manufacturing, constructing and agricultural industries within the private sector were omitted for the scope of this study.

Using an online sample size calculator, 350 surveys were distributed to the public sector while 365 were distributed to the private sector. Calculations included a 95% confidence level and a 5% confidence level. Since 20% of people invited through random sampling were expected to respond, in order to counteract the margin of error, 500 respondents from each sector were invited to participate to increase the response rate. Dis-

tribution of surveys was done via email using a web-based survey program to increase efficiency, reliability and survey clarity. Web-based surveys also gave the participants the possibility to automatically skip unrelated questions, thus shortening survey completion time. After the one-month time frame had elapsed, the researcher gathered survey responses.

The gross response rate was that of 480 surveys. 20 respondents were immediately disqualified and deducted since they lived in Malta. Another 40 surveys were incomplete and therefore also removed from the study. Hence a net of 420 surveys remained, with 225 respondents coming from the public sector and the remaining 195 coming from the private sector.

To better understand the data responses gathered quantitatively, a qualitative perspective was also included. Using expert sampling, four key informants coming from the private and public sectors were chosen. These were the Permanent Secretary for the Ministry for Gozo (Participant PS); a Senior Lecturer within the Faculty of Economics, Management and Accountancy, Institute of the University of Malta (Participant UOM); the President at the Gozo Business Chamber (GBC); and the Chief Executive Officer at the Gozo Regional Development Authority (Participant GRDA). 40-minutes semi-structured interviews were held to address and to discuss certain factors which surfaced after the surveys' analysis, as well as to highlight potential new areas of interest.

All quantitative data was categorised and analysed using SPSS, and several tests were conducted to assess data validity and reliability.

These included the chi-square test, Cronbach's Alpha test, the Mann-Whitney U Test, and the Shapiro-Wilk Test.

To assess the qualitative data gathered via the semi-structured interviews, consented recordings were conducted and transcribed. The researcher had already previously identified patterns that had emerged from the quantitative data. Hence a process of systematic searching and arranging of transcript data using categories and themes ensued (Table 1).

Finally, the data obtained was synthesised to interpret the meanings extracted, as well as to prove the proposed research hypothesis or to negate or leave it as undecided.

Themes and Sub-Themes	
1. Identifying work values	Main values for employees in the public sector
	Main values for employees in the private sector
	Discrepancies in work values - public vs private sector
2. Prioritising work values and impact on job choice	Perception of job security
	Values of 'interesting job' and 'job satisfaction'
	Value of 'job salary'
3. Work Culture/s in the public and private sector	Family-friendly measures
	Collectivist work culture vs individualistic work culture
4. Geolocation and career path	Value of 'accessibility'
	Commuting time
	Family time
	Demographic impact on job choice

Table 1 - Reliability statistics for Work values

Results

The sample under study comprised 420 respondents, of which 53.6% and 46.4% worked in the public and private sector respectively. 14 work values were analysed, and the Cronbach's Alpha

test indicated an excellent internal consistency of 0.817 (Table 2)

Alpha	N of Items
.817	14

Table 2 - Reliability statistics for Work values

A mean rating score was generated by averaging the rating scores of each statement of all respondents distributed by the work sector they

work in, and each item was rated on a 5-point Likert scale.

Comparing Work Values

While investigating the differences between the work values of the private and public sectors, it was found that there was a marked difference with regards to the following values: being able

to work independently, family-friendly measures, secure work, and contribution to society. It is also worth noting that for both sectors neither 'salary' nor 'being creative' were marked as important work values (Table 3 and Table 4).

In which sector do you currently work? Public

	Mean	Standard Deviation	95.0% Lower CL for Mean	95.0% Upper CL for Mean
Being creative	3.57	1.13	3.42	3.73
Decision-making power	3.31	1.10	3.16	3.46
Having a high salary	3.65	1.09	3.50	3.80
Good human relations with supervisors	4.15	1.02	4.01	4.29
Opportunities for advancement	3.81	1.08	3.66	3.96
Achieving work goals	4.07	.94	3.94	4.20
Being active/busy at work	4.06	.91	3.94	4.19
Interesting work	4.23	.93	4.11	4.36
Being able to work independently	3.69	1.12	3.53	3.84
Family-friendly measures	4.08	1.17	3.92	4.24
Work is secure	4.56	.81	4.44	4.67
Work is varied	3.88	1.01	3.74	4.02
To contribute to society	3.89	1.07	3.74	4.04
Working with others and in teams	4.00	.97	3.87	4.14

Table 3 - Mean rating scores of work values of respondents working with the public sector

In which sector do you currently work? Private

	Mean	Standard Deviation	95.0% Lower CL for Mean	95.0% Upper CL for Mean
Being creative	3.79	1.08	3.62	3.95
Decision-making power	3.87	1.10	3.70	4.04
Having a high salary	3.82	.98	3.67	3.96
Good human relations with supervisors	3.92	1.26	3.72	4.11
Opportunities for advancement	4.02	1.11	3.85	4.19
Achieving work goals	4.28	.90	4.14	4.42
Being active/busy at work	4.33	.73	4.22	4.44
Interesting work	4.58	.74	4.47	4.70
Being able to work independently	4.20	.99	4.05	4.35
Family-friendly measures	3.73	1.39	3.52	3.94
Work is secure	3.88	1.26	3.68	4.07
Work is varied	3.96	1.00	3.81	4.12
To contribute to society	3.52	1.24	3.34	3.71
Working with others and in teams	3.79	1.21	3.60	3.97

Table 4 - Mean rating scores of work values of respondents working with the private sector

Accessibility and Work Values

Survey questions relating to accessibility and the influence of location on the decision-making process of workplace selection were posed. To ascertain why respondents started to work in Gozo, data was gathered to see how many respondents had previously worked in Malta and shifted ca-

reers or/and transferred to Gozo due to location. The Chi-square test revealed that a statistically significant relationship between working in Malta and work sector ($X^2(1) = 41.745, p < 0.0005$) (Table 5) exists.

		In which sector do you currently work?			
		Public	Private	Total	
Have you ever worked in Malta?	Yes	Count	165	81	246
		% within In which sector do you currently work?	81.3%	49.4%	67.0%
	No	Count	38	83	121
		% within In which sector do you currently work?	18.7%	50.6%	33.0%
Total		Count	203	164	367
		% within In which sector do you currently work?	100.0%	100.0%	100.0%

Table 5 - Comparison between working in Malta and work sector (Public/Private)
 $X^2(1) = 41.745, p < 0.0005$

The majority of the 246 respondents who claimed to have previously worked in Malta stated that they shifted to work in Gozo to reduce commuting time (84.2% of respondents who work in public sector as compared with 77.9% of private sector workers) and to spend more time with their families (69.9% of respondents who work in public sector as compared with 77.9% of private

sector workers). Several respondents stated that the reason why they chose and decided to work on Gozo was that they needed to look after their children (32.9% public workers compared with 20.6% of private sector workers). Another small proportion of respondents mentioned Job Security and better salary opportunities as their reasons for choosing to work in Gozo (Table 6).

		In which sector do you currently work?			
		Public	Private	Total	
Reasons for starting working in Gozo ^a	Job security	Count	7	3	10
		% within Q8	4.8%	4.4%	
	Better pay package	Count	2	5	7
		% within Q8	1.4%	7.4%	
	Less commuting time	Count	123	53	176
		% within Q8	84.2%	77.9%	
	Spend more time with the family	Count	102	53	155
		% within Q8	69.9%	77.9%	
	To look after children	Count	48	14	62
		% within Q8	32.9%	20.6%	
Total		Count	146	68	214

Percentages and totals are based on respondents.
 a. Group

Table 6 - Reasons for starting to work in Gozo compared with work sector (Public/Private)

This analysis shows that the values among those who choose to work in Gozo do not vary independently of the sector. The prevalence of a higher rate of Gozitans in the public sector who would have worked in Malta prior to working in Gozo may be attributed to the fact that those who work in the public sector are generally able

to transfer to Gozo at some point if they decide to do so. This means that when it comes to the work values associated with 'accessibility' these are the same in both sectors among the working population on the island.

Figure 2 below further depicts the importance of accessibility when compared to the other work values as held by the respondents. It is evident that in the case of public as well as private em-

ployees, Accessibility is at the forefront of influencing values. Percentages and totals are based on the number of respondents who answered.

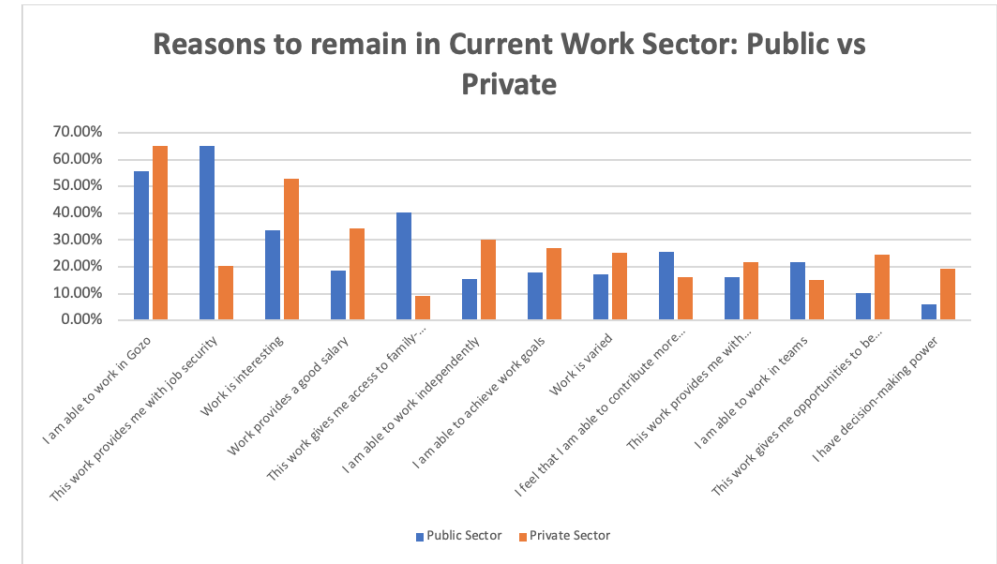


Figure 2 - Public vs Private Sector differences in reasons for remaining in the current sector

Revisiting the Hypotheses

H1: Compared to public sector employees, private sector employees prioritise value of pay over value of security.

0.005) for interesting work.

H2: Collectivist values are valued by the public sector whereas individualistic values are valued by the private sector.

Public sector employees value security – Hypothesis is retained.

There is a significant difference in the distribution of the rating scores between public and private sectors ($U = 11803, z = -5.869, p < 0.005$) when it comes to Work Security, which appears to be more important for respondents working in the Public Sector than for those working in the Private Sector.

Individualistic values are valued by private sector employees – Hypothesis is retained

Being able to work independently - there is a significant difference in the distribution of the rating scores between public and private sectors ($U = 21928.5, z = 4.771, p < 0.005$). Being able to work independently for respondents working in the private sector is more likely to be important than for respondents who work in the public sector.

Private sector employees value having a high salary – Hypothesis is rejected.

There is no significant difference in the distribution of the rating scores between public and private sectors ($U = 18511.5, z = 1.302, p = 0.193$) when it comes to high salaries. Consequently, data registered a significant difference in the distribution of the rating scores between public and private sectors ($U = 20970.5, z = 4.105, p <$

Collectivist values are valued by public sector employees – Hypothesis is retained

Although there is no significant difference in the distribution of the rating scores between public and private sectors ($U = 14529.5$, $z = -1.309$, $p = 0.191$) when it comes to working with others and in teams, there is a significant difference in the distribution of the rating scores between public and private sectors ($U = 14357.5$, $z = -2.871$, $p = 0.004$) when it comes to contributing to society. Hence contribution to society for respondents working in the public sector is more likely to be important than for respondents who work in the private sector.

H3: The work values of Gozitan employees in public and private sectors are affected by Gozo's

Discussion

The aim of the paper is to identify the work values of employees within private and public sectors and to observe whether a distinct set of values for both sectors exists. To this end, the research also sought to investigate whether Gozo's unique geographical characteristics could influence the Gozitan employee work values.

The mixed-methodology design revealed how there are marked differences between public and private sector employees with regards to values such as secure work, being able to work independently, family-friendly measures and contribution to society. Salaries and creativity were not highly rated as work values for both demographics.

Job security as a work value

Unlike the research findings by Karl and Sutton (1998) wherein no difference in job security was found to exist between the different work sectors, this research found that public sector employees placed a much higher emphasis on job security (9%) than employees within the private sector (4%). Job security also ranked first out of the thirteen work values employees within the public sector in Gozo were asked to score.

Key expert Participant GRDA explained that the risk aversion of Gozitans is also higher than that of the Maltese, and this tends to see employees lean more towards public sector jobs due to the added 'security' value given. This is also consist-

geographical characteristics and this in turn alters their career path choice – Hypothesis is retained.

Employees in both public and private sectors attribute high value to finding work and being employed in Gozo. There is no discrepancy based on the sector.

Employees who were previously employed in Malta who opted to change job and/or sector to reduce time spent commuting amounted to 84.2% of Public Sector employee respondents and 77.9% of Private Sector employee respondents.

ent with studies which assert that public employees are less likely than private sector employees to be laid off (European Commission, 2007), as well as to reports which state that there is a higher dismissal and redundancy rate within the private sector (Gossett et al., 2016). GBC concurs and adds that the Gozitan mentality has remained quite consistent with the times. In fact, according to him, this was highlighted during the COVID pandemic with many an employee switching jobs from the private to the public sector. Such actions were confirmed by Finance Minister Clyde Caruana who stated that the recent trends of private sector employees in Gozo moving on to public sector employment was 'worrying' for the government (Business Today, 2021).

Nonetheless, in his interview Participant PS claimed that job security is more likely to be cherished by the older demographic since up until twenty years ago, a job within the public sector in Malta was seen as a 'job for life'. Such a statement corroborates with the demographic quantitative analyses conducted, as well as with international research (Maciag, 2013), wherein respondents aged 45 and older were seen to be more likely to opt for a career within the public sector.

Individualism and Collectivism

The quantitative analysis depicted 'being active/busy at work', 'achieving work goals', and 'opportunities for advancement' among the top 6 work values for private sector employees. The value of 'opportunities for advancement' showed a significant difference in the distribution of the rating scores recorded, with respondents from the private sector reporting this to be much more important a value than for employees within the public sector (mean rating of 4.02 and 3.81 respectively). Interviewees reported that since individualistic cultures focus more on values of autonomy, self-sufficiency, uniqueness, and independence, it is thus more likely for those employees who value 'reward' to be career-driven and ambitious, to join the private rather than the public sector. Participant GBC pointed out that collectivist values, on the other hand, are valued by public sector employee since they are perceived to hold back that group of employees who value career-growth and advancement.

In fact, a recurrent theme emerging during the interviews showed the private sector in Gozo to value 'pay-for-performance' and 'retention schemes'. Such structures contribute towards a more flexible human resource management approach to help motivate, reward and support employees. In contrast, Expert Participants UOM and GRD argue that the rigid public administration pay system is that mechanism which continues to hinder the public sector employee from career advancement. Such a perspective was also emphasised in a report by the European Commission (2011) wherein it urged EU public administration to shift from the commonly used measurement-centred approach towards a more context-centred one, to incorporate elements of reward, recruitment, motivation, and the cultivation of the working environment.

A significant difference in the distribution of the rating scores between public and private sectors was also marked with regards to the value of 'contributing to society', with public sector employees reporting having a higher-moral obligation when compared to their private sector counterparts. Participant UOM stated that with Gozo being a smaller community, 'where everyone knows everyone', it is in fact quite a common practice for the Gozitan to communicate and connect directly with Gozitan public servants when looking for immediate and reliable public service assistance, since this type of familiari-

ty renders the ease of the collectivism and also serves to promote a feeling of being valuable to society for the the public employee.

Salary and Interesting Work

Remuneration as a work value ranked in the 'least important value' category for both work sectors. Interviewees expressed their surprise with the result garnered since they expected salary to rank quite highly for private sector workers in Gozo. An explanation was however given by Participant UOM who argued that if an employees' first choice was a high salary, then it would be more probable for that employee to seek employment in Malta since job opportunities are greater and wages are higher. This is also corroborated by Malta NSO (2021) Statistics.

'Interesting work' as a work value ranked highest for private sector employees and second highest for public sector employees. As per already existing literature on the topic (Abuhashesh et al., 2019), interviewee GBC asserts that such a result shows how employees today are searching for overall job satisfaction and contentment, with Participant PS highlighting that this proves that "a high salary is not everything". Participants PS and GRDA also assert how job mobility within the public sector increases employee motivation and productivity through the avoidance of monotony since public sector employment offers a varied and interesting array of fields and areas one could work in.

Family-Friendly Measures

The results of this study have shown that although it is public sector employees who are more likely to seek family-friendly measures when choosing a new career path, this does not by any means preclude employees within the private sector from valuing these measures. In fact, the survey conducted showed both public and private employees in Gozo to utilise such measures when provided at their workplace.

Participant PS believes that the public sector is able to offer more family-friendly measures to its employees due to it not being a 'profit-making organisation' and is thus able to take a more 'empathic' stance towards its employees. Experts hailing from the private sector also assert that it is a misconception that only the public sector offers family-friendly measures to its employees. However, due to it being a macro-organisation, the public sector is better equipped with the financial and human resources to invest and publicize such policies (Kim & Wiggings, 2011; O'Brien, 2012). Private companies in Gozo are, on the other hand, much smaller than those found in Malta, with statistics reporting 3,800 micro companies (0 to 9 employees), 127 small companies (10 to 49 employees) and only 14 medium-sized companies (50 to 249 companies) (Malta National Statistics Office, 2022). Consequently, due to a lack of resources, as well as with most of the micro-companies being family-run, not all of them are able to afford to invest in such official policies (Grech, 2016 as cited in Magrin, 2016, p. 20). Hence unofficial arrangements are often used by the private sector to offer support to employees as well as to build relationships of trust and loyalty (Participant GBC, 2022).

Accessibility

This study confirms accessibility to be a common yet vital element for employees in both the private and public sector, with 55% of public sector employees and 65% of private sector employees, ranking 'working in Gozo' to be the most important work value for them. Moreover, survey statistics reflect how 84.2% of respondents from public sector employees and 77.9% of respondents from the private sector previously employed

Conclusions

Research on work values has established that there exist specific links to extrinsic and intrinsic work values according to work sectors. Extrinsic values have been mostly associated to the private sector and intrinsic values to the public sector. Whilst the objectives of this study were to identify whether the same work values apply to employees in the public and private sectors of Gozo, the role of the unique geographical characteristics of the small island of Gozo in determining one's career choice was also analysed.

in Malta changed their job and/or sector to avoid the commuting time.

Experts assert that a career path by choice is made much more difficult for Gozitans due to Gozo's unique geographical characteristics. To quote Expert Participant PS, "Gozitans say *tiela* Malta even though geographically Gozitans are actually *nežlin*. The literal meaning would therefore represent 'going up a hill', a kind of suffering of sorts". Thus, due to additional variables, such as extra-economic expenses, lost travel time, mental health, well-being, and family separation, sees their choice of a career path having to be put aside to accommodate more pressing variables.

With regards to individuals opting to work from Gozo, Participant GRDA also identifies age to be a determining variable, since commuting daily to and from Malta is a strenuous activity which senior employees might not have the physical capacity to endure (Participants GRDA & UOM).

It is also maintained that the older employees would most likely have more family responsibilities and commitments, and thus no longer have the ambition or career-drive associated with the younger generations. Such added family responsibilities would see them seeking more time to be close to the family, especially with the family tradition being much stronger in Gozo (Formosa, 2017). Nonetheless, experts in this study believe that although Gozitan families tend to be more closely-knit and extended, the commute would not be the only impediment to changing one's work values, but it would invariably include a more holistic look at the quality of life being sought.

Security as a work value remained consistent with literature, and in fact features as the main work value for Gozitan public employees. 'Promising a job for life' when considering the lack of job opportunities in Gozo is seen to be top priority for senior employees in Gozo who also quote 'added family responsibilities' to factor in their choice of work sector.

'Family-friendly measures' were also registered as a key component for public sector workers, with local public administration promulgating such measures to grant employees a work-life balance. However, contrary to previous literature and local public opinion, the private sector also offers such measures to their employees, albeit in an informal manner. Indeed, the quantitative aspect of this study identifies private sector employees to also utilise such measures.

In contrast to public sector employees who value security as their most valuable work value, and contrary to literature quoting 'salary' to be the variable which dictates the choice of private sector employment, employees in the private sector in Gozo are seen to mostly value 'interesting work'. This notwithstanding, employees from the public sector in Gozo also identified 'interesting work' to be among their top work values.

However, research portrays the value of interesting work to be mostly associated with the more enthusiastic and motivated employee, which research generally identifies as being associated with private sector employees. Such a finding is further corroborated by this study, with private sector employees being observed to also highly value being active/busy at work, achieving work goals and seeking opportunities for further career advancement.

The collectivist value of contribution to society and working with others ranked higher for public sector employees. Such values therefore brand public sector employees as not only having a higher-social obligation towards the community they serve, but as also being more interdependent and less prone to decision-making than private sector employees.

Finally, accessibility emerged as the overall vital contributor to changes in public and private sector employee's work values as well as to their choice of career path. The commute and waste of time associated with having to travel for work to Malta is quoted as the major deterrent for Gozitan employees. This is further explained by the high percentage of employees who although having previously worked in Malta opted to change careers, even at the cost of a lower salary, to avoid the time-consuming and exhausting commute.

Although some work values stay true to previous research on the subject, divergences between public and private work values do exist. It has

also been asserted that Gozo's double-insularity attributes to a change in the otherwise 'predicted' work values. However, although specific work values are also seen to be attributed to specific work sectors in Gozo, one must view the study holistically since individuals deciding to change job location and/or career would be looking not at one but a network of variables, to seek what they consider to be a better quality of life for themselves and their family.

Recommendations

Today's modern world necessitates workplaces that are dynamic which foster a motivated and engaged workforce. The implementation of clearly defined organisational mission statements and core values provide direction for employees and enable organisations to recruit candidates who are a good fit for the company. Also, since each workplace is unique in terms of needs, private and public organisations should prioritise a "needs" assessment prior to implementing policies and practices.

Well-written policies are a fundamental element for private and public sectors in Gozo in providing the needed supportive work cultures. Apart from imparting trust, fairness, and inclusion, they also impact on employee motivation, organisation reputation and the ability to attract and retain talent.

Hence it is recommended that the private sector in Gozo focuses on strengthening family-friendly measures. Taking into consideration the strong family culture in Gozo, such an understanding could possibly attract more workers to join the private workforce if such support exists. On the other hand, the public sector needs to re-visit its retention and reward policies since employees within the public sector in Gozo seem to excessively focus on job security.

Management also needs to ensure that an effective performance appraisal tool is in place to continually assess and provide feedback on the quantity and quality of employee's job performance as well as any shifts in work values to better understand work-situations and employee behavioural changes. This would enable managers to evaluate the effectiveness of the organisation's selection and placement functions, in addition to identifying areas in which employees lack critical skills for either immediate or further performance.

With accessibility being cited as a major contributor to a shift in work values and career path decisions, public and private sectors need to work together to provide more job opportunities in Gozo. More private companies can offer work-from-home, more child-care centres can be opened in Gozo and the Government could offer further incentives to private companies in Malta (such as subsidised transport) to aid with employee retention and travel costs.

Scope for Further Study

With the passing of time, a change in demographics is generating a different labour market: a market which is comprised of more generations

having to co-exist and work together. Changes in work values and working styles are thus inevitable, now as well as in the future. Thus, conducting a similar study over the next five years would prove an interesting investigation in the understanding of this multigenerational workforce and any impact it may have due to technological, generational, and social shifts. These past few years have seen, for example, more younger generations in Gozo opting to permanently move and settle in Malta. This is due to a number of factors such as there being more job opportunities in Malta and people moving to reduce commute-time. Insights as to the impact such a trend has on work values in the future would be a meaningful tool to navigate and understand challenges which lay ahead for the working community of Gozo.

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04 The Governability of the Regionalisation of Waste Management in Malta

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Abstract

Objectives:

One of the changes presented with the Reform of the Maltese Local Government of 2019 noted that as from 2022, the regional councils will be responsible for the collection of waste from the localities within each respective region. Nevertheless, at the time of publication of this paper, such change was yet to be implemented and the tendering procedure was being prolonged. In view of the above and the limited information present pertaining to such reform, this paper presents an analysis on how different stakeholders see this change being implemented whilst highlighting how the regionalisation of waste management would be governed through a financial and an operational perspective. In addition, the paper defines the extent of the regionalisation being adopted and explains whether the responsibility of the collection of waste will be shifted to the regional councils in its entirety. The paper, then, presents the benefits that can be associated with such change and also delves into the issues and challenges that can be associated with the regionalisation and gives meaning to the scepticism surrounding the concept.

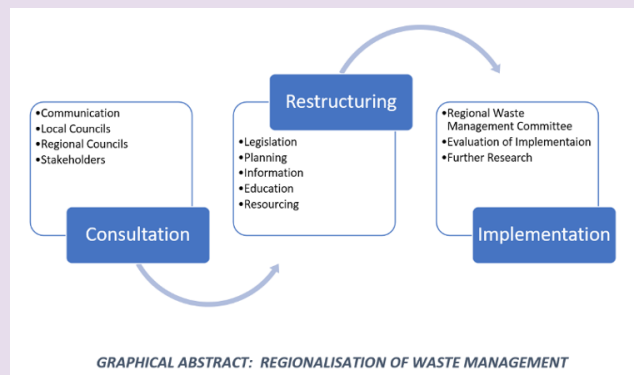
Methods:

Since the regionalisation of waste management in Malta is a concept that is yet to be implemented, the paper is based on inductive research that was conducted, where the answers to the research questions were gathered by qualitative data gathering tools, including the execution of interviews with all the relevant stakeholders of the sector being analysed.

Results:

Further to the information provided as per above, the paper notes that amongst several other factors, the regionalisation needs to be implemented following a clear agreement and understanding on how such change will be executed between all stakeholders involved. Such processes and procedures must also be substantiated with a change in the legislation which would clearly define the roles and obligations of each stakeholder.

Keywords: "Regionalisation", "waste management", "local councils", "regional councils", "economies of scale", "collaboration".



Highlights

1. The research investigates a change about to be implemented in Malta, where the collection of waste would become regionalised with each region managing the collection of waste from the localities making up the region.
2. The research concludes that the regionalisation needs to be implemented further to a clear agreement and understanding on how such change will be executed between all stakeholders involved.
3. The principle of cooperation and collaboration is key for the success of the changes being discussed.
4. The timing of the implementation of the regionalisation of waste collection needs to be delayed enough to ensure that the challenges noted in the study may inform implementation, in order to mitigate the risk of failure.

Abbreviations

CEO: Chief Executive Officer
CRM: Customer Relationship Management
EPR: Extended Producer Responsibility
ERA: Environment and Resources Authority
EU: European Union
LCA: Local Council's Association
LGD: Local Government Division (within the MHAL)
MECP: Ministry for The Environment, Climate Change and Planning
MHAL: Ministry for The National Heritage, The Arts and Local councils
MSDEC: Ministry for Sustainable Development, Environment and Climate Change
PRO: Producer Responsibility Organisation
RCV: Refuse Collection Vehicle
WSM: Wasteserv Malta

Introduction

In October 2018 the Maltese Government, initiated a consultation process which, as noted in the white Paper pertaining to the reform, aimed at reforming and strengthening local and regional councils. Such process was launched as part of the twenty-fifth anniversary since the establishment of Local Councils. Further to the closure of the consultation process, Act No. XIV of 2019 was published and the changes put forward were implemented following the local council elections, which took place on the 25th May 2019, when the newly elected councillors took office on the 1st July of the same year.

Prior to the publication of Act No. XIV of 2019, the regional councils, that were set up in the previous reform of 2009, were referred to as Regional Committees having very limited authority and functions. Further to the reform of 2019, the regional committees were transformed into regional councils and were given more relevance within the Local Government domain. In fact, with such reform, regional councils were given new specific roles and responsibilities, as well as the necessary tools and resources to carry out these functions. One of the new functions listed in the Local Government Act (Chapter 363 of the Laws of Malta) that will eventually be passed on to each regional council as part of the latest reform, is the responsibility of the collection of waste for the whole respective region, as per Article 37B of the Act which states that:

The functions of regional councils shall be the following: the issuance of a call for tenders for the service to local councils within them for waste management and this shall come into effect from the year 2022, and this without

prejudice to the functions of the local councils in terms of article 33(1)(b).

Ever since their establishment, local councils were individually responsible for the collection of waste from their locality, and with the change presented, the collection of waste would become regionalised with each region managing the collection of waste for the respective localities making up the region. This will see the eventual termination of sixty-eight contracts for the collection of waste, that is one for each council, and the issuance of six new contracts, one for each region. The composition of the regions was also changed in the beginning of 2022 with another region being added to the previous five following the same reform of 2019.

The regionalisation of waste management in Malta started being discussed over the past recent years as the Waste Management Plan for the Maltese Islands 2014-2020 noted that the sector needed an upgrade in its operations which should aim at improving economies of scale by addressing waste management from a regional perspective, rather than a local council one, to enhance management practices (MSDEC, 2014). The report continues to note that such regionalisation is likely to lower costs due to the aggregated collection system which in turn would assist waste collectors to invest these savings to improve on their resources. In recent years the concept was further analysed, in the Local Regions Reform document presented by the Local Council's Association in 2017 which refers to the management of waste as one of the principal functions that should be tackled by the regions.

In addition to local reports, the European Commission, in its Roadmap for Waste Management, refers to the regionalisation of waste management as one of the measures that needs to be adopted to assist Malta in reaching its waste recovery and recycling targets. In fact, the Commission had given its recommendation to the Maltese Government to move to a regionalised model of waste collection by 2018 (European Union, 2016). With reference to the Local Government Reform referred to previously, and further to the publication of previous Waste Management Plans, in December 2020, the Ministry for the Environment, Climate Change and Planning (MECP) published its Long-Term Waste Management Plan 2021-2030, which includes the regionalisation of waste management as one of the principal measures to be implemented, a measure that is seen as a means to lead to an improvement in the country's performance in waste management (MSDEC, 2014).

Methodology

This paper is based on exploratory research that was conducted to investigate how the regionalisation of waste collection could eventually be governed from a financial and an operational perspective. The study conducted was an inductive one since it has analysed a reform that is yet to be implemented. Such approach is also referred to as exploratory since the researcher was exploring a concept or idea which is new.

In fact, Saunders et al. (2007) note that exploratory research is conducted when a problem has not been clearly defined and there is limited knowledge about a particular situation or phenomenon. Boru (2018) maintains that exploratory research aims at finding causes and reasons whilst providing evidence for or against a present explanation or a prediction. Since the subject being discussed is based on unknown or undefined methods on how the regionalisation will be implemented, the research has asked several HOW and WHY questions (Grey, 2014) that have assisted in providing explanations relating to different aspects in relation to the regionalisation of waste collections. As an inductive research study, while this investigation aims at providing answers to the research questions, it does not aspire to provide final conclusions on the subject matter. Nevertheless, different findings and conclusions provide good opportunity for further investigation and analysis.

Although in the latest Waste Management Plan, the MECP presents several scenarios related to the methods that can be adopted for the regional collection of waste, it does not delve into the management of the regionalisation from a local and regional perspective. In fact, this paper aims at providing the relevant details and information to assist one to understand how the regionalisation of waste management will be governed. This will eventually highlight the level and extent of the regionalisation to be implemented. Further to such concept, the paper seeks to highlight how the regionalisation will be an element that can assist in improving the Nation's performance in recycling and waste recovery. This paper also discusses the benefits and challenges that can exist through the regionalised model whilst highlighting what economies of scale can be experienced with such change.

Information for this study was collected by using qualitative data gathering tools, namely interviews. Pullin (2014) states that qualitative data gathering tools assist in the interpretation of data through the creative approach of asking questions, which then identify patterns to analyse experiences. Hence Data collection did not rely on a set of determined questions and "forced-choice responses" (Jackson et al. (2007 p. 23) but was dependent on the comprehensive and detailed replies of those participating in the study. This generated much more detailed information for the researcher to answer the research questions.

Interviews were conducted with relevant stakeholders from the sector being studied. Participants were selected to assist the researcher in answering the research questions and while an effort was made to choose the right sample, special care was taken to ensure that the identified "phenomenon [is studied] in its natural setting" (Kalu & Bwalya, 2017 p.47). The rationale followed in the selection of the sample revolved around involving as many stakeholders as possible to ensure participant triangulation and enhance the validity and reliability of the data. Figure 1 depicts all the identified stakeholders.



Figure 1: List of Stakeholders

The stakeholders interviewed included principal entities responsible for the policy relating to the collection of waste being the MECP and the Local Government Division (LGD) within the Ministry for National Heritage, the Arts and Local Government (MHAL). Other governmental entities that were interviewed due to their role within the sector, include the Environment and Resources Authority (ERA) and WasteServ (WSM). Such change would drastically affect local councils, regional councils and the Waste collectors and thus, the researcher interviewed Mayors, Presidents of the regions, contractors and the President of the Association for local councils (LCA). The sample was further enhanced with interviews conducted with a representative from a local Packaging Recycling Scheme (PRO) and a representative from a European Waste Agency.

The interviews followed the semi-structured approach which allowed the researcher the required flexibility to add questions and alter the interview structure according to the information that was being provided by the interviewees. Once the interviews were concluded, the researcher then proceeded with the analysis of the data which at first included the process of reading through the transcripts whilst highlighting any keywords relating to the research objectives and research ques-

tions. Once this process was concluded, the interviews were all primarily coded using the QDA Miner Lite computer software. Such software enabled the researcher to code different parts of the interviews according to the keywords selected in the first phase of analysis. The keywords were then grouped into seven different themes. The software was also used to present a thorough analysis of the codes and themes which were then translated into a spreadsheet. Such tables were used to effectively organize the information.

After concluding the primary coding, the secondary coding phase was initiated, where the interviewees' names were deleted unless they held a public or particular office, and the keywords were grouped. Once this process was concluded a detailed presentation of the findings was presented through the software which assisted the researcher to further analyse the data and highlight any relationships between different codes. In fact, throughout this phase of data analysis, the researcher was able to identify patterns, common rationalisation, and other relationships. Axcel coding was then used to group information from different categories. This process is defined by O' Connor and Gibson (2003) as the building of overarching themes in data where different categories can be grouped in one main category.

Once the data collected was analysed, it was further structured to assist in answering the research questions of this study and thus reach the research objectives. At this stage, the researcher ensured that the data analysis was valid and reliable.

Results and Discussion

The issuance of a regional tender for the collection of waste was one of the principal changes put forward through the reform of local councils of 2019. The Director MECP notes that such legislation clearly described the newly defined roles of regional councils and brings to reality what was being discussed as from 2017. Further to the interviews conducted with all the relevant stakeholders the elements below pertaining to waste management regionalisation could be noted.

The implementation and management of the regionalisation

Findings in the research indicate that the regionalisation of waste management will be achieved through the issuance of a regional tender by each of the six regions to cover their respective localities. The issuance of such tender is being considered as the first step that could further lead to initiatives related to the management of waste to be tackled within the region.

From a financial perspective, the research notes that the local councils will still be receiving the allocation for the collection of waste which they are presently receiving from central government. This will then be forwarded to the regional council who will in turn pay the contractor. The local councils will also pay for their respective tipping fees but at the time of the study, the methods on how such payments will be affected was not yet concluded. In fact, the research notes that in situations where waste from different localities within the region is collected in the same RCV, a mechanism needs to be developed to ensure that the respective local council will pay for the actual weight of the waste collected within the locality.

In addition to the financial aspect, the research notes that the daily management of the contract, including the customer-relationship management, would still be the responsibility of each council. In fact, the President of the LCA pointed out that although the contract should be regional, the customer-relationship management should remain within the local councils' responsibility in its entirety. Such recommendations were

put forward by the President of the LCA since, as was widely agreed by all participants, complaints and all their related difficulties would still be presented to the local councils, irrespective of who will be issuing the tender.

"Residents would be expecting the answers from the local councils, and I cannot imagine how residents could come to terms with such change which has been within the responsibility of the councils since the early 90's. That is why the CRM needs to be managed by the councils" (Fava, 2021).

The initiation date of the regionalised waste collection system was another aspect that was discussed in this study since the legislation speaks about the issuance of a tender in 2022 whilst the Waste Management Plan noted that implementation of the regional contracts must start in 2022. Indeed, the study concluded that the MECP was targeting the beginning of year 2022 for the regional contracts to come into force, whilst the LGD targeted the implementation closer to the end of year 2022. The President LCA is doubting the likelihood that the regionalisation will materialise by 2022.

"Today, we are late, very late to implement such change in 2022 and if we will be rushing things to introduce this by January 2022 we will be failing drastically" (Fava, 2021).

The President of the LCA also noted that he had already suggested to the local government division that the regional contracts are put into action in 2023. In addition to the above, the research notes that the local waste management sector needs to prepare itself for the regionalisation and contractors must invest in their operations before implementation.

WSM's CEO also noted that with the coming into force of the regionalisation, investment is critical and if contractors want to continue to operate in the sector, they cannot do that with sub-standard vehicles. From their end, the contractors remarked that they should be given enough time to prepare for the regional contracts and noted that if such contracts would be requesting electric vehicles and an RCV fleet of Euro 6 standard or higher, the contracts should present the possibility for the investment to be made in the course of the contract and not at the start of the contractual period.

Another change driven by the regionalisation of waste collections relates to the eventual role of the PROs in the collection of recyclable waste within the regional model. The research outlines how the government is suggesting that with the introduction of regionalisation, the collection of recyclable waste will be organised by the region and then paid by the PRO. In relation to such method of operation, the interviewed CEO-PRO argued that if this system is adopted, the principal concept of extended producer responsibility (EPR) would not be present, since "that is surely no EPR but just a financial exercise where we would become just a broker" (CEO-PRO, 2021). The CEO-PRO added that this system would lose all motivation present in the scheme and would limit all the investment relating to infrastructure and education. Thus, it is quite evident that prior to implementation, the role of PROs needs to be further enhanced, and further analysis needs to be made to ascertain whether the present set up with two schemes would operate well with the regional set up.

The Benefits of the Regionalisation

The interviews conducted confirmed that if it is correctly implemented, the regionalisation of waste collections will eventually present several benefits for the waste management sector in Malta. The study primarily notes that the principal objectives of the regionalisation of waste collections includes the improvement in the overall service delivery, other than cost savings. All parties involved confirmed that the sector needs substantial improvement which can be achieved through the economies of scale experienced. The Director MECP noted that the achievement of these economies of scale is the principal reason which is driving the Ministry for the Environment to introduce regionalisation. This would lead to the issuance of contracts which make more economic sense and that could eventually lead to

further investment and thus result in an improvement in the way the service is provided, and the infrastructure is used. The Director LGD and the Director MECP in fact noted that with such economies the government is targeting an improvement in the service delivery whilst still allocating the same amount of funds. If the proper setting is present, the economies of scale will also allow for the sharing of knowledge between all the localities within the region.

Another positive outcome of regionalisation identified in the study is the harmonisation of waste collections across the Maltese islands ensuring that same standards are observed. With such harmonised collection system, a consistent and transparent message would be passed on to everyone irrespective of the locality in which one is residing. The regional contracts would be reducing the fragmentation in the sector, where more than sixty contracts would become six. This will make it easier for the relevant authorities to administer the sector and to implement strong and effective educational campaigns delivering the same message throughout.

Such harmonisations and the correct methods of operation within the regionalised system, can result in lower Co2 emissions due to less collection rounds, and shared RCVs used to collect waste from more than one locality. The investment in cleaner and Euro 6 or Higher standard RCVs can further lead to lower emissions. Another benefit noted by the study is that the regionalisation would result in reducing the administrative burden of sixty-eight councils each working on a tender for waste collection.

The regionalisation of waste collections has also been seen as a method to improve on the recycling levels and reach the EU waste targets. In fact, the Director LGD sustains that one of the main drivers which triggered the regionalisation of waste management were the targets imposed on our country by the European Union and the identification of a best approach to reach them. Spurred by further analysis to these remarks, the study indicates that regionalisation on its own would not lead to better waste recycling and recovery levels, unless it is supported with effective educational and informative campaigns and rigorous enforcement.

As noted above, the harmonised regional collection system can make it easier for councils to implement effective campaigns with a consistent message that encourages further recycling, which may assist in reaching the nation's targets. However, education is not enough and it needs to be followed up by proper enforcement, which is indicated in the study as one of the vital elements for the successful implementation of the regionalised collection. In fact, the research notes that the 'Polluter Pays' principle should be adopted and financial incentives and disincentives are to be introduced for households.

The Challenges of the Regionalisation

In addition to the benefits mentioned above the research presents several challenges and disadvantages that can be experienced with the regionalisation of waste collections. Primarily, the research notes that locally there are insufficient contractors with the capacity to service a whole region thus collaboration between contractors is essential, something which unfortunately is not easy to achieve in the present scenario. Existing hostility, which is currently hindering collaboration, could lead to a situation where just one or two contractors manage to bid for the regional contracts. Another risk is that foreign investors with a major capacity would outbid local contractors and take over the servicing of such contracts. These scenarios may lead to smaller/local contractors having to shut down operations since waiting for another regional tender to be issued would not be sustainable.

A second challenging and more critical scenario would be in cases where a contractor is found lacking in performance and needs to be stopped and changed, since a restrictive number of contractors available to service a region may limit competition, choice and as a result quality of service.

In addition to the challenges noted above, the regional contracts would also present challenges pertaining to the daily operation of the contract. The Director MECP noted that since the scale of the collection would increase, it calls for more organisation and better management of assets. In fact, such complexity pertaining to the management of a regional contract would make the management function of the contractor pivotal to its success. The scale of the contract would require a professional and effective management set-up which the present contractors lack considerably. The contractors have also noted other challenges

relating to the use of the suggested split back vehicles, and/or having certain collections made in the evening. They pointed out, for instance, that it would be very challenging for collectors to drive their RCVs around the localities and in the village cores due to narrow roads and the illegal parking of vehicles in corners or other areas. The uncertainty pertaining to the methods of operation that are to be adopted is making contractors sceptical of the success of such change.

The regionalisation of waste collection would also be presenting challenges to the local councils and their residents. Primarily the findings revealed that since collections would be made by the same contractor and with the same vehicles within the whole region, collection times in different localities within the region will vary. Some small localities can be negatively affected due to the prioritisation of the contractor to finish certain bigger localities first. On the other hand, having a tender which reflects all the individual requirements and specifications for each locality can present a substantial challenge on the regional council.

Local Council's Scepticism and the principal of collaboration

The research also noted a level of scepticism is present amongst Mayors and council members regarding the concept of regionalisation and issues of power and responsibility that would arise. Primarily the study noted that irrespective of the topic being discussed, the level of antagonism that was present when the regions were initially set up is still present and thus certain local councils are sceptical on any function assumed by the regional councils. Mula (2018) attributes such antagonism to the fact that regions were not given proper functions. However, notwithstanding the fact that regions have been given this specific task of regionalising waste management, a level of antagonism is still noted.

Local councils are struggling to accept the fact that they already fall within a regional council and that the region is not a separate entity working against the local councils.

Apart from the noted level of antagonism and mistrust present, the principal scepticism surrounding the regionalisation of waste collections relates to the loss of power and responsibility of such an important function. The fear of losing power is driven by the understanding that contracts will no longer be managed by the local councils, but they will be administered by the regional councils instead. Such power can also be of an issue when councils have disputes, and the contractors would eventually need to respond to the contracting authority which would be the regional council.

The research notes that such level of scepticism between Mayors is present since they were not adequately informed about their type or level of involvement in the management of such contract. The lack of information is presenting local councils with an uncertainty that is hindering the

Conclusions

Based on the data collected from the stakeholders interviewed in the research, and the analysis conducted as part of the study, a number of recommendations which would assist in the successful implementation of the regionalisation of waste collections are made.

Primarily, all entities involved including the MECP, MHAL and the LGD need to have clear objectives and a vision of what the regionalisation is set to achieve in short, medium and long term to be able to plan accordingly. Once such vision is set, it needs to be clearly communicated to all stakeholders especially local councils. Prior to discussing the implementation of the regionalisation of waste collections, local council members need to be convinced that the regions are there to stay and that they are there to assist them. Councils also need to consider both provincial needs and nation needs when making their decisions.

Once the local councils accede to the regional concept, the LGD and all relevant authorities need to explain to the local council members how the regionalisation of waste collections will be implemented. They must also provide the relevant assurance that the change will not be

acceptance of such concept. Scepticism can also be the result of lack of consultation with and involvement of local councils in the setting up of the regional concept of waste management.

The antagonism amongst local councils is quite worrisome since the successful implementation of a regional contract must be based on a considerable level of cooperation and collaboration between the localities within the regions and the regional councils. Considering such aspect, the research indicates that a change in the mindset of local council members, who examine issues from a provincial perspective without considering the wider context, needs to be addressed to ensure collaboration. A collegial approach where local councils understand that they are now part of a team needs to be adopted, and collaboration needs to be strengthened to ensure the successful implementation of the regionalisation. Such collaboration could result in further cooperation between regions in relation to waste management and other matters.

affecting their responsibility. The vision of what the regionalisation is to achieve must be clearly highlighted, and all benefits and challenges are to be explained and discussed between council members.

In light of such considerations, as well as legislative changes that need to be implemented prior to implementation, it is recommended that the implementation of the regionalisation of waste collection is delayed enough to ensure that the structures and infrastructure required are in place and that an effective national informative campaign is conducted. The timeline has to extend enough to allow for the correct conclusion of the tendering process whilst giving enough time for all the preparations that need to be made prior to the implementation including the execution of all relevant information and educational campaigns.

Well-prior to implementation, contractors need to be made aware on how they will be expected to operate and what resources would be required so that they can prepare for the regionalisation. If for regionalisation an extensive improvement in the overall infrastructure would be required, central government needs to support the regionalisation of waste collections by issuing schemes/ financial incentives addressed for the contractors to assist them in purchasing cleaner and modern RCVs. In addition, one can also explore whether collaboration between contractors can be enhanced with the setting up of a private company which will bid for the regional contracts and if awarded, form contractual agreements with individual contractors who will be allocated to the respective local councils. Here the management of the regional contract would be in the responsibility of this private entity.

In addition to the vehicles used, particular attention needs to be given to the contractors' labour-force which is another important resource that needs to be well trained to operate the regional contracts. Such training needs to be given to the drivers, runners and all those employees who will be involved in the management of the overall operations of the regional contracts. Another important task which has already been highlighted and needs to be addressed prior to implementation includes the updating of the legislation pertaining to the regional system of waste collections which requires clear definitions of the roles and obligations of each stakeholder. The same legislation should also enhance and outline

methods of enforcement that must also be clear prior to implementation.

Considering the complexity of the regional tender as noted above, the research suggests that the management of operations, can be supported with a computer software programme designed specifically for the regional contract which would enable the flow of information or complaints from local councils to the regions and contractors instantaneously. The daily management of the contract can also be assisted with the setting up of a Regional Waste Management Committee that includes each region's waste expert and each local councillor responsible for the collection of waste. Such committee can also be assisted by the Executive Secretaries of each council when administrative issues are to be discussed.

Finally, in addition to the recommendations noted above, the research suggests that once implementation is addressed and the regional contracts are in operation, the regional councils should conduct studies and consultations to address any issues encountered so that any shortcomings could be addressed. Furthermore, the research study also suggests that parallel to the door-to-door waste collection system, the regions should study the option of developing the present infrastructure with controlled and monitored waste collection points which offer 24/7 waste deposit possibilities in areas where possible.

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05 Guidelines for Effective Discharge Planning: Gozo General Hospital

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Abstract

Objectives: This research aims to understand current practices of discharge planning at the Gozo General Hospital; identify existing barriers to effective discharge; and elicit suggested guidelines that can assist policymakers to develop a clear and comprehensive structure for an effective discharge planning process.

Methods: Semi-structured interviews were conducted with multidisciplinary healthcare professionals involved in the discharge process of acute adult patients within Gozo General Hospital. The interview questions explored current discharge practices and took into consideration communication, multidisciplinary participation, patient and relatives' involvement, continuity of care, barriers, and suggestions for guidelines.

Results: Participants emphasised the lack of a structured process and a dire need for discharge planning guidelines. Barriers included the unavailability of discharge guidelines, the absence of a communication system, deficiencies in the timely involvement of multidisciplinary healthcare professionals, patients and relatives, and inadequate collaboration with community services. They also remarked that guidelines for an effective discharge planning process need to include an early discharge planning onset, good and frequent communication, and timely involvement of different stakeholders.

Conclusions: The importance of discharge planning guidelines at the Gozo General Hospital was highlighted. Practical suggestions for comprehensive and effective discharge planning guidelines were raised. These include early assessment and referral; established estimated date of discharge; continuous communication between all stakeholders; a multidisciplinary discharge team; a key person leading this team; involvement and education of patients and relatives; and timely liaison between the multidisciplinary healthcare professionals, patient and relatives, and between the hospital and community services. Such guidelines can ensure quality of care and maximise the hospital's effectiveness and efficiency.

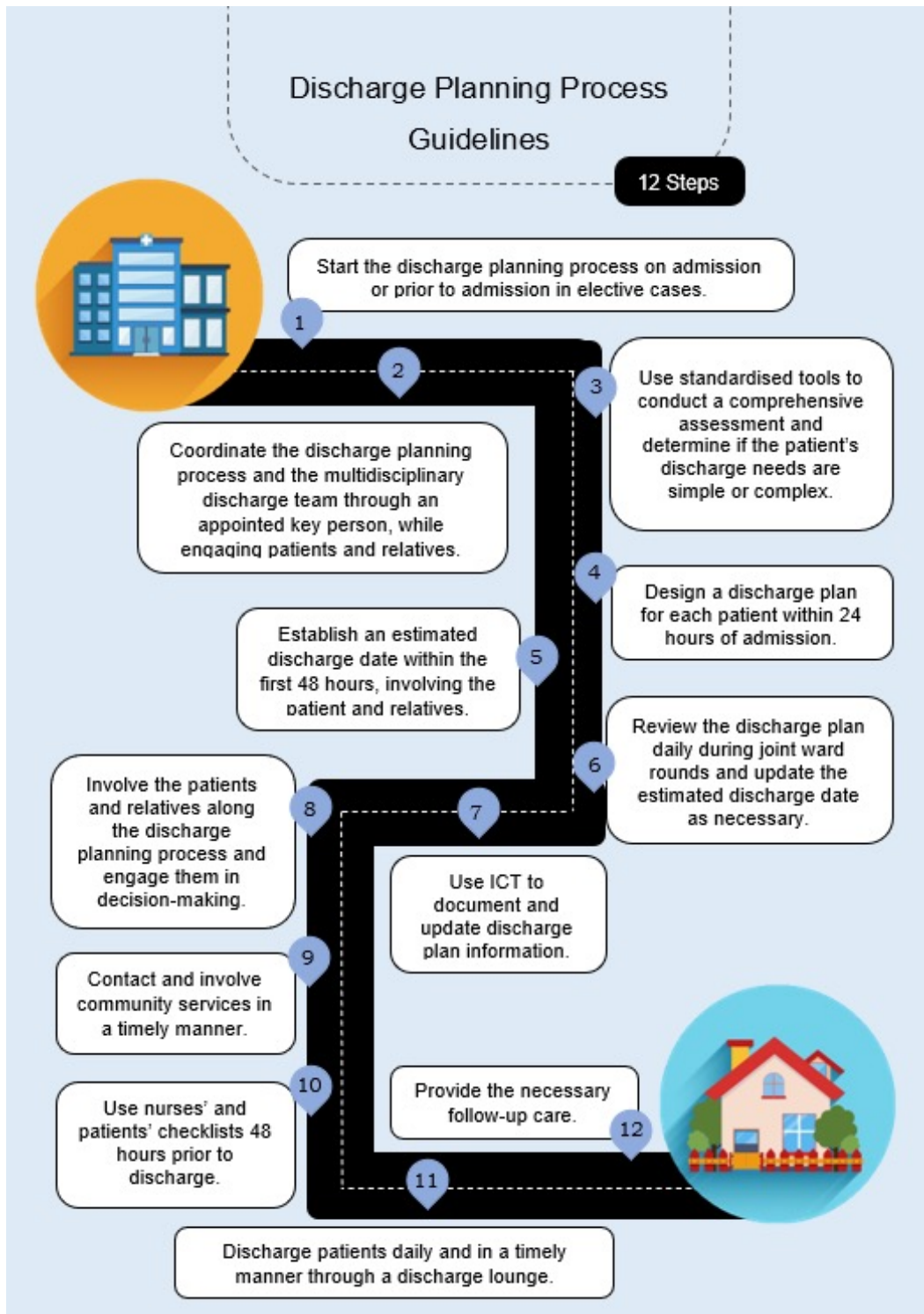
Keywords: "effective hospital discharge"; "healthcare management"; "hospital to home"; "patient safety"; "interdisciplinary care".

Highlights

1. This research is on discharge planning, something so basic, so effective and yet so missing in the Gozo General Hospital.
2. The findings are presented in a clear guideline that can be applied for the benefit of patients, relatives, professionals, and hospital management.
3. This study can assist policymakers and hospital management to develop a clear and comprehensive structure for an effective discharge planning process.
4. With some effort, discharge planning guidelines have the potential of increasing effectiveness, efficiency, and quality.

Abbreviations

GGH: Gozo General Hospital
DPP: Discharge Planning Process
COC: Continuity of Care
EDD: Estimated Discharge Date
LTC: Long-Term Care
MDT: Multi-disciplinary Team
ICT: Information and Communication Technologies



GRAPHICAL ABSTRACT

Introduction

The research idea stemmed from the lack of a discharge planning procedure at the Gozo General Hospital (GGH): an issue that affects patients, relatives, professionals, and hospital management in different ways. Creating a comprehensive discharge planning structure necessitates a formal framework through which the diverging needs of the patients can be identified and linked to the suitable services available in the community (Wong et al., 2011). The main challenge is that of conducting timely discharge but still cultivate high-quality and ethical care (Wells et al., 2002). The effectiveness of a discharge planning framework is generally measured by the level of unplanned readmissions, costs, and patient satisfaction, as well as the mortality rate (Nordmark et al., 2016). Thus, to ensure that such guidelines not only improve quality of care but also maximise organisational effectiveness, a systematic approach needs to be used (Wong et al., 2011).

The need for discharge planning originated due to the number of patients who were still admitted long after they were fit for discharge, commonly termed as 'bed blockers' (NHS Institute for Innovation and Improvement, 2010). An increase in the demand for hospital beds has been noticed in many countries, mainly due to an ageing population and a rise in chronic diseases (BMA, 2014). This is very similar to the Maltese scenario. There is constant pressure for more beds in acute hospitals since some patients who are clinically fit for discharge do not have the necessary support in the community, thus prolonging their stay in acute wards. On the other hand, patients

might be discharged after their acute illness has stabilized, even though they still need medical treatment, nursing care and rehabilitation and this can lead to readmissions (Wong et al., 2011). Effective discharge planning is essential in clinical practice and hospital administration (Wells et al., 2002), including in the operational management of beds (NHS Institute for Innovation and Improvement, 2010).

Although, a comprehensive Discharge Planning Process (DPP) is an essential element in the hospital setting, GGH does not have a standard framework to apply during discharge planning. For this reason, this research aims to analyse the current discharge planning practices to suggest possible guidelines for an effective process that can assist policymakers and hospital management at GGH to develop a clear and comprehensive structure for the DPP. This will ultimately improve quality of care and decrease unnecessary hospital readmissions. The main objectives of this research were to understand current practices of discharge planning; identify existing barriers to effective hospital discharge; and to elicit suggested structures and processes for effective discharge planning. With this in mind, the study looked at the factors that multidisciplinary healthcare professionals working at the Gozo General Hospital consider as important in developing effective discharge planning guidelines.

Methodology

Research Design

Given the research objective, it was most suitable to use an inductive approach in order to be able to conduct exploratory research. The use of semi-structured interviews followed by thematic analysis, enabled the researcher to discover and understand the research subject on a deeper level and in all its singularity, hence being able to achieve the set research objectives.

Data Gathering Methods:

The data gathering technique used for this research was face-to-face, semi-structured interviews conducted with multidisciplinary healthcare

professionals working within GGH. Following an extensive content analysis of existing literature, open-ended questions for the interviews were formulated, based on the core areas identified from previous studies. Questions were divided under nine subsections, within which twenty-five questions were formulated in total. Most of the questions were then further opened into possible prompt questions. This distinctive method allowed questions to be aligned with the research question and the literature; facilitated comparable and quantified data through the interview guide;

allowed room for the researcher to clarify and probe to seek deeper and richer data; ensured that participants feel safe in answering questions honestly and in detail.

A pilot interview was carried out with a healthcare professional working within GGH which confirmed that the interview guide, including the questions and the prompt sub-questions, was clear, related to the research questions and would thus yield relevant information for the study. It also showed that the sequence of the questions aided the flow of the interview.

Given the inductive nature of this study, non-probability sampling was the method used for participant selection. Purposive sampling enabled the researcher to recruit multidisciplinary healthcare professionals depending on their roles and expertise, specifically those involved in the discharge planning of acute adult patients admitted in the female ward, male ward, and orthopaedic ward at GGH. These wards were explicitly chosen since they cater for acute adult patients for any number of days depending on the need, and then plan and execute discharge.

Data Quality Assurance:

Given the small size of the hospital, staff population is equivalently small. Most departments have one to six professionals working with patients in acute wards. Purposefully, the sampled participants included two nurses from each of the three main acute wards, a medical consultant doctor, a surgical consultant doctor, an orthopaedic consultant doctor, a discharge liaison nurse, a social worker, an occupational therapist, a physiotherapist, a speech language pathologist and a hospital manager.

At this point, the number of contributors was not definite since thematic saturation still had to be ensured. A two-year minimum experience within GGH was established to ensure that all the research participants are aware and familiar with the current DPP. Recruitment of the specific research participants was carried out through an e-mail to the head of department of each department relevant for this study. Interested research participants were forwarded to the researcher by the head of department, who acted as gatekeeper to reduce the selection bias as much as possible. The pilot interview was not included in the results.

Contact with the interested research participants

was done over the phone and individual appointments were set up for the interviews. Considering the COVID-19 situation, the participants were given an option of conducting the interviews via a digital platform or through face-to-face meetings, keeping in mind the measures set by the health authorities. Out of fifteen participants, only one interviewee opted for an online interview and the others were conducted face-to-face. Participants were also asked to choose a preferred language for the interview between Maltese and English. Twelve interviewees opted to carry out the interview in English and three chose to be interviewed in Maltese. All interviews were recorded using the Recorder app on a OnePlus smart phone and the interviews ranged between thirty minutes and one hour in duration, with the average being forty-five minutes. The interviews conducted in English were transcribed verbatim and those conducted in Maltese were transcribed verbatim and then translated into English. The transcripts were given to the participants themselves to ensure that the true meaning of their interview was preserved. Transcripts were done by means of Windows Media Player and Microsoft Word.

Data Analysis Methods:

Transcription of the interviews was initiated immediately after the first interview to gauge the thematic saturation of the data set along the way. Thematic saturation was reached at interview seven, but eight more interviews were conducted to ensure a comprehensive answer to the research question. Thus, in total, fifteen interviews were conducted. Data was analysed thematically. This method is widely used in health and well-being qualitative research, especially when the study focuses on policies and practices (Braun and Clarke, 2014), such as this particular research which focuses on discharge planning and possible related guidelines. Through thematic analysis, the researcher identified, examined, categorised, described and reported the themes that emerged from the data set.

Familiarisation with the raw data was obtained by going through each transcribed interview on Microsoft Word, highlighting the text and leaving the appropriate codes in the comments. A list of codes was kept from the first interview to ensure that the same words were used to refer to the same codes throughout this process and to keep track of the thematic saturation. In order to ensure reliability and validity, once all raw data was coded, the data was extracted using Macros on Microsoft Word with the code created by Fredborg (2007), and edited to suit the purpose of this study. Each quote was linked to a particular code and can be tracked back to the original interview through the page number, a letter that signifies the chronological order of the interviews and the line number in that page. Thus '3I23' refers to a quote from the transcript of the 9th participant (I) on page 3, line 23. Traceability further enhances the validity and reliability of the data.

The data extracted using Macros was then transferred to Microsoft Excel which facilitated the process of combining all the interviews together and to organise the raw data according to the particular code. A thematic mind-map of all the codes was designed to portray the codes elicited from the raw data and to better organise them into categories and themes. This was reflected in the organisation of raw data on Microsoft Excel, which exhibited the collection of common themes in a clear flow of information to be described in detail in the findings.

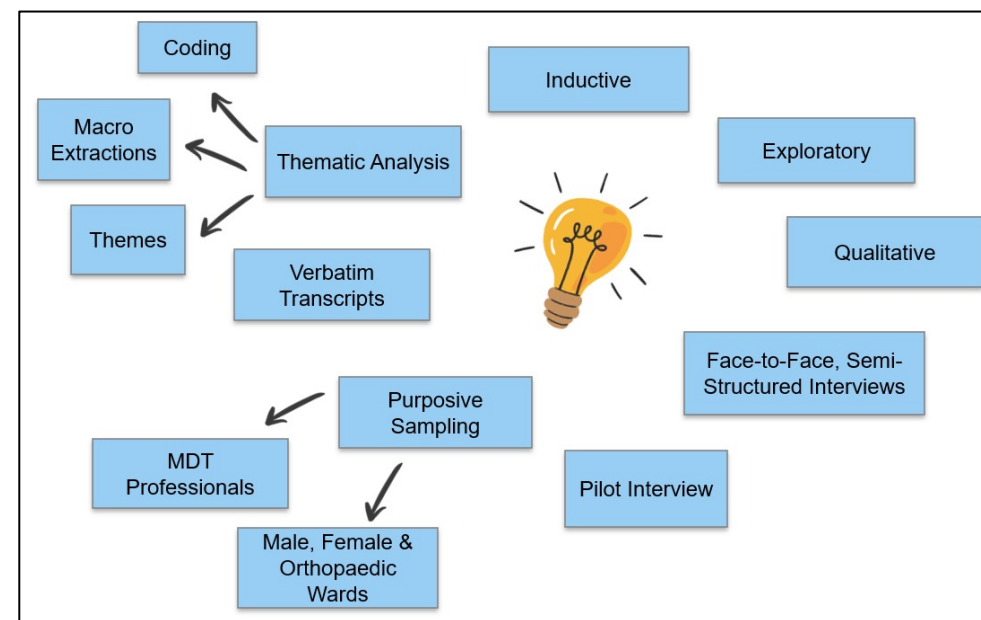


Figure 1: Methodology Structure

Ethical Considerations:

The necessary approvals from the ethics board and the GGH's Chief Executive Officer were obtained. The information letter distributed to possible participants included that participation in this research is voluntary and that one can withdraw from the research at any time. Through this letter, participants were also informed that although the interviews were going to be recorded, all that was discussed during the interviews is bound by confidentiality and that in reporting, codes will

be used to preserve the anonymity of the contributors, thus safeguarding their privacy. Every participant was given a consent form through which they gave their written permission to participate in the study, to have their interviews recorded and to consent that parts of the interview transcript are quoted in the study. Moreover, the consent form was co-signed by the researcher as validation of the participants' informed consent.

Results

Five main themes were identified from the experiences and perspectives of the multidisciplinary healthcare professionals working within GGH. These five themes are: process, communication, multidisciplinary involvement, patient and rela-

tives' involvement, and Continuity of Care (COC). Through these themes, the results relating to the current DPP at GGH, the barriers identified and suggestions for improvement were highlighted.

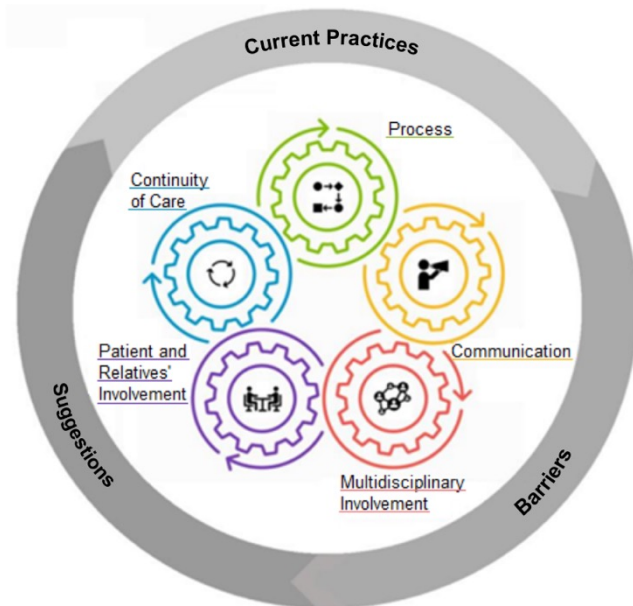


Figure 2: Objectives and Themes

Process:

The strongest theme identified was the DPP itself and issues related to it. All participants highlighted that there is no structured process and that standards vary depending on the individual professional and ward. There was an emphasis that the onset of discharge planning is inconsistent, that there are no discharge planning tools, no checklists, no standard practice to sift between complex and simple cases and no estimated discharge date (EDD).

According to the participants, there is no one specifically responsible for discharge planning which leads to a late onset of discharge planning, and this results in delayed and premature discharges. They stated that discharge planning is not prioritised, and this shows in the late involvement of different multidisciplinary professionals responsible for discharge planning. Additionally, there is a lack of adequate and available long-term care (LTC) facilities, creating bed blockages in acute wards. Positive aspects of the current

system included the Stroke Team and the Orthopaedic Ward since both are more structured, both focus on early onset of discharge planning, both involve a multi-disciplinary team (MDT) and COC.

Participants stated that with no structure it is hard to measure the effectiveness of the current DPP. They all stated that having guidelines for a structured and effective DPP is essential. Participants insisted that an early onset of DPP with early involvement of multidisciplinary professionals would be beneficial. Other suggestions for improvement included having a comprehensive admission sheet to determine the need for simple/complex discharge; using standardised tools; having a Nurses' Checklist; improving the LTC facilities and community services; establishing an EDD; implementing an effective referral system; using a discharge lounge; and providing training to increase the awareness on the importance of discharge planning.

Communication:

All the participants highlighted the central position communication holds throughout the DPP. While some attributed good communication between professionals to GGH being a small hospital, others believe that there are communication breakdowns especially between the allied professionals and the consultants. The latter mentioned that communication is fragmented and that communication with patients, relatives and community services is mostly verbal and too close to discharge. A positive aspect that emerged was that in the current DPP a discharge letter is given to each patient on the day of discharge. Participants stated that most communication is done verbally and informally, and that any documentation is kept in a physical file which makes it harder to read illegible handwriting and to find data from previous admissions.

Suggestions brought forward by the participants included having communication protocols and systems. In this regard, participants proposed face-to-face MDT meetings; joint ward rounds, including relatives when necessary and whiteboards to display the EDD for each patient. They also recommended the use of Information and Communication Technologies (ICT) for better, more updated, and clean record keeping.

Multidisciplinary Involvement:

There was a unanimous agreement that multidisciplinary involvement is critical for effective DPP as they are the ones who are responsible for the discharge planning. Participants stated that there are positive working relationships across GGH, however there is no structured multidisciplinary discharge team, the roles are unclarified and there is no key person leading the discharge planning. Thus, everyone and no one is responsible for the DPP, often resulting in discharge decisions not being based on a holistic perspective and instead depending solely on the consultants. According to the participants, the involvement of professionals depends on the consulting firm, moreover, lack of workforce, such as having only one discharge liaison nurse for the whole hospital, makes it hard to meet the demand effectively.

Participants pointed out that the MDT is a strong factor in the Stroke Team and the Orthopaedic Ward. They also suggested that a multidisciplinary discharge team is organised with an appointed key person and clear roles, where decisions are taken more holistically by the team. An increase in workforce particularly discharge

liaison nurses and having training to understand the importance of DPP and the different roles involved were other suggestions to aid in prioritising discharge planning.

Patient and Relatives' Involvement:

The participants all expressed the importance of patient and relatives' involvement in the DPP, albeit some more strongly than others. They stated that patients and relatives' involvement is not highly prioritised and that with a mentality of "professionals know best", patients are more informed rather than engaged in participation. A mentality which unfortunately, according to the participants, patients, and relatives themselves seem to embrace by not seeking to be involved.

Participants also emphasised that late professionals' involvement and late onset of discharge planning led to limited time to involve and educate patients and relatives, thus resulting in patients and relatives often not being prepared for discharge. It was evident that the DPP is not patient-centred, and the COVID-19 has hindered the involvement of patients and relatives even further.

According to the participants, patients and relatives' involvement needs to be prioritised. Recommendations by the participants include training in patient-centred approach and explanation of the DPP to the patients and relatives. Additionally, they stated that the early onset of the DPP is paramount so that there is more time to educate the patients and relatives before discharge. The use of a patient's checklist was mentioned as a possible tool to encourage early involvement.

Continuity of Care:

Patient and relatives' involvement was highly associated to COC as they need to support the patient at home and reduce readmissions. Unfortunately, participants stated that discharge planning often focuses on the discharge itself and not beyond. According to them, communication with community services is lacking as is the awareness regarding available services. GPs are not informed or involved; however, patients are given a discharge letter and some departments provide home visits, call patients, and provide outpatient appointments after discharge. Some mentioned a lack of appreciation for COC with equipment needed being sought late, and a lack of rehabilitation facility.

Participants emphasised the need for training about the importance of COC and insisted that community services need to be involved as

Discussion

The findings show that the current overarching barrier to proper discharge planning at GGH is the absence of a structured, comprehensive, and effective DPP. Delayed and premature discharges are a clear reflection of a lack of structure in the DPP, which then leads to negative outcomes on different levels. Untimely discharges decrease the satisfaction of patients, relatives, and service providers alike. The hospital is affected through elevated bed blockages and readmission rates, increased financial burden, need for more resources and a bulkier workload. While some acute beds are occupied due to excessive long stays resulting from delayed discharges, other acute beds are occupied by elderly people waiting for vacant beds in the geriatric wards. This is due to a lack of space and adequate infrastructure to care for the needs of an ageing population. Existing empirical research also proves that a lack of a comprehensive and effective DPP leads to a fragmented system that impacts patient outcomes negatively (Laugaland et al., 2014; van Sluisveld et al., 2017; Krook et al., 2020).

Participants highly emphasised the need for discharge planning guidelines and showed enthusiasm at the prospect of a possible framework. Discharge planning guidelines or frameworks have been used for years by numerous countries, including the US, UK, Canada, Australia, and Hong Kong (Wong et al., 2011). The benefits of a discharge planning framework are highlighted through empirical research as early as the 1980s (Kennedy et al., 1987), and keep being sought as

early as possible. They suggested training, posters, and leaflets should be available to increase awareness about the different community services available. On the other hand, they also stated that community services need to be aware of the DPP for a smooth discharge. Recommendations included identifying a focal person from these services and having agreements, protocols, and regular joint meetings to move forward together for the benefit of the patient. Participants also proposed making better use of ICTs such as my-Health, having a rehabilitation facility, and having outreach nurses from the hospital visiting the patients in the community as follow up.

a way to improve effective discharge till today, especially in light of the COVID-19 pandemic where hospital resources are being stretched to their limit (NHS, 2020).

Early preparation for the patient to return back to the community is not a common practice at GGH; late discharge planning is more prevalent. Correspondingly, Hesselink et al. (2012) found that discharge planning often takes place at the last minute which underestimates the complexity of the DPP and undermines its importance. In line with the UK Department of Health (2010), the participants stated that structured discharge planning guidelines should ensure that discharge planning commences as early as possible, that is, on admission in emergency cases and prior to admission in elective cases. Standardised tools, such as a comprehensive admission sheet, can be used to enable a better holistic assessment of patients on admission and help to determine if the patient needs a complex or a simple discharge, which professionals need to be involved, and to establish an EDD. Similarly, Ballester et al. (2018) found that using a validated early warning system with user-friendly scores can help predict the discharge disposition of patients within 24 hours of admission. They add that being aware of the type of discharge planning the patient will need facilitates early discharge planning and consequently enhances coordination, reduces LOS, and improves the patient's overall experience.

Discharge planning seems to be everyone's responsibility and no one's at the same time: due to unclear roles, no particular professional or department takes the lead on discharge planning with the unfortunate result that it often remains forsaken until the last minute. This is confirmed by Gholizadeh et al. (2016) who found that when there is no specific individual leading and coordinating discharge planning between the parties involved, patients are left feeling insecure and confused. Although all participants described their working relationships with other professionals as being positive, they expressed that a structured MDT aimed to facilitate a more effective DPP is needed. As Mennuni et al. (2017) highlight, a multidisciplinary discharge team should be responsible for proactively organising the DPP with a multidimensional perspective. The team can initiate the DPP as close to admission as possible; assess if the patient needs a complex or a simple discharge; set an EDD; create, record and share the discharge plan; communicate with the patient and relatives; review the patient and adjust the EDD accordingly; plan the needed tests to avert discharge delays; and initiate community services.

A team structure would also give a better opportunity for different members to voice their concerns and thus discharge decisions can be more informed. A proof of this are the Stroke Team and the Orthopaedic Ward, both within GGH, who both have a strong MDT addressing these matters.

Participants stated that the communication system is staggered, fragmented, and often lacking the latest updates. They suggested face-to-face joint ward rounds where discharge plans can be reviewed and EDDs updated. Similarly, Okoniewska et al. (2015) observe that joint ward rounds and/or MDT meetings can be held to counter communication breakdowns. These measures provide an opportunity for all the multidisciplinary healthcare professionals involved to express their concerns and come up with a holistic discharge plan for the patient. Additionally, communication with patients and relatives during ward rounds can be more active and inclusive to allow them to participate in the process (Waring et al., 2014). The discharge plan needs to change according to the patient's medical needs thus, communication needs to be clear and constant for all stakeholders involved to move seamlessly towards the discharge target. Another barrier to effective communication rests on the current

records system. Patient documentation is handwritten and stored in a physical file. The handwriting is often unclear, looking into past entries is difficult, and work is duplicated. Not having an electronic patient file was also highlighted as a barrier in the research conducted by van Sluisveld et al. (2017). Participants suggested the use of ICT to facilitate communication in a speedy manner, making sure that all stakeholders involved are up to date with the latest plans. Additionally, if the patient's file is transferred to an online platform, it can eliminate the difficulty of interpreting illegible handwriting, enables easier searches in the patient's medical history and reduces the chances of lost documents. ICT can also help by facilitating a more effective referral system. Gandhi et al. (2000) state that computerised referral systems can reduce administrative work and aid in enhancing timely communication.

Given that discharge planning is generally initiated late, and there is no EDD, patients and relatives are often informed of discharge on the same day it happens, leaving them shocked and unprepared. According to Gholizadeh et al. (2016) such a situation reflects a healthcare system that does not have a strong patient-centred approach. The involvement of patients and relatives was identified by the participants as an area requiring improvement. This aligns with international (WHO, 2015) and national (Parliamentary Secretary for Health, 2014) emphasis on including patients and relatives in healthcare policies and practices. When patients and relatives own the DPP, there is an increased treatment compliance and satisfaction (Krook et al., 2020), excessive LOS and unnecessary readmissions are reduced (Sreeprasarn and Neelapaichit, 2020) and resources are better used, curtailing costs (Vermeir et al., 2015). Thus, implementing the patient's checklist as suggested by the participants, would be of great assistance as it increases involvement and education while enabling a better patient-centred care.

Community services are mostly referred to briefly and close to discharge but there is no direct contact, agreements or familiarity between GGH and the different organisations and agencies. Earlier involvement of these services is essential. For COC to be incorporated in the DPP, professionals need more awareness about the services that other discharge planning stakeholders, such as government departments, provide to the patients and relatives to enhance a safer transition back to the community. Similarly, these agencies need to be aware of the DPP. Participants suggested awareness leaflets with basic details and contact numbers; training on what is available, and also having meetings and protocols between GGH and other stakeholders providing community services to enhance communication for a smoother COC. Azzopardi-Muscat et al. (2017) also emphasise the vital importance of better integration of care between primary care and hospitals to improve the effectiveness of the DPP.

Participants also suggested the implementation of a user-friendly nurses' checklist to remind nurses to ensure that all discharge aspects are adequately met. They also recommended having a discharge lounge so that patients waiting for discharge can vacate their acute beds and make room for new acute patients and, at the same time, be surrounded by nurses and other professionals whose main focus is discharge, thus possibly increasing the effectiveness of the discharge process. The benefits of a discharge lounge were also highlighted by Woods et al. (2020) who found that using a discharge lounge helps reduce hospital overcrowding, makes use of beds and resources in a more efficient way, and decreases discharge time on the day of discharge.

Participants stated that some departments conduct home visits prior discharge and then follow-up as needed after discharge, while others hold outpatients' clinics to ensure COC. These are all positive practices because, as argued by Mennuni et al. (2017), when patients and relatives know that they can contact the hospital after discharge, their level of security is enhanced. The participants highlighted the importance of support in the community as being essential to increase the patients' ability to cope at home and thus reduce readmissions. They suggested the introduction of outreach nurses and a rehabilitation facility. The importance of support in the community was also underlined by Jones et al. (2019).

Limitations:

As one of the multidisciplinary healthcare professionals involved in discharge planning at GGH, the researcher held a dual role during this research. Thus, the researcher had to pay special attention and be wary of her behaviour during the interviews and while interpreting and analysing the data.

Given the qualitative nature of the study, the sample size is quite small and only has a representation of the main acute wards, thus findings from this research cannot be generalised. Another limitation is that patients and relatives were not included in this study, hence their perspectives on the DPP are not incorporated in the findings of this research. Their expectations, needs, and perspectives on the subject could be explored in future research.

Conclusions

This study found that the current lack of a structured and comprehensive DPP is creating various barriers which are resulting in suboptimal discharge planning. Additionally, this research identified various possible recommendations that can be utilised by GGH management and policymakers.

The guidelines for an effective DPP at GGH need to clearly state when discharge planning starts, what the process encompasses, who is involved, responsible and accountable for different aspects of it, and how communication is to take place. This research found that guidelines for effective discharge planning need to include: early assessment and referral; an established EDD; clear and continuous, verbal and written communication between all stakeholders; a key person responsible for discharge planning; a multidisciplinary discharge team to assist the key person in providing the necessary specialised services; involvement and education of patients and relatives for discharge preparation and community support; liaison between the MDT, patient and relatives and between the hospital and community services; and timely requests for community services and equipment.

Implementing the above suggestions would enable the application of the twelve points presented in the graphical abstract, that can potentially be the basis for effective discharge planning guidelines at GGH.

Various countries use similar guidelines for improved discharge planning. Additionally, prior research proves that a structured DPP leaves a positive impact on various areas, such as improved COC and safe patient transition; ameliorated patients' outcomes and mental health; increase in patient and professional satisfaction; reduced LOS, readmissions, and costs; and maximise the hospital's effectiveness. Considering all this, the results of this study provide a solid basis for policymakers and GGH management to consolidate the suggestions into practical guidelines for an effective DPP which will benefit patients, professionals and hospital management alike.

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06 Information System Strategic Plan for Effective Inventory Management: A Case Study regarding the Pharmacy Of Your Choice (POYC), Malta

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Abstract

Objectives: This case study was conducted at the Pharmacy of Your Choice (POYC) which is a governmental organisation. It was done with the aim to expose non-value-added processes and propose a system that streamlines operations for effective inventory management. To espouse a holistic approach, the study was split into three (3) interconnected subjects. The first study assessed current Information System and data usage utilised. The second study identified the Information needs, Information System (IS) needs, and Information Technology (IT) needs required. The final study analysed four (4) forecasting models.

Methods: The Mixed Method approach was adopted. The stratified sampling technique to collect primary data from a judgementally chosen population was employed. A survey questionnaire to collect primary data was utilised whereas for the final study secondary information was extracted. The Cronbach's Alpha and Normal Distribution Curve were employed to assess the data reliability.

Results: Thorough analyses revealed that POYC landed in the lowest quadrants of McFarlan's Strategic Grid. Consequently, results suggested that there is a shared belief that better ICT is required. Results show that the current information exploitation must be improved, and that the present IS must be reengineered. Improvement in the IT is also essential.

Conclusions: Evidence from the third study indicated that the Forecasting models all perform differently, and the Winter's Three-Level method outperformed the other models. Judgemental intervention for items that exhibit spasmodic behaviour is still essential. Hence, it can be asserted that Information Behaviour paired with adequate ICT will steer POYC towards greater competitiveness.

Keywords: "ICT Strategic Review"; "Information Needs"; "Information System Needs"; "Information Technology Needs"; "Forecasting Methods".



GRAPHICAL ABSTRACT

Highlights

1. The relevance of the study supports the notion that as technology continues to evolve at a hurried pace, all organisations, including governmental organisations must continuously keep abreast with new developments and ensure a competitive and holistic ICT infrastructure that would facilitate effective management which would in turn guarantee a service of excellence to both its internal stakeholders and external customers.
2. Results show that POYC is positioned at the two lowest quadrants of McFarlan's Strategic Grid. Indeed, the Unit is utilising different siloed and outdated systems which also need the support of MS Excel. The information needs to gather essential data was also executed which results show that officers are not aware of certain data available within the department due to data hoarding and power-syndrome. Business Process Reengineering with the contribution of key stakeholders was also highly recommended.
3. Results show that investment in information technology to improve the overall infrastructure is dire. This study can serve as a roadmap and help management to comprehend the current ICT position and consequently devise a plan that would ensure project and corporate success. It will also help management to recognise and pre-empt emerging threats and respond proactively rather than reactively and capitalize positive risks by exploiting the opportunity to yield additional benefits.

Abbreviations

AI	Artificial Intelligence
BPR	Business Process Reengineering
ERP	Enterprise Information System
HES	Holt's Two-Level Exponential Smoothing
ICT	Information and Communication Technology
IS	Information System
ISSP	Information System Strategic Planning
IT	Information Technology
JIT	just-in-time
MA	Moving Averages
MAPE	Mean Absolute Percentage Error
POYC	Pharmacy Of Your Choice
RFID	Radio-frequency Identification
RMSE	Root Mean Square Deviation
SES	Simple Exponential Smoothing
SPSS	Statistical Package for the Social Sciences
WES	Winter's Three-Level Exponential Smoothing

Introduction

As the ICT revolution continues to expand and as the society's expectations become more demanding, efficient public service becomes more complex. Although the public service and the private sector are two discrete forces, citizens expect the same level of services. Consequently, developers need to address the exigencies of their diverse stakeholders and attentively design a system that embraces their needs (Finkelstein, 2006).

The POYC's overarching mission is to issue entitlements to eligible patients and deliver pharmaceutical items to their pharmacy of choice in just-in-time (JIT) manner. Over the years POYC was entrusted with other schemes as the patient population continued to grow. At time of reporting, the number of subscribed patients had almost reached 170k and they may collect their entitlement approximately every 56-day window. Hence, taking into consideration the core scheme, the POYC experiences over 1.2 million interactions yearly consequently it is the largest Health licence holder nationwide. Furthermore, there are 224 pharmacies and 3 NHS centres in the scheme, and each are replenished on a weekly basis. This means that excluding urgent courier deliveries, the POYC fleet completes 44 deliveries every day.

Oftentimes, new strategies were implemented on a short notice without giving the department time to conceive a systematic approach and a proper project planning. Consequently, legacy systems were infused with upgrades resulting in

unsteady performance and sometimes rollbacks. On the other hand, new systems were implemented in silos resulting in overlapping procedures whilst other processes contained scope gaps which were prompted from omission of deliverables and functions. Other systems were simply designed on MS Excel. Camilleri (2019), further posits that it is the tendency of the government organisation to develop short-term applications in isolation from other health entities, thus burying any potential benefits that could sprout from cross organisational networking.

It is important to outline that none of the processes are automated. Pharmacies send their requests of the items they do or don't require via email, whilst for other schemes POYC officers are tasked to generate reports, amalgamate as necessary and calculate the new quantities required, utilizing subjectively devised excel formulas. This entails a lot of effort that is encumbered with repetitive and mundane tasks that are also highly prone to human errors and do not add value to the officer's portfolio. Further pressure is originating from the fact that officers are burdened with a lot of wasteful movement, since in key transactions, officers must move to and from the isle where stock is stored and their workstation. Overall, due to lack of empowerment and high risk of errors emanating from manual input instigated by the absence of necessary tools, the end-user does not feel reassured.

Considering the expansion of the organisation's mission, and the ambitious aim to streamline operations and offer a better service to all stakeholders, the Management has opted to consolidate the systems into one programme which will eventually render several older applications obsolete. However, the author posits that the organisation is not devising a winning model since, once again, a proper project management in constant collaboration with key stakeholders is not being pursued and furthermore the process is not being analysed collectively but is being segregated into portions and analysed in separate formats.

Over the years, POYC has enriched its repository with significant amount of data, however, the department does not know how to exploit this information and transform it into knowledge to improve performance. The struggle intensifies because the organisation does not have technology infused with intelligence that would help the organisation in informed decision-making. Instead POYC uses several reports ad-hoc and extracts raw data, which is afterwards migrated to excel and cleansed from any detected error and anomalies. Surprisingly, although forecasting represents the lifeline of an organisation, the projections are also being done through the same manner. This is also derived from the managers' tenacity to forecast demands subjectively rather than based on concrete information.

Therefore, the overarching motivation of this research is to oust the inherent gaps and devise an

Research Methodology & Strategy

This case study entailed the collection of primary data in quantitative and qualitative format as well as secondary data that was entirely of quantitative nature. Since the study also takes a snapshot in time for the first two objectives and takes a series of time for the third, the study can be considered to be both cross-sectional and longitudinal. Therefore, this research espouses the mixed methods technique in tandem with a deductive study and will thus navigate the author to devise a specific result from a generic layout (Trochim, 2006). Saunders's Research Onion was used as a guide to help frame the research in an appropriate manner.

Sample Selection Procedure

There are 58 employees that operate within the interested field under study and therefore the

ISSP that would truly uphold JIT. Consequently, a review of the research problem suggests the following research objectives:

- a. To conduct an ICT strategic review of the POYC in terms of Information Systems to determine the performance of the current systems and their functions, define their characteristics, and define the future expectations of the end users. This study also involves determining the degree of data available and how it is being exploited.
- b. To determine the ICT requirements in terms of information requirements, Information Systems, and Information technology regarding the inventory management function at the POYC.
- c. To mitigate deviations resulting from uncertainty and project quantities required for both regular and irregular items thereby ensuring stock consistency without waste. Consequently, four selected Forecasting Models which are The Moving Averages, Single Exponential Smoothing, Holt's Two-Level Smoothing and Winters' Three Level Smoothing will be explored to determine the most appropriate model for inventory management function at the POYC.

first level of sampling method for the first two objectives was judgemental. The Yamane sampling formula revealed that a total of 51 respondents are required to ensure a representative outcome.

Whereas for objective 3, since POYC stocks hundreds of heterogenous items, the stratified sampling was deemed the best method since it groups elements that exhibit the same attributes. Therefore, to elect a sample that is representative of the entire population of items with their diverse behaviours the ABC XYZ tool was employed wherein ABC segregates the items according to cost and XYZ identifies the frequency of output of the items. Indeed, in his study, Davydenko (2019) has also proposed this type of classification to stock homogenise stock items into subgroups.

Primary and Secondary data

For the first two objectives primary data from a sample of judgementally chosen population was collected. Primary data was attained through means of a survey questionnaire which was constituted mainly of close-ended quantitative questions and some qualitative open-ended questions. Attention was given to avoid 'leading' questions and thus ensure more honest replies devoid of influence.

The close ended questions included, nominal, nominal – dichotomous and ordinal questions with a 5-point Likert scale. In the open-ended questions participants could answer in free format thereby allowing the author to probe deeper into their cognitive beliefs.

In this study, secondary data refers to readily available data in the form of historical dispense information hosted in the POYC repository. The dispense data extracted ranged from September 2017 till May 2020 (33 months).

Validity and Reliability

To harness reliability and therefore ensure that the evidence gathered sustains the research hypotheses, the survey questions were devised in a way to make them measurable. Additionally, to attain reflective answers, the participants that are connected to the field of study were chosen judgementally. The author also observed the setting under study. Hence the study is a mix of methods that instilled triangulation which in turn enhanced validity through convergence.

Furthermore, the primary data gathered was tested using Cronbach's alpha which states that any outcome above $0.7 \leq$ defines the results as reliable and hence provide greater interitem reliability whereas to review the dispersibility of the secondary data the bell curve was employed.

Data Processing

Since data is based on a sample that represents the population this type of data is called Parametric. The principal behind this technique explains that the results yielded from the sample will infer a representative outcome of the entire population.

After quantitative data was collected, it was transposed into descriptive charts. Radar graphs were utilised to assess scores accumulated from the questionnaire. Scatterplots were utilised to display the level of correlation and thus provide

an image of the degree of residuals when compared to the actual quantities dispensed whereas boxplots were utilised to graphically expose outliers and demonstrate the proximity of the interquartile range.

Qualitative data was analysed utilizing the nVivo technique. This is a method that through attentive data processing analyses the shapeless results gathered, organising them through a process of elimination of superfluous data and consolidation of essential information with attentive coding. At this stage, conceptualization is formed (Walliman, 2011). Afterwards, the coded information is converged into block themes which subsequently provide a clearer image of the cognitive beliefs of the respondents. Once this stage is complete the researcher is tasked with understanding and inferring concepts from the created themes.

Matrices which provide important information at first glance were used throughout the study.

Hypothesis-Testing

The research models guided the author to do inference. Furthermore, the triangulation method employed gave deeper insights through convergence of quantitative and qualitative data thereby strengthening interpretation from which inference could be made.

For the final objective the error measures MAPE and RMSE were utilised to assess the performance of the 4 forecasting methods under scrutiny. MAPE assumes that any results lower than 10 suggests an accurate forecast whereas RMSE suggests that the more the error measure fits the actual figure when divided, the higher the accuracy of the projected picture. To strengthen the study further, Pearson's correlation was added to the testing.

Instruments

While no particular constructs were applicable to this study, all quantitative analysis were performed using the Statistics Package of Social Science (SPSS).

Constraints

Originally to gather profound insights of the respondents' cognitive beliefs, the study for the first two objectives leaned heavily towards qualitative nature, however since the participants were not familiar with ICT components they were writing the explanations made by the author as their final answers yielding to false outcomes. Others, not knowing what to answer started to take ownership of answers disclosed by their col-

Results

Construct Validity and Reliability

Since measuring dimensions within the construct was not possible, face value and concurrent validity were utilised in place of construct validity. Face validity defines the level of degree by which author believes that the data measurements compliment the overarching aim of the study and therefore it is considered subjective whereas construct validity verifies whether the test does measure the construct. Whereas for quantitative data the internal consistency was tested by employing Cronbach's Alpha and all results comfortably exceeded 0.7.

The Primary Data

After the period of the collection of survey questionnaire elapsed it transpired that a total of 48 respondents out of 58 eligible participants participated in this activity. According to Yamane's formula the author needed a total of 51 replies and therefore 94.1% of the targeted sample population was attained. Female respondents (N=30) were highly prevalent over the male respondents (N=18). This was influenced by the fact that POYC has a higher number of female employees. Ten (10) respondents did not participate in the survey questionnaire.

The participants came from 10 different sections within the department and a total of 15 distinct duties were identified.

The Secondary Data

At time of reporting POYC had 747 active pharmaceutical items out of which a sample of 254 was extracted and data validated. Items were sorted using the ABC XYZ principal however since the overarching intent of POYC is to have enough stock on time, focus was mainly given to the XYZ facet. This revealed that a total of 609 items are classified as 'Z' items and therefore items with spasmodic characteristics are highly prevalent whereas 72 and 66 items were classi-

leagues and writing them down as their replies. A significant number of participants opted out of the questionnaire claiming that it was too difficult for them to understand. Therefore, the author revised the questionnaire and switched it towards quantitative since this method is known to be more straightforward and faster thus encouraging participation.

fied as 'Y' and 'X' items respectively.

Research Questions and Hypothesis-Testing

Current ICT Position within the McFarlan's Gridn H1A Alternate Hypothesis: *Applying the McFarlan, McKenney and Pyburn (1983) model, the current systems status, and related functions in use at POYC regarding inventory management are mainly in the strategic category categories.*

The resultant outcome revealed that albeit POYC is a department which overarching intent is to offer a service of excellence to its customers, the current system status is still located at the two lowest quadrants of McFarlan's Grid with 106 votes in the Support and 168 votes in the operational quadrant. Therefore, Alternative Hypothesis (H1A) was rejected and the Null (H10) was accepted.

Performance of Current ICT regarding Inventory Management

H2A Alternate Hypothesis: *The current systems characteristics in use at POYC regarding inventory management are optimal.*

Five (5) elements 'Easy to use', 'Frequency of use', 'Reliability', 'Stability' and 'Impact' were tested to evaluate the current system characteristics. The overall results demonstrated that albeit all systems are frequently used with an average score of 4.07, participants are not fully satisfied with the current IS. Indeed the 'easy to use' scored an average of 3.89, the stability scored 3.89, while the reliability generated lowest results of 3.55. Furthermore, participants further elaborated that any system malfunctions or downtime may cause a major upheaval with a score of 4.23. Consequently, the Null Hypothesis (H20) was confirmed whereas the Alternative Hypothesis (H2A) was not accepted.

Future Expectations utilizing McFarlan's Grid H3A Alternate Hypothesis: *Applying the McFarlan, McKenney and Pyburn (1983) model, the general expectations of employees at POYC in terms of the future use of information systems related to inventory management are inclined towards the operational and support category.*

Through their high-level recommendations, participants explicitly revealed the need to move up towards a more strategic platform with 78 hits. Hence, based on the cognitive beliefs shared by the participants, the Null Hypothesis (H30) was accepted, and the Alternative Hypothesis (H3A) was rejected.

Information Behaviour and Exploitation

H4A Alternate Hypothesis: *Applying the Marchand, Kettinger and Rollins (2001) model, POYC is adequately exploiting the generated information from its current information systems related to inventory management.*

Results suggest that with the best scores of 7.0 and 6.9, POYC is mostly oriented towards 'Add Value' and 'Reduce Cost' respectively, followed closely by 'Minimise Risk' at 6.8. This study also exposed the fact that with an above average score of 6.0 for 'Create New Reality', POYC does not have the mindset to invest in innovative solutions. Hence, based on evidence, the Null Hypothesis (H40) was partially accepted, and the Alternative Hypothesis (H4A) was partially rejected.

Data Elements within the POYC Repository

H5A Alternate Hypothesis: *The current information requirements POYC to conduct its inventory management function are sufficient.*

Respondents identified 44 inputs, 16 Output and 2 both Input and Output information were being gathered. Respondents also revealed that 62 type of information is accessible whereas 20 are not. Hence findings suggest that the Null Hypothesis (H50) was accepted, and the Alternate Hypothesis (H5A) was rejected.

Assessment of Inventory Management function utilizing Porter's Value Chain

H6A Alternate Hypothesis: *The information application systems used at POYC to support its inventory management function are enough to support the information requirements gap.*

Observation by the author revealed that the activ-

ities within Porter's Value Chain suffered inherent gaps instigated using multiple platforms to which employees had to repeat transactions and commands. Furthermore, as previously mentioned the IS cannot perform independently and needs the support of excel sheets which were created in-house. Results also show that there is lack of stakeholder involvement and communication is feeble. Findings imply that the Null Hypothesis (H60) was accepted, and the Alternate Hypothesis (H6A) was rejected.

Assessment of Information Technology sustainability utilizing Porter's Five Forces

H7A Alternate Hypothesis: *The information technology (hardware, networking, and database engine) used at POYC to support its inventory management function is enough to support the required information applications systems.*

The Horizontal level of Porter's Five Forces which encapsulates the Supplier Power (Service Provide), Internal / External Customers and Stock Control (Coordination) was utilised to assess the IT at POYC. Results imply that since there are only 2 ICT administrators the differentiation of solutions is extensively cropped and are also exerting undue (supplier) power. Participants strongly believe that since POYC interact with a variety of customers the level of empowerment needs to be strengthened and manual interventions eliminated. They further recommend investing on tools such as Artificial Intelligence. Finally, it was also implied that the need to optimise coordination in terms of stock control and thus increase competitiveness. Ultimately evidence suggests that the Null Hypothesis (H70) was affirmed whereas the Alternate Hypothesis (H7A) was rejected.

Degree of Accuracy of Selected Forecasting Models

H8A Alternate Hypothesis: *There is significant difference in the accuracy of predicting demand for a trend pharmaceutical item, when using Moving Average (MA), Exponential Smoothing (ES), Holt's two-level Exponential Smoothing (HES) and Winter's three-level Exponential Smoothing (WES) forecasting models to manage inventory.*

RMSE and MAPE with 22 and 21 optimal results respectively suggest that Winter's method has outperformed the other three models. Finally, based on the results attained there is a significant difference in performance between the four models and hence the Null Hypothesis (H8₀) was rejected, and the Alternative Hypothesis (H8_A) was accepted.

H9A Alternate Hypothesis: *There is significant difference in the accuracy of predicting demand for a seasonal pharmaceutical item, when using SMA, ES, HES and WES forecasting models to manage inventory.*

The error measures yielded from RMSE with 20 positive results and MAPE with 17 seem to favour Winter's. Consequently, the results imply that there is a significant difference in performance between the four models and hence the Null Hypothesis (H9₀) was rejected, and the Alternative Hypothesis (H9_A) was accepted.

H10A Alternate Hypothesis: *There is significant difference in the accuracy of predicting demand*

for a spasmodic pharmaceutical item, when using SMA, ES, HES and WES forecasting models to manage inventory.

Results yielded by both error measures is not consistent however the outcome still implies that Winter's model performed better than the others. Finally, based on the results attained, there is a significant difference in performance between the models and hence Alternative Hypothesis (H10_A) was confirmed while the Null (H10₀) was rejected.

Discussion

Research Objective One: ICT strategic review of the POYC in terms of Information Systems

Failures triggered by improper project management has made success of IT Development increasingly problematic (Vogt and Hales, 2010 as cited by Abdullah, 2012). Consequently, researchers have emphasized that to guarantee a robust planning an ICT Strategic review must be conducted from the onset.

Although organisations with ambitions to render an optimal service to its clients generally sit in the second-best quadrant of the grid (Camilleri, 2019), the POYC still lags in the operational and support cells. This inference is supported by the claim wherein respondents disclosed that POYC still functions utilizing legacy systems and MS Excel. Due to high risk of system disruptions and data loss the author is of the idea that this aspect needs to be addressed soonest. It was also observed that a limited number of respondents interpreted the current ICT system as strategic. This might be explained by the fact that they are not fully informed of the available solutions or prefer not to cross the boundaries beyond their comfort zone.

It was also shown that the system's performance is not optimal, since although these are being utilized continuously, they are not easy to use or understand. It was also denoted that besides system downtimes which may cause turbulences to operations and services, systems are not stable which further erodes the system's reliability. This suggests that POYC is only dealing with risks reactively which statement is also supported by Kangas (2003). This declaration echoes McFarlan's (1984) concern wherein he states that any system disruptions may result catastrophic to macro-organisations that are still located within the bottom two quadrants of the strategic grid. Results also imply that respondents are not satisfied with the current IS and have implicitly expressed their desire for a more strategic IS infrastructure.

The need for data integrity was also outlined. In fact, the next stage of the study involved assessing how the data is being exploited through the evaluation of 4 facets which are Minimize Risk, Reduce Cost, Add Value and Create New Reality. It was implied that POYC is mainly focused to 'Add Value' which defines the need to com-

prehend and adapt to the customers' perennial demands. The final scores also suggest that it is strenuous to utilize the information to reduce costs and minimize risks. The later also supports the notion denoted earlier wherein it was stated the macro-organisations that are within the lowest quadrants are susceptible to threats. Although POYC owns a wealth of information, the 'create new reality' has still generated the lowest score. This means that POYC does not exploit the information to harness innovation and this statement further indicates that the department under study is yet to reach the Turn Around and Strategic quadrant of McFarlan's grid.

Research Objective Two: ICT requirements in terms of information requirements, Information Systems, and Information technology regarding the inventory management function at the POYC.

The purpose of this objective was to identify the information needs to exploit the 4 dimensions mentioned in objective one, the IS needs required to sustain the information needs and necessary IT needs that are robust enough to efficiently manoeuvre the IS needs and information being accumulated.

Respondents disclosed the data that is considered indispensable for their functions. It transpired that while significant data elements were available but not accessible, others did not know that this information was available. This implies that data sharing is inconsistent. A data gap resulting from 20 missing data needs was exposed. The author posits that this may have been gradually kindled over time, because since the initial development of IS, the POYC's mission and environments have continued to evolve. Another factor that may have caused this risk to materialize is the lack of stakeholder involvement.

It is further assumed that missing information has put further toll on the department which instigated problems such as mismanagement of inventory, lack of traceability and decisions that lack inherent knowledge.

Porter's Value Chain was utilised to map the core and support activities and their functions. Evidence suggests that the constituents allocated are fragmented thereby reducing the capacity of the whole chain and restricting flow of information. This is caused by the severed linkages that exist between the IS programmes within different sections. This causes remarkable disruptions damaging the JIT principle. In fact, Raghunathan and Raghunathan (1990) assert that organisations who want to espouse JIT should secure a strategic environment from the onset. Respondents further elaborated that the recent system introduced is not tailor made to meet POYC's needs. Considering the aforementioned issues and the

Hammer's (1990) declaration on worn out systems, the author is of the strong belief that, to ensure efficient and effective operations and services, a Business Process Reengineering (BPR) is imperative to eliminate non-value-added processes, and streamline operations followed by the introduction of an Enterprise Resource Planning (ERP) (see Figure 4.1).

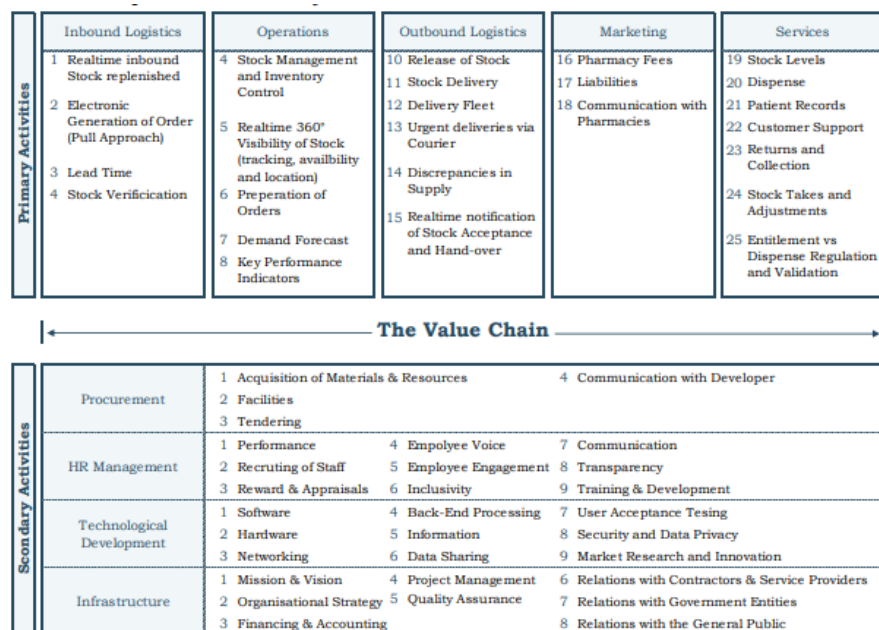


Figure 4.1 Proposed Value Chain for POYC

A state of the art IS requires a robust IT and consequently the horizontal facet of Porter's Five Value chain was utilised to determine the components that are vital to sustain IS. Since POYC has only 2 contracted IT developers and entry of new participants is difficult, a vigorous Project Management Planning inclusive of its vital components is overtly fundamental. This will yield a stronger bond between the stakeholders and the outsourcer thus making the achievement of corporate success more attainable.

Another indispensable element the organisation must not shun is market research. Evidence has repeatedly suggested that the organisation is not engaged in discovering innovative features that would create service differentiation.

McFarlan (1984) postulates that it is essentially vital for the organisation to continually explore new technological solutions since this will promote the organisation from follower to leader. Furthermore, internal users are frustrated and feel disempowered by the lack of technological tools such as barcode readers / scanners, which coerces them into 'motion waste' to execute their work. Such setbacks, besides instigating employee disengagement and boredom, are also a causation of JIT hindrance. Past research highly promotes RFID that would remarkably diminish the probability of risks replacing them with value

added components such as real time information, decreased uncertainty, and optimised stock management amongst others. These would consequently instil a sense of autonomy and security into the workers' mindset. Finally, an Artificial Intelligence Tool that would eliminate unnecessary manual work prone to mistakes must also be introduced to ensure data integrity and ensure that decisions are established on solid foundations (see Figure 4.2).

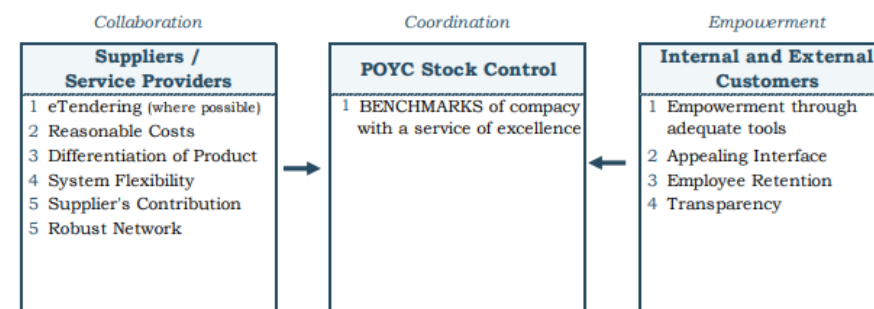


Figure 4.2 Proposed Porter's 3-Forces linked to Supply Chain

Research Objective Three: The most appropriate model for inventory management function at the POYC

was less reassuring for 'Y' and 'Z' items because since it averages out the results, it smooths out the seasonality and discards patterns.

Demand forecasting is a vital element for today's organisations (Fildes et al., 2006) since it strengthens overall performance (Makridakis et al., 1983). Over the years different models were devised to curb uncertainties and facilitate projections. However, to this day, organisations are still struggling with establishing the correct method and thus it is recommended to start with a simple model which is gradually improved over time (Makridakis et al., 1983). For this study, the Moving Averages (MA), Simple Exponential Smoothing (SES), Holt's Two-Level Exponential Smoothing (HES) and Winter's Three-Level Exponential Smoothing (WES) were analysed under different scenarios.

SES has shown improved results over MA, however it still suffers from shortcomings. SES predicts in linear form and therefore it is best suited for items that exhibit a horizontal pattern. It is therefore not suitable for items that show an increase or decrease in trend, and neither is it suitable for items with seasonality or spasmodic items.

MA which rationale involves taking an arbitrary choice of recent N values over 't' period and project a demand by averaging selected observations, performed quite well for 'X' Class items but

HES besides having the equation to project items that display a horizontal pattern, was also upgraded with an equation that is capable to capture increasing and decreasing trends and projects accordingly in a straight line. In fact, it performed better than the previous two models however the forecasted values still deviate from the actual observations when it comes to seasonality or trend items.

WES, besides having the stationery and trend equations, also hosts the seasonality parameter thus making it a better candidate for items such as that of behaviour (Makridakis et al., 1983). Indeed, MAPE and RMSE both generated optimal results overall which are significantly improved over the other models making them the most plausible models for the scenarios under study. P-Value results also supported this conclusion.

Having said that all models have shown erratic projections when it comes to items that do not exhibit a pattern whatsoever (see Figure 4.1), have sudden spikes or dips, or newly introduced or discontinued items. Hence the author posits that based on evidence forecasting aided by qualitative interventions based on solid foundations devoid of bias is mandatory.

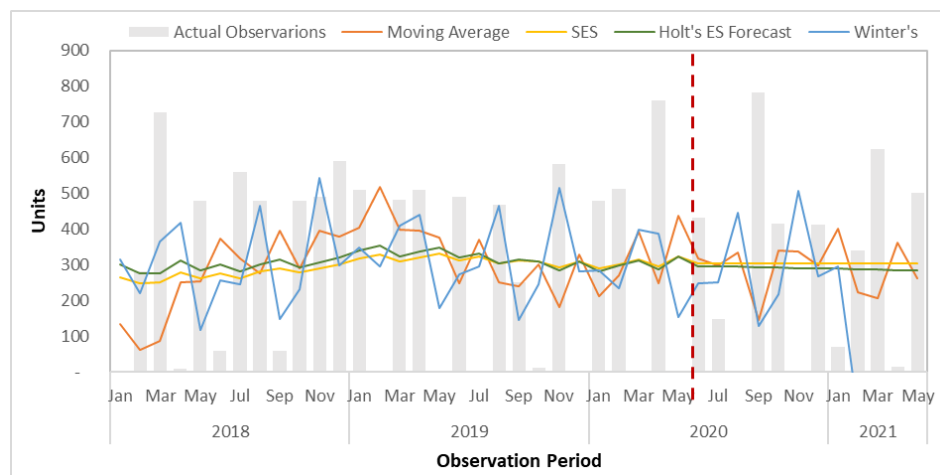


Figure 4.1 Performance of All Four Models on 'Z' Class Item

Conclusions

The outcome of the research suggests that POYC is positioned in the two lowest quadrants of McFarlan's grid. In fact, participants explicitly showed concerns over the current ICT infrastructure and expressed their desire for improved solutions which would promote the organisation to the highest cells of McFarlan's Grid. An information gap was also exposed, in that some valuable information is not being gathered whereas other available information is not being shared. Findings also implied fissures in the Value Chain instigated by the fact that the IS systems work independently with no networking. To address this situation a BPR followed by an ERP was recommended. There is also concern in IT. However, this disadvantage is difficult to overcome due to supplier power who are aware that new challenging entrants are improbable and therefore there is no competition. Consequently, a meticulous Project Planning is deemed imperative. The participants have also explained that since they are not equipped with the necessary tools, they cannot perform work and feel self-sufficient. Employees are the greatest asset of an organisation

(Gabčanová, 2011), hence, investing in sophisticated technology such as RFID and AI that would instil empowerment, engagement and trust is essential. The investigations carried out for this study implied that participants tend to resist the introduction of new developments. Therefore, through the utilisation of Kotter and Schlesinger's Six Change approach, it is recommended that the relationship between the variables that would help mitigate resistance is explored.

Evidence also suggested that the forecasting models performed differently, however WES has yielded promising results. Nevertheless, judgemental interventions based on knowledge are still recommended. Indeed, the author further suggests investigating qualitative forecasting methods such as Judgemental Intervention, S-Curve Technology, Time-Independent Technological Comparisons, and the Delphi Method. Finally scrutinizing other forecasting models that would closely reflect actual observations is recommended.

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07 Nurses' Behaviours Towards the Implementation of Information Technology Systems: A Pilot Study in a Qualitative Inquiry

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Abstract

Objectives: This study explores how the advancements in Information Technology Systems (ITS) have influenced our daily lives and the healthcare systems. The rapid digital change conveys new challenges which impact the nursing profession. ITS conceded data to be more effectively and efficiently shared amongst healthcare professionals, thus optimising patient care.

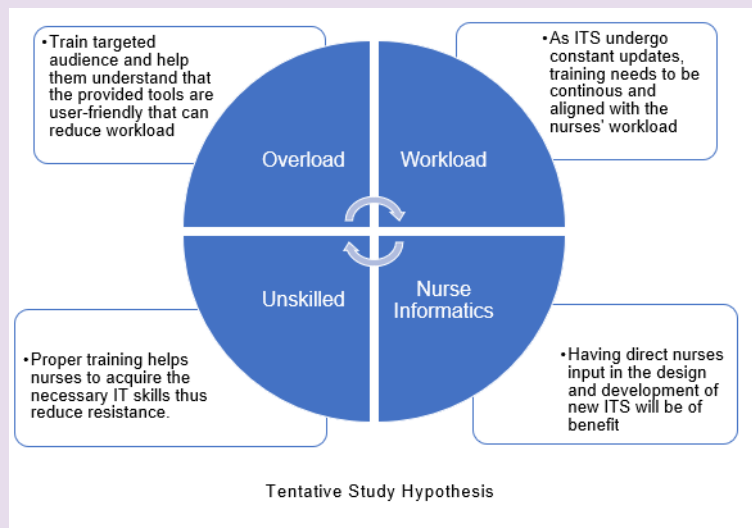
Nevertheless, technology brought about significant change in healthcare, necessitating nurses to develop IT skills and competencies in using such tools and data. Nursing informatics is important as it integrates nursing practice with ITS where nurses could have direct input in designing and developing systems.

Methodology: The inductive mixed-method approach investigated barriers that hinder nurses from using ITS at the Maltese National Blood Transfusion Service (NBTS). An anonymous questionnaire was distributed and filled out by all eleven NBTS nurses.

Results: The results identified barriers that hinder participants from adopting and implementing ITS and highlighted the importance of time allowance for training and practicing new IT skills. Research outcomes indicated workload, system overload having to learn more than one system, lack of skills and time to learn hinders NBTS nurses from adopting new ITS.

Conclusion: Having a clear strategic view, delivering proper training, and having nurse informatics can help nurses to adapt to these rapid technological changes.

Keywords: "Information technology", "nurses", "nursing informatics", "system overload", "workload"



GRAPHICAL ABSTRACT

Highlights

- Advances in Information Technology Systems (ITS) influence our daily lives and healthcare systems;
- ITS has enabled data helps to optimize patient care;
- Rapid digital change brings new challenges that impact the nursing profession;
- There are barriers that prevent nurses from using ITS;
- Training can increase knowledge in the use of these ITS and reduce such barriers.

Abbreviations

IT	Information Technology
ITS	Information Technology Systems
NBTS	National Blood Transfusion Service
PEOU	Perceived Ease of Use

Introduction

Developments in technology innovate and improve life in general. This also applies to the healthcare industry which continues to strive to remain abreast of the latest technology to ensure the best services and provision. Digital technologies allow data to be captured, stored, processed, and exchanged in more accurate and faster ways. However, it is only when healthcare professionals see the usefulness of ITS that they are able to make use of such systems (Phichitchaisopa & Naenna, 2013) and changes in implementation are sure to bring about challenges as they impact healthcare professionals (Rouleau, Gagnon & Côté, 2015), who are expected to learn about and use ITS as part of their workflow (The Association for the Advancement of Medical Instrumentation Foundation, AAMI, 2016).

Indeed, change may give rise to resistance as nurses are required to move out of their comfort zone (Mitchell & Kan, 2019). Lack of skills or enough time budget to learn and test new systems may escalate and complicate the effort (Scanlon, 2021). Nurses may perceive an increase on their job demands as they are expected to learn and adapt to using new ITS while still carrying out their daily workloads. In such cases, the 'pay-off' might be slow at first, thus negatively impacting efficiency (Timmons, 2003) rather

than enhancing productivity.

Nonetheless, studies show that using gathered information more efficiently and effectively helps in optimising patient care (Healthcare Information and Management Systems Society, Inc., HIMSS, 2019), hence it is acknowledged that contemporary nursing needs to address both the skills of interpersonal relationships as well as technology use (Greenwood, 2021).

As part of this research study, observations were carried out at the NBTS to observe nurses whilst they were required to use ITS. The observations yielded two main research questions, that are, what barriers hinder NBTS nurses from adopting ITS? And, why are IT applications resisted by the NBTS staff who are required to use them?

This study examined the barriers that hinder nurses from using ITS at NBTS, which in turn lead to resistance that negatively impacts the implementation and adaptation of new ITS and IT applications.

Methodology

In this study, an inductive approach using a mixed method was taken to identify why NBTS nurses avoid the use of ITS. The scope of this data collection method was to capture facts rather than impressions. Hence, to make it more accurate and contextualized, following behaviour observations, patterns were sought to form a tentative hypothesis and theory (Bradford, 2017). An anonymous questionnaire was designed after observing how nurses use ITS and applications at the NBTS. The questionnaire included a combination of demographic, multiple-choice, and some open-ended questions. Further enhancement to the validity and reliability of the study included voluntary and anonymous participation, hence the participants responded freely and without inhibitions. In terms of generalizability, although eleven participants were involved, this entailed a 100% sample of all the nurses working at the NBTS thus a saturation was reached (Glaser and

Data Analysis

A pilot study was held amongst eight NBTS appraisers to validate the questionnaire, mostly allied health professionals and IT officers.

Microsoft Excel was utilized to acquire descriptive data results. Tabulation was chosen as it makes data easy to analyse and aids in deciding which variables can be used for correlation. Frequency

Results

Descriptive summaries using pivot tables together with frequency tables, percentages, graphs, and pie charts were used to display results from the data gathered.

Demographic Data

Out of the eleven NBTS nurses that participated in this study, 36% were male, and 55% were female; 9% withheld their reply. 27% of the respondents were between 46 and 50 years of age with the rest of the respondents between 51 and 65 years old.

45% of participants had 31-35 years of nursing experience, while 27% had 26-30 years of experience. Moreover, 27% of respondents have been working at the NBTS for 11 to 15 years.

Participants were asked to describe their general

Strauss, 1967 cited in Saunders et al., 2017).

Data analysis revealed barriers that hinder nurses from using ITS at the NBTS and these were followed by recommendations suggesting how nursing staff should adapt and implement changes to their practices with minimal resistance and stress, and possibly increase benefits for all stakeholders.

Ethical considerations guided the study and approval from the Nurses' Director, the NBTS Consultant and the NBTS Data Protection Officer, was sought prior to data collection. Information letters informing about the study and all ethical considerations were distributed together with the questionnaire.

calculations were worked out using the '=COUNTIF' and '=SUM' for each answer, followed by the proportion worked out in percentages. Thus, the percentages quoted represent the frequency of responses among the eleven participants.

feelings when using ITS at the NBTS. In their responses, 55% of participants stated that they felt relaxed, whilst 45% feared ITS.

Results were further analysed for any correlations with age and gender. Participants could select multiple options.

Feelings when Using ITS

It was noticed that 67% of females and 50% of males initially feared using ITS as they have basic IT knowledge. Another observation was that the most common age of fearing ITS in females was between 46 to 55 years whilst that of males was 56 to 60 years. Hence although participants had 26 to 35 years of experience in their field of work, not being born and educated in the digital era affected their confidence in accepting and accessing technology (Strudwick, 2015). The inability to adapt to frequent technology changes (Shu, Tu and Wang, 2011), often manifested itself as resistance or unwillingness to interact with technology. Indeed, computer self-efficacy influences one's emotional reactions to computers, affecting their outcome expectations (Compeau & Higgins, 1995).

The study revealed that when systems are frequently used, enhancing familiarity and proficiency, both females and males agreed, that they felt relaxed. Goswami and Dutta (2016) found that females are less confident than males when using ITS and are inclined to use more user-friendly technology and thus need lesser effort to learn (Venkatesh & Morris, 2000). Agarwal and Prasad (1999) state that user capabilities result from user training, age, and educational background experience with ITS. Older adults are receptive if they find training and support whilst having applications that are easy to use (Czaja & Lee, 2007). While the limitation to using ITS may imply a lack of effectiveness, the connection between the subject norm and goal to utilise ITS was found to be moderated by nursing experience (Strudwick, 2015).

Nurses at NBTS use several ITS that adhere to different legislations to ensure full traceability of blood and respective products. It ensures safe and sustainable blood components for Malta and Gozo. When asked which of these systems they find challenging and why, respondents could identify more than one option from the systems and applications. Participants identified hardware systems (45%) and the Donor Management System (36%) as complex, with a further 9% specifically pointing out the new programmes of the Donor Management System as difficult. Indeed, working with complex systems exerts considerable physical and cognitive effort in performing the necessary tasks (Kannampallil et al., 2011). Risling (2017) also mentions that digital overload and burnout are a source of concern in modern technology as they are likely to intensify. Howev-

er, technostress level can be reduced by changing tasks or improving individual self-efficacy by reducing technology dependence tasks during the training process (Shu, Tu and Wang, 2011).

Other causes of difficulty identified by respondents included work overload (55%), complexity of ITS (36%) and unreliability of the ITS (27%). The Queen's Nursing Institute (2018) found that heavy workloads and time pressures hindered nurses from using ITS, since becoming familiar with new technologies takes time. Poissant et al., (2005) highlight that reduced workload helped nurses adopt new ITS. On the other hand, when new ITS does not offer immediate reduction in workload and ease of use, nurses tend to grow impatient regarding the supposed ITS offered benefits (Timmons, 2003).

Davis (1989) identified that if individuals see that the system functionality is needed, they are more willing and tend to cope with some difficulties the systems might bring on. However, if a system does not perform a useful function, no ease of use can compensate it. Phichitchaisopa and Naenna (2013) argue that when users understand the need for system use, they are more inclined to have a positive attitude towards systems. Poissant et al., (2005) continue that when nurses see ITS as a tool that enhances their workflow, they become more motivated to become system users.

Correlations of Feelings with Age and Gender

Interestingly, females and non-binary felt overloaded when having to learn more than one system, while none of the male respondents acknowledged this phenomenon (Table 1). However, the AAMI (2016) states that since the nurses' job is highly demanding, it can be a significant barrier that hinders nurses from accessing training on new ITS. Shu, Tu and Wang (2011) comment that learning and keeping up with new software and hardware systems takes time and learning everything about every device is not feasible (AAMI, 2016). Therefore, 'who will be trained' and 'on what' are among the decisions managers must make.

Analysis of relations between gender and complexity revealed that 17% of the females found the Donor Management System more complex than hardware systems, while 17% of the males found hardware systems complex.

No. in %	Feelings				
Gender & Age	Excited	Relaxed	Fearful	Panic	Scream
Female		51%	67%	17%	17%
46-50 years		17%	50%	17%	
51-55 years		17%	17%		
56-60 years		17%			
61-65 years					17%
Male		75%	25%		
36-40 years		25%			
41-45 years		25%			
51-55 years		25%			
56-60 years			25%		
Prefer not to say	100%				
61-65 years	100%				

Table 1 – Feelings by Gender and Age Groups

Note: - Participants could choose more than one option

Analysis of gender and systems' reliability showed that Females identified only Hardware systems as unreliable whilst males identified hardware systems at 33%, Office Applications at 25%; Inventory System at 17% and the Donor Management System at 13%. Kuo, Liu and Ma (2013) assert that unskilled nurses using complex ITS may lead to erroneous records. Hence strong leadership that ensures teamwork whilst implementing new ITS is needed to ensure support and communication on what is expected from the users (Zadvinskis, Smith & Yen, 2018). Getting everyone on board facilitates change. Nurses are more likely to accept and use ITS when they find that systems are easy to use and believe that they are helpful for their work (Strudwick, 2015).

Factors enhancing the Adoption of ITS

Results indicated that 71% of the participants agreed that training is needed to be able to use the required ITS, and it is also the way forward to improve ITS so that paper use can be minimised. 45% of the participants suggested In-house training, followed by 36% who indicated dedicated time to learn, and another 18% identified classroom training and having short notes will help

them.

This correlates with other studies that found training to be crucial for successful knowledge transfer as it helps in the implementation and diffusion of new ITS and it facilitates the change process at the workplace (Venkatesh and Morris, 2000). Training helps nurses become IT proficient and thus aids in reducing stress and anxiety (Kuo, Liu, and Ma, 2013). Practice also enhances nurses' IT proficiency and competency (Zadvinskis, Smith and Yen, 2018) whilst helping them see the benefits of ITS (Kuo, Liu & Ma, 2013).

Zadvinskis, Smith and Yen (2018) found that when new ITS had to be introduced and nurses were given four one-hour educational training sessions in the early days of implementation the same nurses rated themselves as competent in the field. This is worth noting since respondents from NBTS indicated that they took long sessions of training when the system was already in place. Hence participants in this study highlighted the need for 'more time for training, not one whole morning' as this allows for processing, internalisation, and consolidation.

Training is essential hence it is not to be considered unproductive time (AAMI, 2016). Agarwal and Prasad (1999) comment that as learning new ITS requires time, giving appropriate incentives by the management might help engage employees in self-learning, thus cultivating a learning culture. Educating end-users about the applicability of the system to their work prior to the implementation of new IT applications leads to higher acceptance (Ketikidis et al., 2012).

Correlations amongst Gender on What Helps to Adopt ITS

Results show that 67% of females prefer to have dedicated learning time, with 33% opting for in-house training as a format. Whilst none of the males or non-binary opted for the 'ded-

icated time to learn', 50% of the males chose classroom-based training and in-house training respectively as options; and all non-binary participants chose the in-house training (Table 2). This correlates with results in this study showing that females felt overloaded. Venkatesh and Morris (2000) suggest that since males and females learn differently, for training to be practical and effective, it should provide a variety of tasks to portray usefulness, and address process and productivity analysis in order to appeal to both males and females.

11 Participants	According to Gender		
What will help	Female	Male	Prefer not to say
Classroom-based training		50%	
Dedicated time to learn	67%		
In-house training	33%	50%	100%
Library - short notes	33%		

Table 2 – What will help them to adopt to new ITS by Gender

Note: - Participants could choose more than one option

AAMI (2016) suggests that training cannot be seen as one-fit-for-all since everyone learns at a different pace. Thus, different kinds of training and training materials should be available to assist nurses in learning. Yuan, Bradley and Nembhard (2015) recommend 'super users' to help in the training process. However, as 'super users' have a very demanding job, the American Nurses Association considers this a specialisation referred to as nurse informaticist. Menkiena (2021) proposes that having nurse informaticists also influences users' behaviour to accept new systems as these people can help the actual users develop the needed skills and sufficient basis for these healthcare technologies.

Rothmann and Cooper (2008) explain that the training cycle helps individuals develop the necessary skills. However, it was remarked that training alone would not solve all the problems in

learning new ITS. Making devices more intuitive and user-friendly can help nurses in their already overloaded profession (Phichitchaisopa & Naenna, 2013).

Reasons Why New Applications Are Not Adopted Even After Training

As training was offered, an attempt to capture why the new application was still not being used was made by asking an open-ended question. Respondents gave various answers, which were then categorised into four main reasons, Knowledge, Perceived Ease of Use (PEOU), Usage (how frequently the application is used) and Workload. Here, 43% of respondents said that the workload kept them from using the new IT application, followed by usage that scored 29% (Figure 2).

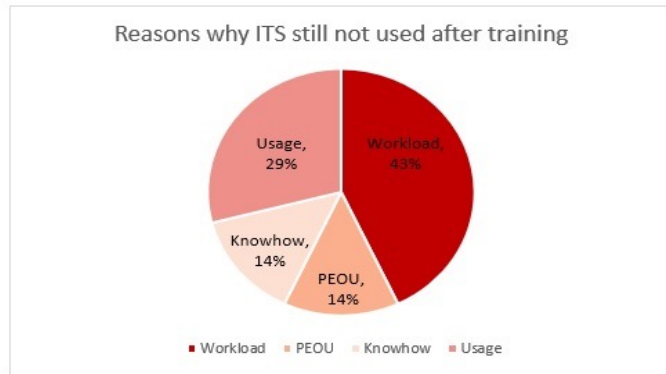


Figure 2 – Reasons why new application was still not used

Note: - ITS - Information Technology Systems
PEOU – Perceived Ease of Use

New Applications not Adopted Even after Training Gender Correlations

PEOU 14% and Usage 7% were other reasons identified by female participants who commented that since they do not have hands-on quite often on the new applications, they tend to forget how to use them thus, they avoid using them

(Table 3). 14% of male participants also identified knowhow as a limiting factor. It is worth noting that all the participants, irrespective of gender, who identified knowhow, PEOU and usage as inhibitors are over the 46-years-of age bracket.

% of categories	According to Gender	
	Female	Male
Categories by age group		
Knowhow		14%
56-60 years		14%
PEOU	14%	
46-50 years	14%	
Usage	15%	
46-50 years	7%	
51-55 years	7%	
Workload	29%	14%
36-40 years		14%
46-50 years	14%	
61-65 years	14%	

Table 3 – Categories of why ITS still not used according to Gender

Note: - ITS - Information Technology Systems

PEOU – Perceived Ease of Use

Advantages of Software and Paper Use

Exploring the advantages of using ITS instead of paper-based processing, data revealed that NBTS nurses acknowledge the benefits of using ITS for faster traceability (36%) and immediate access to centralised information (27%). Poissont et al., (2005) confirm that time efficiency was obtained when ITS were seen as a tool and Eley et al., (2009) observed positive attitudes towards computer use among nurses, where documentation was improved by ITS use (Waneka & Spetz, 2010).

Advantages of paper use over software systems were identified in this study, namely, less time consumption (36%) ease of notetaking (36%), and portability (18%). This reinforces the fact that

age and familiarity with technology impact perception. Kirkley and Stein (2004) comment that it is a great change for nurses who are used to holding charts and documents on paper to have to use ITS instead.

Suggestions to Improve ITS

Respondents in this study gave various suggestions on how to improve ITS to replace paper use. 71% suggested training, 29%, suggested having available mobile devices, and 14% suggested that having more time, more systems and easier ITS also helps (Figure 3).

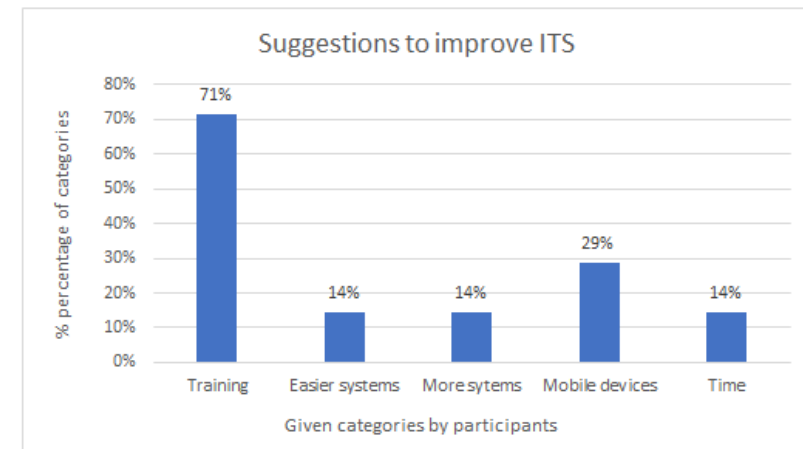


Figure 3 – Suggestions to improve ITS at NBTS

Note: - ITS – Information Technology Systems
NBTS – National Blood Transfusion Service

Understanding How Mobile Devices Can Help Nurses in Their Daily Work

The need for further training to help them in adopting ITS at NBTS (71%) was followed by the need of having mobile devices (29%). Indeed, since the nurse's job requires frequent movement, due to unplanned requests or situations, mobile devices such as computerised tablets, where the nurse can access up-to-date information, help facilitate the nurses' work (Ebright, 2010).

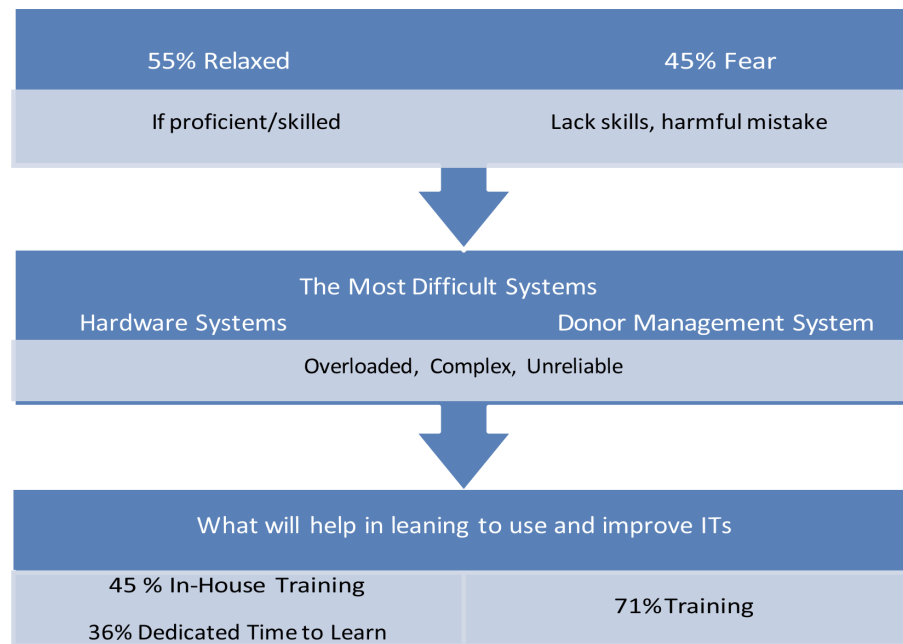
Kuo, Liu and Ma (2013) and Zadvinskis, Smith and Yen (2018), state that with the rapid technology advancements, mobile devices can have significant benefits in improving nurses' documentation at the point of care although this brings another considerable change for nurses who are used to having desktop systems. Thus, before any change in implementation is affected there are many factors that need to be considered to ensure a smooth and effective transition.

Conclusions

The study was held amongst NBTS nurses, and addressed the barriers preventing nurses from using ITS. Venkatesh and Morris (2000) established that differences between age and gender exist in technology adaptation. Thus, any correlations between these two variables were analysed. Significant and interesting findings have emerged.

Results provided an overview of the barriers that hinder nurses from using ITS, in particular partic-

ipants felt a lack of skills leading to an overload of work when having to use many ITS. The participants also pointed out that if in-house training is offered, supported by dedicated time to learn, their knowledge in using these ITS and applications will be enhanced.



Based on the observed patterns, it is believed that the results of this study would serve as a basis for a tentative hypothesis.

1. System-in-use (ITS) training should be targeted to a specific audience to help them understand that it is a user-friendly tool that can reduce work overload.
2. Training needs analysis are to be continuous and aligned with the nurses' workload, since ITS/applications undergo constant updates.
3. Proper training, using both active and simulated methodologies, during the workday help to minimize resistance as nurses acquire the necessary IT skills and confidence and therefore feel proficient.

4. Nurses' direct input (having nurse informaticists) when new ITS and applications are being developed is of benefit.

Many industries including healthcare need to adapt to the technological revolution that is ongoing where human resources and system users are challenged to learn a new language and new ways of working. This study aimed to identify the barriers preventing NBTS nurses from adopting ITS and the possible causes for resistance to learning and using new technologies.

Lack of IT skills, system overload due to having to learn too many systems, workload and lack of time to learn were identified as barriers that hinder NBTS nurses from implementing new ITS, while resistance to these changes seems to be related to the lack of IT knowledge and skills.

Given training and the right opportunities, nursing staff can be motivated to make better use of ITS, irrespective of the lack of IT skills. Hence the study emphasises the need for the identification of NBTS nurses' training and development needs followed by training provision and the availability of nurse informatics who can serve as the primary source/contact for others at the workplace.

Since all nurses at NBTS participated in this study, the findings are retained to be valid and reliable despite the small size. However, generalisability to other Blood Establishments is not possible since it is the only one on the island.

Limitations and Recommendations for Further Research

1. As Thompson and Panacek (2007) state, no single research layout is ideal for responding to all research questions. Thus, further approaches might gain further insights on users' perceptions of ITS.

2. This study adopted a mixed method, using observations and questionnaires for data collection followed by analytical content analysis based on a conceptual model. The study enrolled 100% participation but within a small unit. Maybe other similar studies in other units together with qualitative research one-to-one interviews and/or focus groups might help get more insight into the problem and provide other solutions.

3. It would be interesting to compare the findings in this study with other blood establishments worldwide to analyse whether nurses face the same barriers.

4. A broader spectrum of participants could lead to a wider investigation of the problems faced by NBTS nurses when using ITS to check for the same issues in other health departments.

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08 Improving Members' Participation in Maltese Agricultural Cooperatives

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Abstract

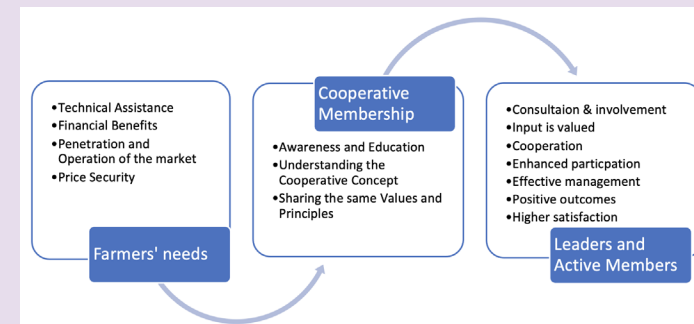
Objectives: This study explores the participation of members in the governance of Maltese agricultural cooperatives and seeks to identify factors that influence members' participation in their cooperatives and to explore how these factors can improve the commitment of members towards their organization.

Methods: By reviewing previous empirical and theoretical research, several themes related to members' participation are identified. Interviews are used as the research instrument. Quota sampling technique is adopted, and data are collected from the main relevant stakeholders of three different agricultural Maltese cooperatives.

Results: Members play a very important role in the development and success of cooperatives, as participation in the governance of their cooperative is crucial. Members may participate in their cooperative in different ways; however, some limit their participation to attending and voting in Annual General Meetings (AGMs), whilst others opt to serve on the cooperative's Committee of Management (COM). Hence, lack of member participation is a concern expressed by many cooperatives.

Conclusions: The research shows that communication, information, education, and cooperative performance have an effect on members' participation in the governance of agricultural cooperatives. Communication and information are vital in building and maintain cooperative-member relationships. Local agricultural cooperatives are finding it difficult to effectively communicate with their members and provide them with adequate information. Likewise cooperative education is being overlooked by the local cooperative movement. The study recommends various ways of improving communication and information dissemination. The study also recommends different alternatives to improve the education of cooperatives' members.

Keywords: "cooperatives", "cooperative members", "participation", "commitment", "governance".



GRAPHICAL ABSTRACT - TRANSFORMATION TOWARDS ACTIVE PARTICIPATION IN MALTESE AGRICULTURAL COOPERATIVES

Highlights

- Cooperative education, communication and information, and the cooperative performance are factors that affect members' participation in the governance of agricultural cooperatives.
- Good communication fosters relationships and strengthens the cooperative members' participation and their level of satisfaction and commitment.
- Consultation and involvement in important decisions enhances willingness to participate in decision-making.
- Members' motivation and participation is directly related to the dissemination of consistent and timely information, and cooperative education.
- Cooperative education instils motivation in individuals to self-develop and empowers them to contribute and participate in the governance of their cooperative.
- In the local context cooperative education is being overlooked by the cooperatives and the local cooperative movement in general.

Introduction

Cooperatives are a form of business in which people from the same socioeconomic class or who share a similar interest unite to achieve their shared goals. Nilsson (1996, p.645) states that "Individuals join together in running a business that serves their functional interest".

During the late nineteenth century, the modern cooperative movement originated in Europe, before spreading to other developing countries as a self-help method to combat extreme poverty (King & Ortmann, 2007). The cooperative movement in Malta started when the first legislation regulating Maltese cooperatives – the Cooperative Societies Ordinance - came into effect on the 12th of December 1946 (Malta Cooperative Federation, 2022). Data obtained from the Cooperatives Board, shows that there are currently 15 agricultural cooperatives in Malta, with a total number of around 2,200 members. These cooperatives operate mainly in three sectors – dairy, pig breeding, and vegetables and fruit cultivation. Whilst farmers who are members of agricultural cooperatives maintain autonomy at the farm/holding set-up level, the cooperative collectively processes and/or markets the products supplied by the farmer members.

Cooperatives are about people, and they are based on the values of democracy, equality, equity, and solidarity. The key difference between cooperative societies and other commercial entities is that while, in the latter, there is a clear distinction between owners of the entity and buyers (users) of the entity's products, in the former, cooperative members are simultaneously users and

owners of the cooperative. They therefore benefit from its services but also perform the duty of decision-making and control within the cooperative society.

Hence, the survival of a cooperative depends directly on its members. Indeed, the active participation of members in the governance of the cooperative is the most important condition for a cooperative to be successful (APS, 2004). Cooperative members are the owners, decision makers and the users of the cooperative, therefore, they have both the right and the obligation to participate in the governance of their cooperative. Participation levels vary from one member to another (Birchall & Simmons, 2004a): a) some members may not be interested in decision making and their involvement with the cooperative is solely motivated by the potential financial gains; b) members may occasionally participate in general meetings and cast votes on issues that directly concern them; c) active members are more likely to participate in the democratic process of the cooperative by regularly attending general meetings and casting their votes; d) members who feel they can have an impact on the cooperative's growth and effectiveness will try to get on the boards of the cooperative and participate in its management.

The agricultural cooperative movement in Malta is facing a continuous decline in the number of farmers and is failing to attract young people to work and operate in the agricultural sector. Although members' participation in cooperatives in other countries has been studied, insufficient attention has been given to members' participation within the context of Maltese agricultural cooperatives. Declining members' participation is a concern for local agricultural cooperatives and getting the remaining members to participate in the governance of the cooperative is a struggle. If the situation is not addressed, the future of these cooperatives is insecure. There is a need to explore means of developing the participation of members in the governance of their cooperative if these cooperatives are to survive. Knowledge is required on the factors that can strengthen members' participation.

The objectives of this study were to investigate the participation of cooperative members in Maltese agricultural cooperatives, identify areas for

Literature Review

The Concept of the Cooperative Movement

The International Cooperative Alliance (ICA), which is the organisation that represents cooperatives and the cooperative movements worldwide, defines a cooperative as "an autonomous association of persons united voluntarily to meet their economic, social, and cultural needs and aspirations through a jointly-owned, democratically-controlled enterprise" (Zeuli & Cropp, 2004, p. 1). The European Commission has also adopted the same definition (Kalogeris et al., 2016). The mission of a cooperative is to realise the economic, social and cultural needs and aspirations of its members. Nilsson, et al. (2012, p. 189) state that "The aim of a cooperative is not to convey capital gains to any owners; it is to create benefits to a group of members". Cooperatives prioritise the values of empowerment, cooperation, and solidarity rather than simply aiming to generate profits (International Labour Organization, 2021).

The fundamental tenet of all cooperative acts is that people can work together to achieve goals, that would otherwise be unachievable, through self-interested cooperation (Dunn, 1988). Farmers, for instance, can conduct business through

improvement, and determine the factors that affect active participation of members in the governance of the same cooperatives. The study's findings are meant to serve as a roadmap for the local cooperative movement in terms of how to put the recommendations into practice. This is regarded as essential to support Maltese agricultural cooperatives' long-term success.

agricultural cooperatives that they could not profitably do on their own (Barton, 2000). Cooperatives can offer input and services at reduced prices to their members while also marketing their products at higher prices. As a result, cooperative members can benefit from higher profits.

Values and Principles Governing Cooperatives

Most cooperatives are guided by seven principles, that enable them to put their cooperative and ethical beliefs into practice (Baldacchino & Bugeja, 2012). These principles are voluntary and open membership; democratic member control; member economic participation; autonomy and independence; provision of education, training and information; cooperation among cooperatives; and concern for the community (King & Ortmann, 2007). The core values on which cooperatives are based are the values of self-help, self-responsibility, democracy, equality, equity and solidarity (Johnson, 2012).

By definition, cooperatives are owned and controlled by their users, who are the members of the cooperative. Furthermore, members enjoy the benefits generated from the surplus of the cooperative. Several authors in cooperative literature refer and affirm three main principles when referring to cooperative, namely that they are: user-owned, user-controlled and user-benefit (Barraud-Didier et al., 2012; Barton, 2000; Dunn, 1988; King & Ortmann, 2007; Nilsson, 1996; Osterberg & Nilsson, 2009; Siebert & Park, 2010; van Dijk, 1999). This concept marks the difference between a cooperative and any other type of public or private business. As opposed to other business structures which focus on creating returns for their investors, cooperatives focus on generating benefits for their members.

According to the democratic member control principle, cooperative societies are democratic institutions whose members actively engage in the creation of policies and decision-making. The user-control concept implies that the cooperative is governed directly by its members. This is performed "by voting on significant and long-term business decisions and indirectly through representatives on the board of directors" (Zeuli & Cropp, 2004, p. 1).

Why Farmers Join and Remain Members in a Cooperative

Cooperatives are key organisations for enhancing the financial standing of farmers worldwide (Bijman & Iliopoulos, 2014) by providing farmers with lower-cost inputs and services, marketing their goods at higher prices, and reaching markets that were previously unavailable (Barton, 2000). Indeed, the primary reasons for farmers to join an agricultural cooperative are economic (Cechin et al., 2013). Better prices for farmers' products help to lessen market uncertainty, while the provision of technical assistance helps farmers run their operations more successfully and produce goods of greater quality. Farmers benefit from higher incomes as a result. These elements might then operate as a motivator for members to participate more in decision-making and influence important decisions. Cechin et al. (2013, p. 445) suggest that "there may be a relationship between the economic reasons for becoming a member (and continuing membership), and the motivation to participation in the governance of the cooperative."

Members' Participation in the Governance of the Cooperative

Effective corporate governance is crucial for the development of a cooperative (Grech, 2012) and for a cooperative to function well (Co-operatives UK, n.d.). By voting on important and long-term business issues during general meetings, members actively engage in the management of their cooperative. Most cooperatives follow the one-member, one-vote policy, which ensures that control is not concentrated in the hands of a small number of people. "The one-member, one-vote practice reflects a belief in complete mutuality and equality of members' interests" (Dunn, 1988, p. 88). Members must also carry out significant duties to maintain the viability of their cooperative. Hence, cooperative members play an important role in the governance of their cooperative.

Participating in the cooperative's governance gives members a better understanding of how decisions are made and how the cooperative is run. The success of a cooperative depends on the participation of an active, involved membership. Various researchers give great importance to the effect of members' participation and commitment in cooperatives. Cechin et al. (2013, p. 443) argue that "Effective governance of cooperatives depends on the pro-active participation of members in the governance". Trechter et al. (2002) also affirm that the long-term success of a cooperative depends on the commitment of its members, which when missing may lead to the cooperative's failure (Grech, 2012).

Participation of members in the governance of the cooperative can be divided into two types. The first type is attending, participating, and voting in general meetings, in particular the Annual General Meeting (AGM) and electing the members of the Committee of Management (COM); the second is by occupying a position in the COM. In this manner, the role of the member is enhanced by making direct decisions to influence strategy, policies, and projects.

The AGM, which is a legal requirement, is a meeting of the general membership of the cooperative and it represents the highest authority in a cooperative. Members utilize it to express themselves and make sure the cooperative is run democratically under the principle of "one man, one vote". Professionally organised AGMs are critical to strengthen members' sense of ownership and to bring members closer to the cooperative (Grech, 2012).

Members are represented by the Board of Directors (BOD), or as more commonly known in Maltese cooperatives, the COM which is made of a small number of members who are elected by the cooperative members themselves. Clause 74(1) of the Cooperatives Societies Act XXX of 2001(CSA) provides for the COM to be vested "with the conduct and management of the affairs and business of the society [co-operative]" (CSA, 2001, p. 29). The COM has additional responsibilities than those of any Board of Directors. These responsibilities are specific to the cooperative business model (Sedo, 2012). The role of the COM is crucial to the cooperative's structure.

Relations Between the Cooperative and Its Members

Wadsworth (2001, p. 19) posits that effective member relations between the cooperative and its members are essential "for a strong cooperative culture and future success." Building and maintaining strong cooperative member relationships is crucial for creating a cooperative culture that will protect the cooperative's future. For the cooperative to be managed effectively, member interests must coincide with the cooperative's interests. According to Figueiredo & Franco (2018), inter-personal and inter-organizational interactions are crucial since members are typically highly dependent on their organization to receive resources they would not be able to obtain otherwise. This leads to the development of trust between the cooperative and its members.

Trust determines the level of members' commitment (Morgan & Hunt, 1994; Wilson, 1995), and in turn members' identification with their cooperative can be enhanced with trust (Gray & Kraenzle, 1998). Members put their trust in their cooperative because it is reliable, competent, and conscientious in making the best decisions, as well as because they believe its intentions toward them are good (Batista et al., 2002). Hence, cooperatives must continue to be accessible to their members by demonstrating empathy for their needs and the challenges each member has in running their own business. Members' trust in their cooperative is also based on the information they have about their cooperative and on their perceptions of its ability to meet their needs and provide them with added value (Theuvsen & Franz, 2007). Trust is essential for members to develop a sense of loyalty towards their cooperative, and once trust is established it will also help to increase members' involvement in the cooperative's governance.

Factors Affecting Members' Participation

According to Zeuli & Cropp (2004), cooperatives have particular communication and educational needs because of their distinctive ownership and governance structure. A cooperative's success depends on knowledgeable and educated members. This is in line with one of the seven cooperative principles endorsed by the ICA: member education, training, and information (Haigh, 2000).

Communication is essential for a cooperative and its members to maintain and create relationships. Effective communication involves the formal and informal provision of clear, consistent, and timely information (Sharma & Patterson, 1999). According to Burt (2004), communication between cooperative members and management is essential for running a successful cooperative. Conflicts and bad sentiments between members and the management may result from unclear communication about the cooperative's developments. This is re-affirmed by Bhuyan (2007, p. 280) who suggest that lack of communication may result in "eventual negative members' attitude". Communication also influences member commitment towards the cooperative. This is in line with (Trechter et al., 2002, p. 24) who found that good communication "is strongly related to member commitment in a positive way".

Cooperation between members can be improved by providing information on important matters and obtaining their feedback. Members feel more attached to their cooperative when it communicates effectively and shares information with them (Barraud-Didier et al., 2012). A well-informed membership is more eager to contribute skills, concepts, and ideas to the firm than an uneducated membership (Kinyuira, 2017). Members sometimes have little knowledge of the business activities and developments of their cooperative. This, together with receiving limited communication, results in disconnection and disengagement from the cooperative (Brown et al., 2013). Although members are the most important stakeholders in a cooperative, they may feel that "they are not very familiar with what their cooperative is doing" (Bhuyan, 2007, p. 276). This is in line with Burt & Wirth (1990, p. 276), who argue that farmers "felt members were poorly informed about the operations of their cooperative."

Education “is critical to the effective and informed participation of members, which lies at the core of the cooperative definition” (Hoyt, 1996, p. 6). Members who are well educated in cooperative concepts, can actively participate in the governance of the cooperative (Dunn, 1988). The only way to create a strong sense of identity and an adequate comprehension of cooperative concepts is through cooperative education. Besides empowering existing members, cooperative education would encourage new members, especially young people, to join the cooperative society, ensuring the enterprise’s long-term existence (Kinyuira, 2017). Cooperatives should prioritise member education, which entails more than simply informing members about the business and encouraging trading loyalty. The importance of education and communication is often overlooked by cooperatives (Haigh, 2000)

Methodology

This research study investigated how the participation of members in the governance of Maltese agricultural cooperatives can be improved and hence it is characterised as exploratory. A qualitative approach was applied because well-founded, detailed descriptions and explanations in specific local contexts were required (Austin & Sutton, 2014). The data gathering techniques used predominantly produced open and non-numerical data, which were then analysed using non-statistical techniques.

The researcher initiated the study by conducting a review of the relevant literature which led to identify themes related to the subject under study. One-to-one semi-structured interviews were used to gather primary data since they provide far more detailed information than other data collection techniques. The interview questions were devised in relation to the themes identified from the literature review. The researcher gave importance to the interpretation of the words and statements of the participants as well as the capacity to see events from the perspective of the participant being investigated.

For the selection of participants, a non-probability, quota sampling technique was used to select categories of stakeholders that are significant to the study (Davis, 2005 cited in Taherdoost, 2016). The researcher chose three categories of stakeholders: a) Cooperative Members who are the foundation of the cooperative and the reason for

and “in spite of [it] being one of the most critical elements of co-operative businesses, it is least understood” Kinyuira (2017, p. 27). By giving their members training and education, cooperatives can enable them to effectively contribute to the development of their cooperative (Johnson, 2012).

its existence; b) Members of the COM who are the representatives elected by the Cooperative Members and whose main function is to make decisions on behalf of the members; and c) the Professional Managers who execute the decisions made by the COM.

The researcher sought similarities and differences amongst participants to ensure that different perspectives are represented. In order to maximize the relevance of data collection and analysis, biases in sampling were avoided by including three different groups of participants. In all, twelve participants chosen from three major cooperatives in Malta operating in different agricultural sectors, were interviewed. The researcher prepared three different interview guides (protocols) for the three groups of participating stakeholders.

A thematic analysis approach was adopted by the researcher to analyse the data. After becoming familiar with the data, the researcher coded the data and identified several themes relevant to the study. The coding was performed using computer software (QDA MinerLite). Through the software, the researcher coded the interviews according to the selected keywords and then, the distinct codes were sorted into themes. Once the final set of themes was established, the researcher started the write-up of the findings and analysis.

Ethical Considerations

Ethical clearance was sought from the institution’s Ethics Review Board before the study could start. The researcher also sought permission and obtained informed consent from the participants

Results & Discussion

The discussion that ensues focuses on the participation of cooperative members in Maltese agricultural cooperatives and the factors that affect the participation of members in the governance of Maltese agricultural cooperatives.

The Cooperative Concept, Values and Principles

The values, principles and the cooperative concept form the basis of the cooperative model and are crucial because the COM must manage the cooperative and lead the members in accordance to them. Hence, in order to effectively fulfil their function as leaders and active members of the cooperative, members of the COM should have a deep awareness of the cooperative concept, values, and principles. Most of the participants agree that there is lack of education and lack of awareness about the cooperative concept, values, and principles. In fact, “in many cooperatives, members are unaware of the sense and spirit contained in the word cooperative” (Tchami, 2007, p. 67). Moreover, it was noted that members show lack of interest in learning about the cooperative concept. The cooperative’s administration should be founded on the cooperative concept, and it is the duty of the COM to do so in accordance with the cooperative’s values and guiding principles. This point of view aligns with the literature. Sedo (2012, p. 1) found that COM Members have “other responsibilities that are unique to cooperative board members”, and they have a unique responsibility “to be sensitive to the needs of members and balance their conflicting interests” (Sedo, 2012, p. 1). Members may learn how to cooperate, participate, and manage their cooperative through cooperative education (Gimenes et al., 2016). This may be deemed fundamental to encourage active participation in the cooperative.

Why Farmers Join and Remain Members in a Cooperative

There was a common consensus among the research participants, that farmers become members of a cooperative to gain financial benefits, aid, technical assistance, and support, and to

before conducting the interviews. Confidentiality and anonymity of the information obtained from the participants were given due consideration by the researcher.

be able to make as much profit as possible. This view is consistent with that of Cechin et al. (2013, p. 445) who note that the reasons for a farmer to become a member are “primarily economic”. Barton (2000) states that the primary motivation of a cooperative member is the benefits the individual expects to receive.

The ability of the cooperative to market and sell the members’ products and to provide its members with price security also emerged as a driver that attracts individuals to enrol as members of an agricultural cooperative. The role cooperatives play in selling the products produced by the members was highlighted by 75% of all participants. One of the participants emphasized this by stating that “The cooperative is the means by which a producer has the strength and unity to penetrate and operate in the market.” Barton (2000) found that the benefits of having a cooperative competing in the market include better prices for the products of the farmers, more cost-efficient operations, increased competition, and an increase in market power.

Members’ Satisfaction with their Cooperative

The data gathered from the participants suggest that the cooperative’s ability to sell their products and the overall performance of the cooperative have an impact on the level of satisfaction of the members with their cooperative. As noted by Hansmann (1996) and later reinforced by Hernandez-Espallardo et al. (2013) and Figueiredo & Franco (2018), members’ satisfaction depends on the cooperative’s ability to provide its members with higher returns than any other firm. Hernandez-Espallardo et al. (2013) further stated that members only remain in cooperatives if the latter satisfy their needs better than alternative methods in the market.

The Relationship between the Cooperative and its Members

The findings highlighted the importance of building and maintaining the relationship between the cooperative and its members. Developing connections and a sense of belonging are deemed essential for building and maintaining these relationships. Findings show that members are more inclined to participate when good relations exist between them and their cooperative. According to the findings, information sharing, and effective communication are essential to establishing and fostering relationships between cooperatives and their members. This includes listening to members' concerns and engaging them in conversation about their problems. As one of the participants suggested, developing a proper communication channel between the cooperative and the members creates a sense of belonging. This suggestion is in line with that of Wadsworth (2001, p. 19), who states that "effective communication channels are necessary in cooperatives for disseminating timely information".

Trust and Loyalty

The researcher believes that it is natural for members to participate in the governance of their cooperative when a high level of trust between the cooperative and the members is developed. This is in-line with literature. Ole Borgen (2001) states that members' participation in the governance of their cooperative can be improved by members' trust in the cooperative. When trust develops, members feel more committed towards the cooperative. The relationship between trust and commitment has been identified in literature (Morgan & Hunt, 1994), and findings confirm that the link between the performance, competency and reliability of the cooperative, and trust and loyalty, is crucial for the cooperative's success. In the "Relationship Between Members' Trust and Participation in the Governance of Cooper-

atives", Barraud-Didier et al. (2012, p. 15) concluded that, to build trust, "the cooperative must show members that it is reliable and competent through its everyday actions".

One participant in this study points out, that when members are consulted on significant issues and their views and opinions are taken into consideration, trust and loyalty towards their cooperative can grow. It is simpler for members to identify with their cooperative when they feel that their opinion is valued. On the contrary, "the likelihood of cooperative abandonment was higher if members perceived that their input was not valued by the management in making decisions" (Bhuyan, 2007, p. 294).

Factors Influencing the Participation of Members

The findings show that awareness of the cooperative concept, values, and principles; members' satisfaction; cooperative-member relations; and trust and loyalty, attribute to the level of members participation in the governance of the cooperative. The research shows clear correlations between these attributes and cooperative education, communication, information, and cooperative performance and hence the latter are factors deemed crucial for improving the participation of members in the governance of agricultural cooperatives. A schematic view of these conclusions is shown in Figure 1.

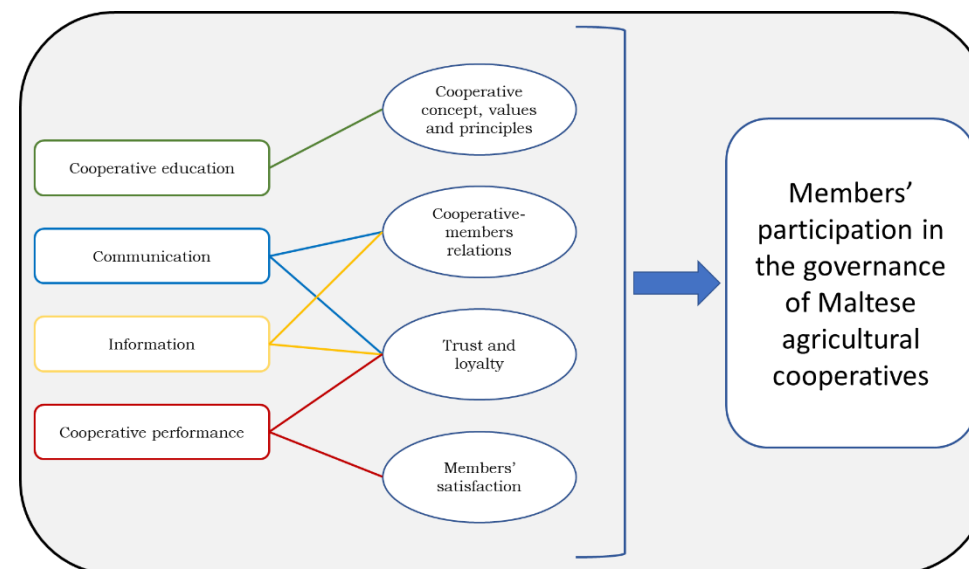


FIGURE 1: Factors that influence members' participation

Cooperative Education

The findings show that cooperative education is an important factor that can improve members' participation in the governance of the cooperative. This is in parallel with existing literature (Dunn, 1988; Hoyt, 1996; Kinyuira, 2017). Tchami (2007, p. 67) defines cooperative education as "a set of practices and means used to make members aware of the co-operative principles and advantage". Cooperative education assists individuals in acquiring the necessary knowledge and skills by comprehending cooperative principles, values, and regulations, to take an active part in their cooperative's governance. Normal education can help people improve their abilities and talents, but cooperative education helps people get the information and abilities they need to participate actively in their cooperative's governance by helping them understand the cooperative's principles, values, and regulations. The results of this research study support the notion that local agricultural cooperatives do not prioritize education enough and do not offer enough cooperative education. This circumstance appears to be comparable to that of other cooperatives in other countries. Literature reveals that cooperatives often underestimate the value of education (Haigh, 2000).

Communication

The research study shows that communication has a direct relation with cooperative-members relations and with trust and loyalty. The findings show that communication is essential to build a

sense of belonging and to develop connections between the cooperative and the members and it is deemed important to develop members' participation. Communication with members instil in them motivation to involve themselves in the cooperative. The findings of this study concur with a study by Barraud-Didier et al. (2012) who conclude that communication creates in members a sense of attachment to their cooperative. According to findings, a sense of alienation exists between cooperatives and their members when there is a lack of communication. This may cause the members to drift away from their cooperative, which would worsen relations and cause dissatisfaction among the members. This feeling of disengagement will eventually harm members' participation. This is not uncommon in the literature. According to Haigh (2000), lack of communication among members fosters a sense of detachment, and restricted communication results in a sense of disengagement (Brown et al., 2013; Haigh, 2000).

One of the participants said that without communication, "the cooperative will become distant from the members and the relationship will deteriorate". Providing information to the members develops a sense of confidence in the leadership of the cooperative which in turn helps in developing and improving members' trust and loyalty towards the cooperative.

Information

As with communication, provision of information was found to have a positive effect on cooperative-members relations and trust and loyalty. The results imply a beneficial relationship between information dissemination and development of members' participation. Members can analyse situations and issues and, as a result, provide feedback and opinion when they are given the proper information. Members can also make wise decisions when they are adequately informed. The beneficial impact of this is that it improves the members' commitment to their cooperative by making them feel appreciated and included. Despite this, COMs do not always provide information using best practices. This is in line with conclusions by Burt and Wirth (1990), who claim that members are underinformed about their cooperative's operations.

Findings, as well as literature, such as Zeuli and Cropp (2004) and Cechin et al. (2013), affirm that the AGM serves as an excellent platform for a cooperative to communicate with its members and to provide necessary information about the development of the cooperative. For this reason, cooperatives should strive to organise the AGM in the most professional way. The importance of the AGM is emphasized by one of the participants, who stated that "the Annual General

Conclusions

The study concludes that cooperative education, communication and information, and the cooperative performance are factors that affect members' participation in the governance of agricultural cooperatives. Members benefit from communication because it fosters relationships and strengthens the members' attachment to their cooperative which in turn enhance their level of satisfaction and commitment. The study further concludes that members need to be consulted and involved in important decisions, thus indicating that members are willing to participate in decision-making. Members feel heard when they are given the opportunity to voice their worries, bring up and discuss problems and complaints, and offer ideas and suggestions. This encourages members to get involved and take part in running their cooperative. Members of the COM must be proficient communicators in order to consult with members on crucial issues and to explain decisions made and the cooperative's course of action. According to this study, the development of member's participation is directly related to

Meeting is the culmination of a year's work; you will get to know what direction the cooperative is taking". Indeed, being, the highlight of a cooperative's year, the annual meeting should be regarded as the year's most important cooperative educational event (United States Department of Agriculture, 1992).

Cooperative Performance

Findings show that cooperative performance is directly linked with trust and loyalty and with members' satisfaction. The results show that cooperative performance directly affects member participation. This is consistent with literature. For instance, Trechter et al. (2002) remark that the cooperative's financial performance influences members' commitment to the organization. The researcher's view is that members feel proud of their cooperative when it performs its functions well. This fosters a feeling of belonging. Members speak favourably of their cooperative when they feel that it is benefiting them. This positive behaviour by members means that they identify themselves with their cooperative, and in turn, it may contribute to increased participation from members.

the dissemination of information. For members to make informed decisions, information needs to be properly distributed and delivered in a consistent and timely manner. Like communication, information sharing improves relationships between cooperatives and their members since informed members feel more part of their organization. Members are more motivated to participate in decision-making when they have access to information. Lack of information is a cause of disappointment which consequently may lead members to be less committed. The study concluded that most of the elected representatives of the members do not have the necessary skills and knowledge to manage the cooperative and to make decisions for the benefit of the cooperative and its members. Cooperative education and general training—which are essentially non-existent in the local context—are necessary for COM members to acquire these abilities.

Furthermore, it was concluded that cooperative education instils motivation in individuals to self-develop and empowers them to contribute and participate in the governance of their cooperative. The study shows that cooperative education is being overlooked by the cooperatives and the local cooperative movement in general. According to the study's findings, a coopera-

tive's success inspires pride in its members and increases their readiness to participate in the governance of their organization. The satisfaction brought about by a cooperative's success serves as a catalyst to inspire its members to identify with it and, consequently, to get involved and take part in its governance.

Recommendations

Taking the research findings into consideration, the researcher came up with the following recommendations. First and foremost, cooperatives should schedule regular informational meetings and member consultations, ideally in small groups. In order to boost member engagement and commitment, it is also advised to assign a committed individual to communicate with members directly to establish a connection with the members. Additionally, cooperatives must plan social events for their members that serve as opportunities for networking among members, COM members, and the cooperative management. In order to spark members' interest in learning about the cooperative concept, as well as cooperative values and principles, cooperatives should promote a culture that supports training and education. Potential COM members should be required to attend mandatory training sessions on the cooperative concept and should get ongoing training on specific business areas as well as guidance regarding their tasks and responsibilities. Lastly, the study recommends that cooperatives should invest in youths by exposing them to the cooperative business culture and model. The aim would be to introduce young people to the cooperative model of enterprise. This can be achieved by offering internships combining work experience and education, including experience on farms and exposure to agricultural concerns.

Areas of Future Research

The study recommends that a similar study should be conducted to assess member participation in non-agricultural cooperatives in Malta, with the aim of determining similarities and differences between the different types of cooperatives. Furthermore, a study can be conducted to explore why cooperatives are not investing in education and training. Another possible study related to cooperative education would be to investigate the possibility of including cooperative education in school curricula, with the objective of promoting the cooperative concept and model.

Limitations to the Study

The researcher had to work within a few restrictions, one of which was the limited amount of literature on the function of members and their involvement in Maltese cooperatives. As a result, the researcher had to rely mainly on international literature. The research was conducted during the Covid-19 pandemic which had a negative effect on some of the cooperatives taken into consideration for this research. This negatively impacted the income of the farmers, hence it could be that some participants who might have been affected negatively provided their view based on the circumstances at the time of the interview.

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