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## Decision Quality Questionnaire: An Instrument to Measure the Quality of Your Decision in Professional Life

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**Abstract:** Research objectives so that the quality of decisions made by leaders in the organization can be measured using valid and reliable measurement tools measured by using valid and reliable measuring instruments. Method literature review, questionnaire formulation, validity & reliability test validity & reliability of the questionnaire. Results The questionnaire is valid and reliable to be used as a measuring tool for Decision Quality. Contribution this study aims to provide a research instrument that is to measure Decision Quality. The quality of the decision is the quality that results from the results of the decision that has been applied or tested to the maximum and the results are seen to the maximum and assessed to the maximum as well. From the results of data processing using SPSS, it produces a Scale Statistics Mean of 46.8829, Variance 41.133, Std Deviation 6.41352, Validity respondent 205, Crochbach Alpa 0.888. Product Moment Correlation coefficient or rcount > 0.3, so it can be said that all statement items on the questionnaire have good validity. Meanwhile, the entire Cronbach's Alpha coefficient value obtained for all items is > 0.872 so it can be stated that all statement items on the questionnaire have good reliability (> 0.6).

**Keyword:** Decision Quality, Decision Making Process, Decision Making Skills, Decision Maker, Leadership Decision

### INTRODUCTION

A leader's decision-making skills influence the quality of the decision-making process carried out and the outcome is to produce quality decisions. The quality of decision-making skills (Decision-making competencies) and decision-making quality already have a questionnaire as a measuring tool that has been validated, while at the point of quality of the resulting decisions, there is no measuring tool. To measure the quality of decisions made, the medical world has a Decision Quality Instrument (DQI) measuring tool created by (Sepucha et al., 2007) and reviewed by (Lee et al., 2014) to measure the quality of decisions made by

patients breast cancer. DQI is used as a reference to measure the quality of medical decisions made by patients, not only for my cancer patients but also for other patients as studied by K. R., Stacey, D., Clay, C. F., Chang, Y., Cosenza, C. ., Dervin, G., ... & Levin, C. A. (2011) and published in their journal entitled Decision quality instrument for treatment of hip and knee osteoarthritis: a psychometric evaluation. From the journals regarding decision-related measuring tools, there is no tool to measure the quality of the decisions produced, while from literature studies we found a good theory of decision quality (Decision Quality). Skinner (1999) states that it is possible to achieve quality in decisions. Spetzler et al (2016), mention six requirements that must be met to achieve decision quality: 1) An appropriate framework, 2) Creative and feasible alternatives, 3) Reliable and useful information, 4) Clear value and compensation, 5) Logical and correct reasoning and 6) Commitment to action. This approach was introduced by the “Strategic Decision Group (SDG)”, in the early 1980s. When the six requirements are met, decision quality is achieved (Neal, 1994), (Keelin, Schoemaker & Spetzler, 2008), (Howard and Abbas, 2014), (Spetzler et al, 2016), (Spetzler, 2015) and (McNamee & Celona, 2008). It is unfortunate that an instrument has not been created to measure the quality of the decisions made themselves. Previous studies focused on measuring the decision-making process, decision-making style and competence as in the following journals: Kriston, Levente, et al, 2009, developing and Psychometrically tested a brief patient report instrument to measure Shared Decision Making (SDM) in clinical encounters that they revised an existing instrument (Shared Decision-Making Questionnaire; SDM-Q), including creating new items and changing the response format. The 'Decision-Making Questionnaire' (DMQ) was developed and validated to examine factors influencing decision-making (Sanz de Acedo Lizarraga, María Luisa, et al., 2009). Donelan, R., Walker, S., & Salek, S. (2016) said that at that time (2016), there was no generic instrument that could be used to assess the quality of decision-making.

This research explains the development of the Quality of Decision-Making Orientation Scheme QoDoS© instrument to assess the quality of decision making (Decision making Quality). Interviews offer quality insight into subjective decision-making approaches, influences, behaviors, and other factors influencing the process for individuals and organizations involved in the delivery of new drugs. The questionnaire they compiled to measure the Decision-making approach and Decision-making culture at the organizational level; Decision-making competence (decision-making skills) and Decision-making style for the individual level. Bujar, M., McAuslane, N., Walker, S.R., & Salek, S. (2017). Conduct a literature review to identify current techniques (tools, questionnaires, surveys, and studies) to measure the quality of decision-making processes in three stakeholders: pharmaceutical companies, regulatory authorities, and health technology assessment (HTA) agencies. Leyva, GP, & Garcia, JCP (2019) present a proposal for a scale to measure the quality of decisions in infrastructure projects in oil and gas exploitation, as well as their foundations. In the first stage, their target is the proposed decision quality measurement scale model and in the second stage, they carry out validation and verification. This latest research has measured decision quality and also used the six requirements that must be met to achieve decision quality Spetzler et al (2016) as a reference but the model they created does not purely measure decision quality alone but combines the Decision Quality Model (DQ) with Integral Decision Analysis (IDA), Front End Loading (FEL), the Dialogue Decision Process (DDP) and Scalable Decision Process (SDP). To date, no more recent updates to their journal have been found regarding the validation and verification of the measurement scale as they intended to be processed in stage two. Based on the gap phenomenon and research gap, research problems can be formulated as follows: 1) How to formulate a questionnaire to measure decision quality (Decision Quality) in order to find out whether the decision that has been made meets the six requirements to achieve decision quality. 2) Does the questionnaire formulation meet the validation and

reliability requirements to be used as a research instrument. In this digital and fast era, a leader needs to make decisions quickly and with good quality decisions that can be accounted for. Quality decisions are influenced by the quality of the decision-making process carried out and the decision-making skills possessed by the leader.

The quality of decision-making skills (*Decision making competencies*) and the quality of decision making (*decision making quality*) already have a questionnaire as a measuring tool that has been validated while at the point of quality of decisions produced in the work context there is no measuring tool even though the quality of decision making skills and process quality Good decision making does not always produce quality decisions. Yates et al (2003) link quality decision with the result (outcome) that a good decision give good result \_ or avoid from bad results. Yates et al (2003) in journal they about good and bad decisions \_ say that good and bad decisions \_ own characteristic features separately among other things related with desired results and outcomes achieved in making decision. They map the indicator like following this:

**Table 1. Indicators of Good and Bad Decisions**

No	Indicator	Bad Decision	A good decision
1	Results Experienced	Adverse: "This decision is bad because it produces bad results."	Favorable: "This decision is good because it produces good results."
2	Missed Results	"This decision was bad because it resulted in me losing good results." Favorable Results are missed.	"This decision is good because it prevents me from experiencing bad results." Adverse Results Missed it.
3	Choice	"This decision is bad because of its implications for my choices, now or in the future."	"This decision is good because it increases my options."
4	Process	"This decision is bad because the process used to make it is bad."	"This decision was good because the process used to make it was good."
5	Affect (influence of feelings)	"This decision was bad because I felt bad when (or after) making it."	"This decision was good because I felt good when (or after) making it."

(Sanz de Acedo Lizarraga et al., 2009) developing a decision making questionnaire. Questionnaire Decision Making (DMQ) was developed and validated for test influencing factors taking decision. Analysis psychometrics disclose satisfactory internal consistency and structure factor level the first to consist out of 10 on a scale: Uncertainty, Pressure time or money, Information and goals, Consequences decision, Motivation, Setting Self, Cognition, Emotions, Stress social, and pressure Work. Scales this in turn produce structure factor order both of which consist from Task, Subject, and Context. Research result this highlights how generation young, mature, and advanced age influenced by various factor when take decision.

(Elwyn & Miron-Shatz, 2010) in journal they entitled Deliberation before determination, measuring draft good decisions and highlights ways the convergence. In the field medical, them examine return size good decision, whether only depends with results or outcome of decision the or required consideration other. They proposed that size a good decision evaluate the deliberation process that must be covers adequacy subjective knowledge, as well processing emotional and approximate affective to existing alternatives. This matter must become base for action good determination in get results.

Decision-making phases	Description	Measurement elements
Deliberation	<ol style="list-style-type: none"> <li>1. Information search</li> <li>2. Knowledge gain</li> <li>3. Appraisal of knowledge sufficiency</li> <li>4. Imagining counterfactuals</li> <li>5. Affective forecasting</li> <li>6. Preference construction</li> </ol>	Perceived sufficiency of information gain, knowledge gain, perceived clarity about the nature, loss and gain of counterfactuals based on preference construction. Measure this phase as the construct of 'deliberation', perceived ease or difficulty, and assess
Determination	Integrating deliberation inputs and making a choice (i.e. the determination), prior to enacting the decision.	Record the option chosen; evaluate rationale. Measure by assessing evaluations of the enacted decision. For example, is there regret? Or rejoice?

**Figure 1. Decision Making Phases**

According to Elwyn & Miron-Shatz, quality decision is not only determined from the results obtained but need ensure that decision made. Already based on consideration cognitive, emotional, affective and through the retrieval process a good decision.

Spetzler et al (2016), stated six mandatory requirements fulfilled for reach quality decision: 1) Framework appropriate work, 2) Creative and feasible alternatives, 3) Reliable and useful information, 4) Clear value and compensation, 5) Reasoning logical and correct and 6) Commitment for Act. The first five points similar with the Deliberation process and point 6 being similar with the determination process proposed by Elwyn & Miron-Shatz. Difference both of them Elwyn & Miron-Shatz call the Deliberation process the decision making process and the Determination process is determination decision That Alone while Spetzler, Winter and Meyer use six condition a good decision as One unity For measure quality decision.

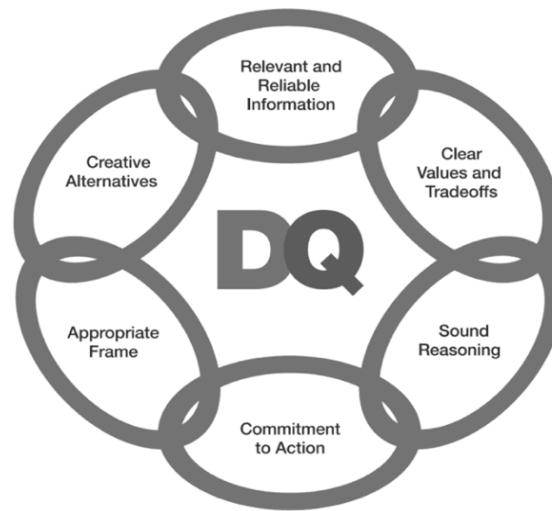
To measure the quality of decisions made, the medical world has a Decision Quality Instrument (DQI) measurement tool created by Sepucha, KR, Stacey, D., Clay, CF, Chang, Y., Cosenza, C., Dervin, G., & Levin, CA (2011) and published in their journal entitled Decision quality instrument for treatment of hip and knee osteoarthritis: a psychometric evaluation. DQI is used as a reference to measure the quality of medical decisions made by patients.

To measure the quality of decisions made, the medical world has a Decision Quality Instrument (DQI) measurement tool created by (Sepucha et al., 2007) and reviewed by (Lee et al., 2014) to measure the quality of decisions made by breast cancer patients. DQI is used as a reference to measure the quality of medical decisions made by patients, not only for my cancer patients but also for other patients as studied by K. R., Stacey, D., Clay, C. F., Chang, Y., Cosenza, C., Dervin, G., ... & Levin, C. A. (2011) and published in their journal entitled Decision quality instrument for treatment of hip and knee osteoarthritis: a psychometric evaluation.

**METHOD**

This research aims to formulate a decision quality questionnaire in accordance with the theory of six requirements that must be met to achieve decision quality as a reliable and valid research measuring tool for decisions that have been made. 1) After construct testing is complete (see instrument), it is necessary to continue testing the questionnaire with respondents who have similar criteria. Questionnaires were distributed to 350 questionnaires, 205 of which were returned for validity and reliability testing. 2) Validity and Reliability Testing, 1) For construct validity using the Six Requirements of Decision Quality conceptual framework (Spetzler et al, 2016). The initial step is to validate the contents of the questionnaire. The draft questionnaire was consulted with three experts (judgment experts) and overall it was stated that the questionnaire could be used without revision. This research aims to formulate a decision quality questionnaire in accordance with the theory of six requirements that must be met to

achieve decision quality as a reliable and valid research measuring tool for decisions that have been made. This questionnaire is intended to measure Decision Quality in the work and professional world to be able to measure the quality of leadership and management decisions. For this purpose, questionnaires will be distributed to executives and professionals in the world of work who join several WhatsApp groups. The questionnaire was distributed to 350 respondents and 205 filled out the online form for further validity and reliability testing. 1) For construct validity, use the Six Requirements of Decision Quality conceptual framework (Spetzler et al, 2016). The questionnaire was prepared based on the reference: Decision Quality, Spetzler, Winter and Meyer, 2016, from the six requirements for DQ theory: (1) an appropriate frame; (2) creative alternatives; (3) relevant and reliable information; (4) clear values and trade-offs; (5) sound reasoning; and (6) commitment to action.



**Figure 2. The Decision Quality Chain**

In accordance with the requirements that a valid questionnaire must meet: *construct validity* and *content validity*, the contents of this questionnaire are made to represent all aspects that are considered aspects of the conceptual framework. The formulation of the Questionnaire for the Appropriate Frame can be seen at the end of this article:

**Table 2. Formulation of the Questionnaire**

No	Quality Decision Requirements and Conceptual Framework Decision Quality, Spetzler, Winter and Meyer, 2016	1. Convert to questions the questionnaire becomes 12 items
1.	<b>Appropriate Frame</b> This section consists of three components:	
	1) our purpose in making the decision;	1) The decisions I make answer the problems I am trying to solve.
	2) the scope, what will be included and excluded;	2) The decisions I make optimize the opportunities that I can get.
	3) our perspective including, our point of view, how we want to approach the decision, what conversations will be needed, and with whom.	3) The decisions I make have clear reasons, aims and objectives.
2.	<b>Creative Alternatives</b>	

Span the range of possibilities	An alternative is one of a number of possible courses of action. Alternatives specify what we could do. Without alternatives, there is no decision to be made.	4) the decision after exploring the possibilities of expanded alternative solutions.
Define a high-quality set of alternatives	If the alternatives being considered aren't creative and compelling, it is worth the time and effort to create better ones because this will likely lead to more value.	5) I formulate quality alternative solutions before making my decision.
<b>3. Relevant and Reliable Information</b>		
Information is relevant when it helps us anticipate the value outcomes that may arise after an alternative is chosen.	Relevant information is anything important that we know, would like to know, or should know about the outcome of the decision.	6) The information I use in making this decision is relevant and can anticipate the consequences that may arise after I make alternative choices for this decision.
Information is reliable when it is trustworthy and unbiased.	Reliable information is trustworthy, unbiased, and comes from authoritative sources.	7) The information I use in making decisions is reliable and unbiased.
<b>4. Clear Values and Tradeoffs</b>		
values are what we care about when comparing alternatives.	“Are we clear on what we want from this decision?” “Do our stated values incorporate the perspectives of all key stakeholders?” “Do we understand how to measure each of our direct values?”	8) Do the values of the decisions I make also accommodate the views of other key stakeholders? 9) I can measure values directly from the decisions I make.
When more than one value is at stake, tradeoffs may be necessary	“What tradeoffs should be considered in choosing the best alternative?” “How would the decision change if different tradeoffs were made?”	10) I realized the shortcomings and sacrifices of the choices I made.
<b>5. Reasonable Reasoning (Sound Reasoning)</b>		
Alternatives, information, and values form the basis of the decision: what we can do, what we know, and what we want. Sound reasoning integrates these and illuminates the search for the alternative that will deliver the most of what we want, given the information we have.	Is there a hybrid that combines the best of the other alternatives? “Is the level of reasoning appropriate for this problem? Has the problem been oversimplified or made more complex than necessary?”	11) My decision for is incoming options sense after weigh possible alternatives I do, the information I know and the values I have want.
<b>6. Commitment to Action</b>		
True value creation requires both a decision and its implementation.	To create real value, a decision must conclude with action. Without effective action, all of the time and effort that went into the decision is wasted.	12) The decisions I make drive my commitment to follow through and implement them.

This research uses the Semantic Differential scale for data measurement. No. quality measure value in numbers 1 always (5), 2 often (4), 3 sometimes (3) 4 rarely (2), 5 never (1).

### Assessment Data Codification Table

The initial step is to validate the contents of the questionnaire. The draft questionnaire was consulted with three experts (judgment experts) and overall it was stated that the questionnaire could be used without revision. The assessments from the experts were validated using Aiken V calculations with the following results:

**Table 3. Assessment Data Codification**

No	Validator 1	Validator 2	Validator 3	Io	R-Io1	R-Io2	R-Io3	Sum	Aiken
1	5	5	4	1	4	4	3	11	0,92
2	5	5	5	1	4	4	4	12	1,00
3	5	5	5	1	4	4	4	12	1,00
4	5	5	5	1	4	4	4	12	1,00
5	5	5	5	1	4	4	4	12	1,00
6	5	5	5	1	4	4	4	12	1,00
7	4	5	5	1	3	4	4	11	0,92
8	5	5	5	1	4	4	4	12	1,00
9	5	5	4	1	4	4	3	11	0,92
10	5	5	4	1	4	4	3	11	0,92
11	5	5	5	1	4	4	4	12	1,00
12	5	5	5	1	4	4	4	12	1,00

Aiken's formula:

$$V = \frac{\sum S}{[n(c - 1)]}$$

Information:

$$S = r - Io$$

R = number given by the assessor

N = number of assessors

Io = lowest validity number

C = highest validity number

Aiken's V value ranges from 0 - 1. The closer to 1, the more valid the item. In this data, the minimum value is 0.92 and the maximum value is 1. This means that all questionnaire items have good or adequate validity values. 1) Next, the data collection technique uses an online survey which aims to measure the client's perception of the quality of their decisions referring to the quality of decisions obtained previously. The questionnaire was distributed to 350 professionals, 205 of whom returned it for validity and reliability testing.

Quantitative data collection was carried out using a questionnaire which was sent to respondents based on a list of closed questions and sent in the form of a Google Form link which would be filled in by respondents. Quantitative data analysis was carried out using the SPSS statistical application and was guided by validity and reliability tests as well as feasibility tests of the research model so that hypothesis testing could be carried out.

### RESULTS AND DISCUSSION

Many years Then connection between quality decisions and outcomes still become debate. Leyva, GP, & Garcia, JCP (2019) said that quality decision No relate with results (outcome). They confirmed that “one difference most importantly from Decision Analysis is distinction between good decisions and good results, which is approach scale, which happens

when taking decision face uncertainty. Therefore that's a good decision No always produce good result.

Awujo (1989) said that Skills taking decision is one of the influencing factors quality resulting decision. According to opinion, quality decision said Good If made based on consideration best moment that and rely on competence taking decision the best that the taker has decision. The best decision at the time this, in some time coming with development situations and circumstances, emergence factors new like information and discovery new can make decision best the become No Again decision best.

If the leader own Skills taking a good decision so they can carry out the retrieval process the right decision and then produce quality a good decision. Skills taking decision is thing that can be influenced by si maker decision for increase quality resulting decision. Quality Skills making a good decision will produce quality decisions. This matter can push study more carry on for see How quality Skills taking decisions (decision making skills quality) influence quality decisions (decision quality) made.

### Validity and Reliability

Test Validity is carried out to determine the validity of a questionnaire item. In this study, the validity test uses *product moment correlations*. An instrument is said to be valid if  $r$  is calculated  $> r$  critical (0.3) and significance value *Sig.*  $> 0.05$ . If otherwise, the questionnaire items are invalid. Meanwhile, reliability is the level of consistency of an instrument. Reliability is calculated based on *Cronbach's Alpha value*. An instrument is reliable if it is able to produce the same data and is carried out repeatedly for the same object and method or has a *Cronbach's Alpha value*  $> 0.600$  (Sekaran & Bougie, 2016). The results of the validity and reliability tests are presented in the following table.

**Table 4. Validity & Reliability Test Results of Research Instruments**

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
P1	43.0439	35.101	.561	.881
P2	43.1610	34.636	.632	.877
P3	42.5707	36.834	.460	.886
P4	43.0683	34.691	.598	.879
P5	43.0585	35.173	.563	.881
P6	43.1561	33.632	.713	.872
P7	42.9854	34.907	.632	.877
P8	43.1854	33.750	.638	.877
P9	43.1463	34.645	.543	.883
P10	42.7220	37.094	.402	.889
P11	42.8341	34,845	,651	,876
P12	42.7805	33,662	,715	,872

Source: Processed Primary Data, 2023

calculated  $r$  value can be seen in the *Corrected Item-Total Correlation column*, and is also known as the *Product Moment Correlation* coefficient number. Meanwhile, the *Cronbach's Alpha* coefficient value can be seen in the *Cronbach's Alpha if Item Deleted column*. From the data presented in Table 1, it appears that all *Product Moment Correlation* coefficients or  $r$  are calculated  $> 0.3$ , so it can be said that all statement items in the



questionnaire have good validity. Meanwhile, all *Cronbach's Alpha* coefficient values obtained for all items were  $> 0.6$  so it can be stated that all statement items on the questionnaire have good reliability.

Quantitative data collection was carried out using a questionnaire which was sent to respondents based on a list of closed questions and sent in the form of a Google Form link which would be filled in by respondents. Quantitative data analysis was carried out using the SPSS statistical application and was guided by validity and reliability tests as well as feasibility tests of the research model so that hypothesis testing could be carried out. An instrument is said to be valid if  $r_{count} > r_{critical}$  (0.3) and the significance value is  $Sig. > 0.05$ . If otherwise, the questionnaire items are invalid. Meanwhile, reliability is the level of consistency of an instrument. Reliability is calculated based on Cronbach's Alpha value. An instrument is reliable if it is able to produce the same data and is carried out repeatedly for the same object and method or has a Cronbach's Alpha value  $> 0.600$  (Sekaran & Bougie, 2016).

In the validity test results using SPSS, the calculated  $r$  value can be seen in the Corrected Item-Total Correlation column, and is also known as the Product Moment Correlation coefficient number. Meanwhile, the Cronbach's Alpha coefficient value can be seen in the Cronbach's Alpha if Item Deleted column. From the data presented in Table 1, it appears that all Product Moment Correlation coefficients or  $r$  counts are  $> 0.3$ , so it can be said that all statement items in the questionnaire have good validity. Meanwhile, all Cronbach's Alpha coefficient values obtained for all items were  $> 0.6$  so it can be stated that all statement items on the questionnaire have good reliability.

## CONCLUSION

Decision Quality Questionnaire can be used as a valid and reliable research instrument to measure the quality of decisions made. The closer the score is to 60, the optimum value, the more optimal the decision quality. From this measurement, a person can find out whether his decision has met the requirements of a good decision, namely: 1) having an Appropriate Frame, knowing the purpose of making a clear decision and knowing clear boundaries within the scope of the decision made; 2) creating creative alternatives, having quality choice options; 3) based on Relevant and Reliable Information, knowing all the information needed and the information is reliable; 4) having clarity on Clear Values and Tradeoffs in each decision option to be weighed; 5) using sound reasoning; 6) Encouraging commitment to action and getting concrete results from decisions made.

Yates et al (2013) link decision quality to outcomes, namely that good decisions provide good results or avoid bad results. Another expert, Leyva, GP, & Garcia, JCP (2019) said that decision quality is not related to outcomes. They assert that "one of the most important distinctions of Decision Analysis is the distinction between good decisions and good outcomes, which is a scaling approach, which occurs when decision making faces uncertainty. Therefore, good decisions do not always produce good results." In my opinion, the quality of a decision is said to be good if it is made based on the best considerations at that time and relies on the best decision-making competence possessed by the decision maker. The best decision at the moment, in some future time with developments in situations and circumstances, the emergence of new factors such as information and new discoveries can make the best decision no longer the best decision. For this reason, I agree with Spetzler, Winter and Meyer, 2016 who created the Decision Quality theory that good decisions are not linked to the results obtained but need to ensure that the decisions made are based on good considerations and a good decision-making process. Awujo (1989) said that decision-making skills are one of the factors that influence the quality of the decisions produced. If leaders have good decision making skills then they can carry out the right decision making process and then produce good quality decisions. Decision making skills are things that can be influenced by the decision maker to

improve the quality of the resulting decisions. The quality of good decision-making skills will produce quality decisions. This can encourage further research to see how the quality of decision making skills (decision making skills quality) influences the quality of the decision making process (decision making process quality) and then influences the quality of the decisions (decision quality) that are made.

## REFERENCE

- Awujo, A.C. (1989). Corporate Social Responsibility. An Unpublished MBA Lecture notes, Department of Management, University of Port Harcourt.
- Bujar, M., McAuslane, N., Walker, S. R., & Salek, S. (2017). Evaluating quality of decision-making processes in medicines' development, regulatory review, and health technology assessment: A systematic review of the literature. In *Frontiers in Pharmacology* (Vol. 8, Issue APR). Frontiers Research Foundation. <https://doi.org/10.3389/fphar.2017.00189>
- Donelan, R., Walker, S., and Salek, S. (2015). Factors influencing quality decision making: regulatory and pharmaceutical industry perspectives. *Pharmacoepidemiol. Drug Saf.* 24, 319–328. doi: 10.1002/pds.3752
- Donelan, R., Walker, S., & Salek, S. (2016). The development and validation of a generic instrument, QoDoS, for assessing the quality of decision making. *Frontiers in Pharmacology*, 7, 180.
- Elwyn, G., & Miron-Shatz, T. (2010). Deliberation before determination: The definition and evaluation of good decision making. *Health Expectations*, 13(2), 139–147. <https://doi.org/10.1111/j.1369-7625.2009.00572.x>
- Kriston, L., Scholl, I., Hölzel, L., Simon, D., Loh, A., & Härter, M. (2010). The 9-item Shared Decision Making Questionnaire (SDM-Q-9). Development and psychometric properties in a primary care sample. *Patient Education and Counseling*, 80(1), 94–99. <https://doi.org/10.1016/j.pec.2009.09.034>
- Lee, C. N., Wetschler, M. H., Chang, Y., Belkora, J. K., Moy, B., Partridge, A., & Sepucha, K. R. (2014). Measuring decision quality: Psychometric evaluation of a new instrument for breast cancer chemotherapy. *BMC Medical Informatics and Decision Making*, 14(1). <https://doi.org/10.1186/1472-6947-14-73>
- Leyva, G. P., & Garcia, J. C. P. (2018). Proposal of a Measurement Scale of Decision Quality in Infrastructure Projects in Oil and Gas Exploitation. *European Scientific Journal, ESJ*, 14(7), 272. <https://doi.org/10.19044/esj.2018.v14n7p272>
- Lin, C. P., Chen, K. J., Liu, C. M., & Liao, C. H. (2019). Assessing decision quality and team performance: perspectives of knowledge internalization and resource adequacy. *Review of Managerial Science*, 13(2), 377–396. <https://doi.org/10.1007/s11846-017-0253-0>
- Sanz de Acedo Lizarraga, M. L., Sanz de Acedo Baquedano, M. T., Oliver, M. S., & Closas, A. (2009). Development and validation of a decision-making questionnaire. *British Journal of Guidance and Counselling*, 37(3), 357–373. <https://doi.org/10.1080/03069880902956959>
- Scholl, I., Kriston, L., Dirmaier, J., Buchholz, A., & Härter, M. (2012). Development and psychometric properties of the Shared Decision Making Questionnaire - physician version (SDM-Q-Doc). *Patient Education and Counseling*, 88(2), 284–290. <https://doi.org/10.1016/j.pec.2012.03.005>
- Scholl, I., Loon, MK Van, Sepucha, K., Elwyn, G., Légaré, F., Härter, M., & Dirmaier, J. (2011). Measurement of shared decision making - A review of instruments. *Journal for evidence, continuing education and quality in Health*, 105 (4), 313–324. <https://doi.org/10.1016/j.zefq.2011.04.012>
- Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th Edition). Wiley & Sons.

- Sepucha, K., Ozanne, E., Silvia, K., Partridge, A., & Mulley, A. G. (2007). An approach to measuring the quality of breast cancer decisions. *Patient Education and Counseling*, 65(2), 261–269. <https://doi.org/10.1016/j.pec.2006.08.007>
- Sepucha K, Levin C, Uzogara E, Barry M, O'Connor A, Mulley A. Developing instruments to measure the quality of decisions: Early results for a set of symptom- driven decisions. *Patient Education and Counseling* 2008 73:504-510.
- Sepucha K, Stacey D, Clay C, Chang Y, Cosenza C, Dervin G, Dorrwachter J, Feibelman S, Katz JN, Kearing S, Malchau H, Taljaard M, Tomek I, Tugwell P, Levin C. Decision quality instrument for treatment of hip and knee osteoarthritis: a psychometric evaluation. *BMC Musculoskelet Disord*. 2011; 12(1):149.
- Spetzler, C., Winter, H. and Meyer, J. (2016) *Decision Quality*. 1st edn. Wiley.
- Yates, J. (2003). *Decision Management: How to Assure Better Decisions in Your Company*. San Francisco, CA: John Wiley & Sons.
- Yates, J. Frank, and Stephanie De Oliveira. 2016. Organizational Behavior and Human Decision Processes Culture and Decision Making. *Organizational Behavior and Human Decision Processes* 136: 106–18.