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Translation, Validity, and Reliability of the Arabic Version of the Patient-Experienced Continuity of Care Questionnaire (PECQ)

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Abstract—Background: Continuity of care (CoC) is a cornerstone of effective primary health care. To improve CoC in this setting, it is essential that healthcare administrators evaluate it systematically. One validated tool designed for such purpose is the Patient-Experienced Continuity of Care Questionnaire (PECQ). The PECQ is a Swedish questionnaire that, at the time this study began, had been validated but did not have an Arabic version.

Aim: This study aimed to translate the Swedish PECQ into Arabic and to determine the validity and reliability of the Arabic version within the Saudi community.

Method: The research followed a multi-step process. The PECQ was translated according to the International Society for Pharmacoeconomics and Outcomes Research guidelines for translation and cultural adaptation. Content validity was assessed using the Content Validity Index (CVI), and internal consistency was measured using Cronbach's alpha and a correlation matrix.

Result: The Arabic version (A-PECQ), developed through a 10-step process, includes 20 items covering four dimensions of CoC: informational, relational, management, and knowledge continuity. An average Scale-level Content Validity Index (S-CVI) of 0.90 was

achieved, with 75% of the items rated as having high content validity.

Conclusion: The Arabic version of the PECQ demonstrated strong content validity and acceptable reliability, making it a suitable tool for evaluating CoC in Arabic-speaking communities. Although some of its components have moderate CVI values, the A-PECQ continues to be a useful instrument for assessing CoC in primary health care and supports quality improvement programs in this field.

Index Terms—Continuity of Patient Care; Primary Health Care; Saudi Arabia; Surveys and Questionnaires.

I. INTRODUCTION

Continuity of care (CoC) is a cornerstone of effective primary health care, playing a pivotal role in efforts to achieve better health outcomes and enhance patient satisfaction [1]. In primary care, *continuity* refers to the extent to which a patient experiences healthcare as a coordinated and connected series of events that align with their needs over time [2].

Effective CoC in primary health care contributes to improved access to services, better adherence to treatment plans, and reduced healthcare costs by minimising unnecessary hospitalisations and emergency visits [3-5]. It also enhances patient safety by reducing errors associated with fragmented care. Furthermore, continuity supports preventive care measures and empowers patients to actively participate in their healthcare decisions, aligning with the principles of patient-centred care [5,6].

Many studies have examined CoC from the patient's perspective [7,8]. One common method of assessment is the use of patient questionnaires, which are widely used in research and clinical practice due to their efficiency, ease of administration, and minimal financial resource requirements [9].

In 2023, the Patient-Experienced Continuity of Care Questionnaire (PECQ) was developed and

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validated to assess patients' experiences of CoC in primary care. The PECQ effectively measures informational, relational, management, and knowledge continuity, providing a comprehensive understanding of patients' care experiences [7]. The PECQ was originally developed in Swedish, and at the time this study began, no Arabic version existed. There was therefore a need to translate the tool into other languages to facilitate its application in different communities.

Evaluating CoC in primary care services can help to identify weaknesses and inform policies to improve care delivery; thus, a validated tool that assesses all dimensions of CoC could contribute significantly to the quality of health care. Employing the same tool in different countries might facilitate international research, enabling further validation of knowledge regarding the quality of primary health care. Its findings could support the use of the PECQ as a reliable tool to inform quality improvement initiatives in primary care settings. Translating the questionnaire into Arabic would enable its application among Arabic-speaking patients, ensuring a broader impact on healthcare quality assessment and improvement. This study, therefore, aimed to translate the Swedish PECQ into Arabic and to determine the validity and reliability of the Arabic version within the Saudi community.

II. METHODOLOGY

This research was conducted in multiple steps. First, we translated the PECQ based on the International Society for Pharmacoeconomics and Outcomes Research (ISPOR) guidelines for translation and cultural adaptation [10]. We then evaluated the validity of the questionnaire using the Content Validity Index (CVI), and calculated the Cronbach's alpha and correlation matrix to assess internal consistency.

The study was approved by the Institutional Review Board (reference SCBR-445/2025) in March 2025. No personal identifying information was collected during the validation process, and participants had the right to refuse to participate in the study. Informed consent was a requirement for participation.

Stage 1: Translation of Original PECQ

With the permission of the original authors, the Swedish PECQ was translated and harmonised by two native Arabic speakers from Saudi Arabia with a background in health care and fluency in Swedish. The resulting translations were reconciled through discussion to create a unified version, which became known as the A-PECQ. This version was then back-translated into Swedish by a Swedish speaker fluent in Arabic. The original Swedish version and the back-translated version were compared and refined to ensure conceptual equivalence across different PECQ versions.

A cognitive debriefing of the A-PECQ was conducted with the target population, and revisions were made based on feedback received. The questionnaire was then proofread prior to use in the content validity assessment.

Stage 2: Content Validity of Translated A-PECQ

The content validity of the A-PECQ was assessed using the CVI [11]. The relevance of each item was evaluated by eight healthcare professionals with experience in primary health care, using a four-point scale:

1 = Not relevant, 2 = Somewhat relevant, 3 = Quite relevant, and 4 = Highly relevant.

The Item Content Validity Index (I-CVI) was determined by dividing the number of experts who rated an item as 3 or 4 by the total number of experts. Items with an I-CVI greater than 0.78 were considered to have excellent content validity, while those scoring 0.78 or lower required revision [12]. The overall validity of the questionnaire was assessed using the Scale-level Content Validity Index/Average (S-CVI/Ave), where an S-CVI score of 0.80 or higher was considered acceptable and a score of 0.90 or higher indicated excellent content validity [12].

Stage 3: Assessment of Internal Consistency

Following the CVI evaluation, we assessed the internal consistency of the instrument by calculating Cronbach's alpha for individual items, domains, and the overall scale. An alpha value exceeding 0.70 was deemed satisfactory. Additionally, the item-total correlation was computed to assess how

strongly each item correlated with the overall scale, with an optimal range between 0.3 and 0.7.

Stage 4: Inter-Item Correlations Within Domains

To determine the coherence of items within each domain, we calculated the correlation matrix [13]. In our research, inter-item correlation values equal to or above 0.40 are considered strong and indicative of robust internal consistency; correlations between 0.10 and 0.39 are considered moderate and acceptable; and correlations below 0.10 may suggest that the item is weakly related to, or not aligned with, the overall scale.

All statistical analyses were performed using SPSS Statistics 23.0.

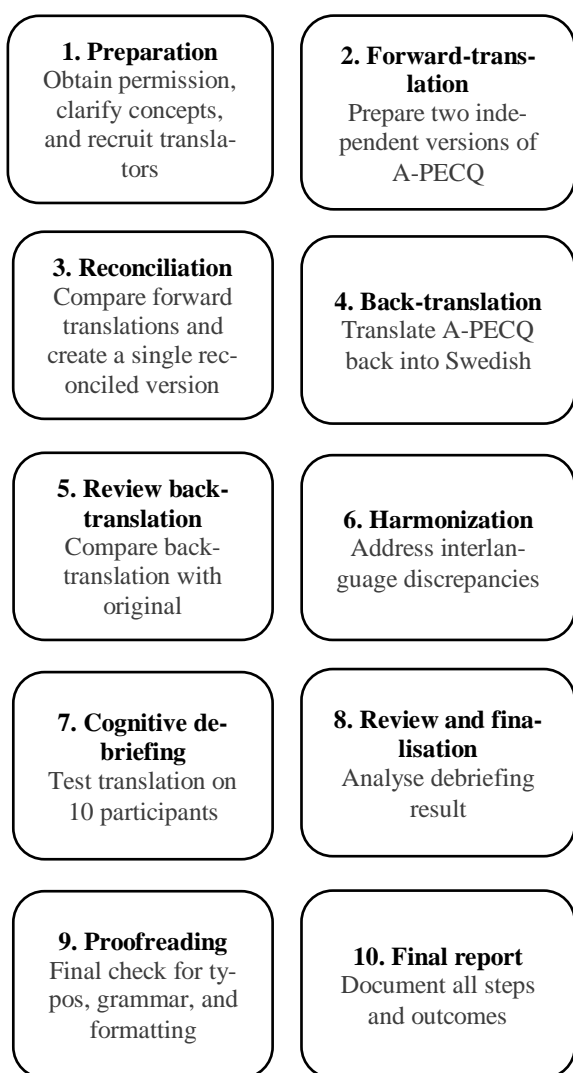


Figure 1. Steps in PECQ translation

III. RESULTS

Stage 1: Translation of Original PECQ

The translation process involved 10 steps (Figure 1). The final A-PECQ version was approved by the translation group. The Arabic version consisted of approximately 1600 characters, compared with 1400 characters in the original. Like the Swedish version, the A-PECQ comprised four dimensions and 20 items in total (Supplementary Material, Appendix 1). Table 1 shows the question items by subgroup.

Stage 2: Content Validity of Translated A-PECQ

The average CVI score for all 20 items in the A-PECQ was 0.90. Fifteen items (75%) had an I-CVI score higher than 0.83, indicating excellent content validity. Five items (25%) had an I-CVI score between 0.63 and 0.75, suggesting they may require revisions (Table 2).

Stage 3: Internal Consistency of Translated A-PECQ

For internal consistency testing, the questionnaire was distributed to 27 subjects from the target population. Reliability analysis of the A-PECQ revealed an overall Cronbach’s alpha of 0.923 for the scale, indicating excellent internal consistency. The item-rest correlations ranged from 0.0164 to 0.795. Additionally, the Cronbach’s alpha for the relational continuity domain was increased to 0.808 by removing RC-5, and that for the knowledge continuity domain increased to 0.651 by removing KC-3. This indicates that these items weakened the reliability, and that their removal or revision should be considered. After excluding RC-5 and KC-3, the overall Cronbach’s alpha reached 0.932, demonstrating enhanced reliability of the scale (Table 3).

Stage 4: Inter-Item Correlations Within Domains

Each domain was internally assessed to identify the item correlations. The correlation matrix revealed some weak and negative correlations, particularly between RC-2 and RC-3, RC-2 and RC-5, RC-3 and RC-6, MC-3 and MC-5, and KC-3 and KC-5 (Table 4).

Stage 5: Decision to Revise or Delete Items

Of the 20 items, five (RC-5, RC-6, KC-2, KC-3, and KC-5) had low CVI scores and exhibited low

internal consistency according to Cronbach's alpha. Inter-item correlation analyses revealed moderate to weak correlations between these items and others within the same domain. To determine whether they should be deleted or revised, three authors (Author 1, Author 3, and Author 4) independently reviewed the items, taking into consideration both statistical data and theoretical relevance. Through consensus, the authors decided to delete RC-5 and KC-3 due to their poor performance and limited relevance. Table 3 shows the amended Cronbach's alpha after their removal. Items RC-6, KC-2, and KC-5 were revised to better align with the respective domains and reflect the current state of primary health care.

IV. DISCUSSION

The Patient-Experienced Continuity of Care Questionnaire (PECQ) was translated into Arabic, with the final Arabic version (A-PECQ) maintaining the original four domains, and content validity and internal consistency evaluated through multiple stages. The overall average CVI was 0.90, with 15 items demonstrating excellent content validity ($I-CVI > 0.83$) and five items (RC-5, RC-6, KC-2, KC-3, and KC-5) showing moderate CVI scores (0.63–0.75). Reliability testing yielded a Cronbach's alpha of 0.923, indicating excellent internal consistency. However, RC-5 and KC-3 showed weak correlations and reduced reliability. Upon exclusion of these two items, Cronbach's alpha improved to 0.932. Inter-item correlations also revealed some weak relationships within domains, particularly involving RC-5 and KC-3. Consequently, RC-5 and KC-3 were deleted, while RC-6, KC-2, and KC-5 were revised to enhance clarity and domain alignment. Overall, the A-PECQ demonstrated good validity, reliability, and cultural suitability for assessing continuity of care in Arabic-speaking populations.

Applying the ISPOR principles ensured that the questionnaire would remain valid, reliable, and culturally appropriate across different populations, which would be particularly critical in patient-reported outcomes research [14,15].

The coherence of the A-PECQ items within each domain was evaluated using inter-item correlations, which help determine whether items truly belong in their respective domains. These correlations provide insight into the internal structure of a scale and are essential for identifying the dimensionality and consistency of measurement instruments [13]. They are critical for evaluating the degree to which items in a scale measure the same construct and for detecting any conceptual misalignments [16]. Such analysis is significant for ensuring internal consistency and refining measurement tools [17].

RC-5 and RC-6 were in the relational continuity domain. This domain is concerned with the relationships established between a patient and one or more healthcare personnel over time, and the sense of trust and confidentiality fostered by these relationships. The importance of relational continuity in primary health care has been demonstrated in previous research, where it was shown to help prevent premature mortality, lower the risk of emergency department visits and hospitalizations, and reduce health care costs [18]. Despite the importance of this domain, RC-5 had the lowest CVI score, a low Cronbach's alpha, and moderate to low consistency with other items. Based on these findings, it was deemed appropriate to delete RC-5 in order to improve the domain's internal consistency. Similarly, KC-3, in the knowledge domain, was removed due to its low CVI score and inconsistency with other items. After removing both RC-5 and KC-3, the overall Cronbach's alpha rose to 0.932, indicating enhanced reliability of the scale.

Deleting items from a questionnaire to improve validation is a recognised best practice in scale development and validation [19]. It ensures that the final instrument accurately reflects the intended construct and maintains robust psychometric properties. Two studies, involving the German Interprofessional Attitudes Scale (G-IPAS) and the PECQ respectively, have demonstrated that items with a low CVI, or weak internal consistency, can compromise the reliability and validity of a scale [7,20]. In both studies, items with a low CVI and poor factor loadings were deleted in order to enhance the

internal consistency and conceptual clarity of the respective scale.

The knowledge domain is intended to measure the extent to which patients feel that healthcare providers know and understand their health histories, preferences, and needs. This is a significant aspect of patient-centred care [6]—one of the dimensions of healthcare quality recommended by the Institute of Medicine to help reduce medical errors [21]. The knowledge domain plays an important role in measuring CoC in primary health care, and despite the modest to low CVI and consistency scores of items KC-2 and KC-5, the questions still captured very important aspects of CoC. In our study, the lowest performance was seen in the knowledge domain; one item (KC-3) was therefore deleted from it, while two items (KC-2, KC-5) were revised to better align with the domain and reflect the current state of primary health care.

The uniqueness of this study lies in its development of the first validated, Arabic-language instrument focusing on four domains of CoC in primary health care. The questionnaire was tested for content validity using the CVI, and demonstrated good validity overall. The CVI assesses to what extent the items capture the intended construct by evaluating the relevance of each item through expert review [12]. A high CVI strengthens a questionnaire's validity, reduces bias, and enhances the questionnaire's effectiveness in research and clinical assessments.

The internal consistency of the A-PECQ was assessed using Cronbach's alpha, a standard measure of whether all items reliably assess the same construct. A high Cronbach's alpha (≥ 0.70) indicates strong reliability, suggesting that a questionnaire produces consistent and trustworthy results with different respondents [22].

The implications of this study highlight the potential for applying the adapted tool across diverse Arabic-speaking regions; however, further cultural and linguistic validation is needed to ensure its broader applicability.

Several limitations should be acknowledged, including the moderate CVI scores for some items.

Like the original PECQ, the content validity development stage did not include patients in the expert group, which may have affected the cultural relevance of the content. Additionally, the small sample size limits the generalizability of the internal consistency results. Future studies should include larger samples, involve patients in the content validation process to enhance cultural appropriateness, and further examine the tool's performance in different healthcare settings across Arabic-speaking countries.

V. CONCLUSION

The original PECQ, which included four domains, was translated, culturally adapted, and validated to create the A-PECQ—a reliable instrument that appropriately represents the items of the original PECQ. The A-PECQ is a validated and helpful tool for assessing patient-experienced CoC, capturing the dimensions of informational, relational, management, and knowledge continuity. Assessing these dimensions and considering them when developing patient-centred care will help to improve the overall quality of primary health care.

VI. ETHICAL CONSIDERATION

No personal identifying information was collected during the validation process, and participants had the right to refuse to participate in the study. Informed consent was a requirement for participation.

VII. REFERENCES

1. Khatri R, Endalamaw A, Erku D, Wolka E, Nigatu F, Zewdie A, et al. Continuity and care coordination of primary health care: a scoping review. *BMC Health Serv Res*. 2023 Dec 1;23(1).
2. Haggerty JL, Reid RJ, Freeman GK, Starfield BH, Adair CE, Mckendry R. Continuity of care: a multidisciplinary review. *BMJ* [Internet]. 2003 Nov 22 [cited 2025 Nov 15];327. Available from: <https://doi.org/10.1136/bmj.327.7425.1219>
3. Liang D, Zhu W, Qian Y, Zhang D, Petersen JD, Zhang W, et al. Continuity of care and healthcare costs among patients

- with chronic disease: evidence from primary care settings in China. *Int J Integr Care*. 2022;22(4).
4. Alazri M, Heywood P, Neal RD, Leese B. Continuity of care: literature review and implications. *Sultan Qaboos Univ Med J*. 2007 Dec;7(3):197-206. PMID: 21748104; PMCID: PMC3074883.
 5. Baker R, Bankart MJ, Freeman GK, Haggerty JL, Nockels KH. Primary medical care continuity and patient mortality. *British Journal of General Practice*. 2020 Sep 1;70(698):E600–11.
 6. Jayadevappa R, Chhatre S. Patient centered care - a conceptual model and review of the state of the art. *Open Health Serv Policy J*. 2011;4:15–25.
 7. Ljungholm L, Årestedt K, Fagerström C, Djukanovic I, Ekstedt M. Measuring patients' experiences of continuity of care in a primary care context—development and evaluation of a patient-reported experience measure. *J Adv Nurs*. 2024 Jan 1;80(1):387–98.
 8. Almalki ZS, Alahmari AK, Alajlan SAA, Alqahtani A, Alshehri AM, Alghamdi SA, et al. Continuity of care in primary healthcare settings among patients with chronic diseases in Saudi Arabia. *SAGE Open Med*. 2023 Jan 1;11.
 9. Burch P, Walter A, Stewart S, Bower P. Patient reported measures of continuity of care and health outcomes: a systematic review. *BMC Primary Care*. 2024 Dec 1;25(1).
 10. Wild D, Grove A, Martin M, Eremenco S, McElroy S, Verjee-Lorenz A, et al. Principles of good practice for the translation and cultural adaptation process for patient-reported outcomes (PRO) measures: Report of the ISPOR Task Force for Translation and Cultural Adaptation. *Value in Health*. 2005;8(2):94–104.
 11. Lynn MR. Determination and quantification of content validity. *Nurs Res*. 1986 Nov 7;35.
 12. Polit DF, Beck CT, Owen SV. Focus on research methods: Is the CVI an acceptable indicator of content validity? Appraisal and recommendations. *Res Nurs Health*. 2007 Aug;30(4):459–67.
 13. Piedmont RL, Hyland ME. Inter-item correlation frequency distribution analysis: a method for evaluating scale dimensionality. *Educ Psychol Meas*. 1993;53(2):369–78.
 14. Wild D, Eremenco S, Mear I, Martin M, Houchin C, Gawlicki M, et al. Multinational trials - Recommendations on the translations required, approaches to using the same language in different countries, and the approaches to support pooling the data: The ispor patient-reported outcomes translation and linguistic validation good research practices task force report. *Value in Health*. 2009 Jun 1;12(4):430–40.
 15. Mccloud RF, Bekalu MA, Vaughan T, Maranta L, Peck E, Viswanath K, et al. Evidence for decision-making: the importance of systematic data collection as an essential component of responsive feedback. *Glob Health Sci Pract* [Internet]. 2023 Sep 25 [cited 2025 Nov 15];11. Available from: https://www.ghspjournal.org/content/11/Supplement_2/e2200246
 16. Clark LA, Watson D, Clark A. Constructing validity: basic issues in objective scale development. *Psychol Assess* [Internet]. 1995 [cited 2025 Nov 15];7(3):309–19. Available from: <https://doi.org/10.1037/1040-3590.7.3.309>
 17. Tavakol M, Dennick R. Making sense of Cronbach's alpha. *Int J Med Educ*. 2011 Jun 27;2:53–5.
 18. Lytsy P, Engström S, Ekstedt M, Engström I, Hansson L, Ali L, et al. Outcomes associated with higher relational continuity in the treatment of persons with asthma or chronic obstructive pulmonary disease: A systematic review. *eClinicalMedicine* [Internet]. 2022;49:101492. Available from: <https://doi.org/10.1016/j>.
 19. DeVellis RF. *Scale development theory and applications*. 4th Ed. SAGE; 2017.
 20. Pedersen TH, Cignacco E, Meuli J, Habermann F, Berger-Estilita J, Greif R. The Ger-

- man interprofessional attitudes scale: translation, cultural adaptation, and validation. *GMS J Med Educ* [Internet]. 2020 Apr 15 [cited 2025 Nov 15];37(3). Available from: <https://www.egms.de/static/en/journals/zma/2020-37/zma001325.shtml>
21. Kohn LT, Corrigan J, Donaldson MS. *To err is human: building a safer health system* [Internet]. Linda T. Kohn JMCMSD, editor. Washington (DC): National Academy Press; 2000 [cited 2024 May 22]. p. 287. Available from: https://www.ncbi.nlm.nih.gov/books/NBK225182/pdf/Bookshelf_NBK225182.pdf
22. Daniel W, Cross C. *Biostatistics: a foundation for analysis in the health sciences*. 10th Edition. Hoboken (NJ): John Wiley & Sons; 2013.

Table 1. Patient-Experienced Continuity of Care Questionnaire

| Subgroup and Item | Code |
|--|-------------|
| Informational Continuity | |
| I get comprehensible information from healthcare personnel that helps me to understand my diseases and treatments. | IC-1 |
| I get information on how return visits or follow-ups will take place. | IC-2 |
| I get comprehensible information on the results of my tests and examinations (e.g., x-rays). | IC-3 |
| When I meet new healthcare personnel, they are always informed about my previous interactions with other healthcare personnel. | IC-4 |
| Relational Continuity | |
| I feel safe receiving care, regardless of which healthcare provider is providing the care. | RC-1 |
| I always meet the same healthcare personnel at each care visit. | RC-2 |
| All of the healthcare personnel take me seriously. | RC-3 |
| I always know who is responsible for my care. | RC-4 |
| Healthcare personnel always ask about other diseases in addition to the one for which I am seeking care. | RC-5 |
| I always know who to ask about my health care and treatment. | RC-6 |
| Management Continuity | |
| The healthcare personnel are always aware of my medical history before my visit. | MC-1 |
| Healthcare personnel regularly follow up on my diseases and treatments. | MC-2 |
| Healthcare personnel always help me coordinate my healthcare visits. | MC-3 |
| Care and treatments are available to me when I need them. | MC-4 |
| Everyone works to clearly set goals for my care. | MC-5 |
| Knowledge Continuity | |
| I always participate in the planning of my care. | KC-1 |
| I always know what I can do myself to manage my diseases and treatments. | KC-2 |
| Healthcare personnel always ask me what I feel is significant in my everyday life. | KC-3 |
| Healthcare personnel always ask questions to ensure that I have understood the information correctly. | KC-4 |
| I can always find comprehensible information about my care. | KC-5 |

Table 2. A-PECQ Content Validity Index (CVI)

| Item | Experts in Agreement | Item CVI Score |
|---------------------------------|-----------------------------|-----------------------|
| Informational Continuity | | |
| IC-1 | 8 | 1.00 |
| IC-2 | 8 | 1.00 |
| IC-3 | 8 | 1.00 |
| IC-4 | 7 | 0.88 |
| Relational Continuity | | |
| RC-1 | 8 | 1.00 |
| RC-2 | 8 | 1.00 |
| RC-3 | 7 | 0.88 |
| RC-4 | 7 | 0.88 |
| RC-5 | 5 | 0.63 |
| RC-6 | 6 | 0.75 |
| Management Continuity | | |
| MC-1 | 8 | 1.00 |
| MC-2 | 8 | 1.00 |
| MC-3 | 8 | 1.00 |
| MC-4 | 8 | 1.00 |
| MC-5 | 7 | 0.88 |
| Knowledge Continuity | | |
| KC-1 | 7 | 0.88 |
| KC-2 | 6 | 0.75 |
| KC-3 | 6 | 0.75 |
| KC-4 | 8 | 1.00 |
| KC-5 | 6 | 0.75 |
| S-CVI/Ave | | 0.90 |

Table 3. A-PECQ Internal Consistency Analysis

| Item | Item-Rest Correlation | Cronbach's alpha |
|---------------------------------|---------------------------------|-------------------------|
| Informational Continuity | | |
| IC-1 | 0.359 | 0.810 |
| IC-2 | 0.580 | 0.717 |
| IC-3 | 0.606 | 0.702 |
| IC-4 | 0.791 | 0.583 |
| IC-domain | | 0.773 |
| Relational Continuity | | |
| RC-1 | 0.5436 | 0.756 |
| RC-2 | 0.7400 | 0.699 |
| RC-3 | 0.0164 | 0.841 |
| RC-4 | 0.9141 | 0.638 |
| RC-5 | 0.2565 | 0.808 |
| RC-6 | 0.7313 | 0.705 |
| RC-domain | | 0.788 |
| | | 0.808 (excluding RC-5) |
| Management Continuity | | |
| MC-1 | 0.795 | 0.719 |
| MC-2 | 0.647 | 0.765 |
| MC-3 | 0.595 | 0.781 |
| MC-4 | 0.582 | 0.782 |
| MC-5 | 0.434 | 0.821 |
| MC-domain | | 0.813 |
| Knowledge Continuity | | |
| KC-1 | 0.435 | 0.561 |
| KC-2 | 0.288 | 0.627 |
| KC-3 | 0.295 | 0.651 |
| KC-4 | 0.549 | 0.488 |
| KC-5 | 0.534 | 0.570 |
| KC-domain | | 0.636 |
| | | 0.651 (excluding KC-3) |
| A-PECQ overall | 0.923 | |
| | 0.932 (excluding RC-5 and KC-3) | |

Table 4. Inter-Item Correlations

| Informational Continuity | | | | | | |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | IC-1 | IC-2 | IC-3 | IC-4 | | |
| IC-1 | — | | | | | |
| IC-2 | 0.204 | — | | | | |
| IC-3 | 0.204 | 0.625 | — | | | |
| IC-4 | 0.537 | 0.538 | 0.747 | — | | |
| Relational Continuity | | | | | | |
| | RC-1 | RC-2 | RC-3 | RC-4 | RC-5 | RC-6 |
| RC-1 | — | | | | | |
| RC-2 | 0.447 | — | | | | |
| RC-3 | 0.047 | -0.091 | — | | | |
| RC-4 | 0.736 | 0.875 | 0.091 | — | | |
| RC-5 | 0.190 | -0.046 | 0.350 | 0.183 | — | |
| RC-6 | 0.450 | 0.877 | -0.206 | 0.814 | 0.206 | — |
| Management Continuity | | | | | | |
| | MC-1 | MC-2 | MC-3 | MC-4 | MC-5 | |
| MC-1 | — | | | | | |
| MC-2 | 0.618 | — | | | | |
| MC-3 | 0.828 | 0.450 | — | | | |
| MC-4 | 0.433 | 0.456 | 0.339 | — | | |
| MC-5 | 0.335 | 0.461 | -0.046 | 0.581 | — | |
| Knowledge Continuity | | | | | | |
| | KC-1 | KC-2 | KC-3 | KC-4 | KC-5 | |
| KC-1 | — | | | | | |
| KC-2 | 0.270 | — | | | | |
| KC-3 | 0.278 | 0.170 | — | | | |
| KC-4 | 0.205 | 0.360 | 0.162 | — | | |
| KC-5 | 0.302 | 0.239 | -0.047 | 0.854 | — | |