

PROVISION OF CONSULTANCY, RESEARCH AND DEVELOPMENT AND TRAINING SERVICES BY THE HONG KONG PRODUCTIVITY COUNCIL

Executive Summary

1. In 1967, the Government established the Hong Kong Productivity Council (HKPC) under the HKPC Ordinance (Cap. 1116) with an aim to improve the productivity, operational efficiency and competitiveness of local industries. The Council is the governing body of HKPC and is supported by four Committees. As at 31 March 2019, HKPC had a total of 640 staff, comprising 245 permanent and 395 contract staff. The Commissioner for Innovation and Technology (CIT) is the Controlling Officer of the subventions granted to HKPC. In 2017-18, HKPC had a total income of \$711 million, which included government subventions of \$223.3 million. In the same year, HKPC had a total expenditure of \$663.7 million. The Audit Commission (Audit) has recently conducted a review of HKPC. The findings are contained in this Audit Report and another one entitled “Governance and administrative issues of the Hong Kong Productivity Council” (Chapter 3 of the Director of Audit’s Report No. 73). This Audit Report reviews matters relating to the provision of consultancy and manufacturing support services, research and development (R&D) projects and provision of training programmes by HKPC.

Provision of consultancy and manufacturing support services

2. *Target on number of consultancy projects accepted not met.* HKPC’s consultancy projects include advisory projects to provide professional help and advice to clients and development projects to develop products or systems for clients. Audit noted that the target on the key performance indicator (KPI) “Number of consultancy projects accepted” was not met throughout the four-year period 2014-15 to 2017-18. The target for 2018-19 was met after HKPC’s decision in July 2018 to classify manufacturing support projects (e.g. laboratory testing) with service fees over \$5,000 as consultancy projects. Audit found that the target for 2018-19 was not revised according to the new definition. Moreover, there was no documentary evidence showing that the Council or the Innovation and Technology Commission (ITC) had

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been informed of the change in the definition of consultancy projects. There was also no disclosure of the effect of the change on the achievement of the target in reporting the performance in the annual review report submitted to CIT and the Council (paras. 2.2, 2.6 and 2.7).

3. ***Some assignments taken on elsewhere than in Hong Kong did not recover all costs incurred.*** According to the HKPC Ordinance, productivity related assignments elsewhere than in Hong Kong shall not be taken on unless the minimum rate charged by HKPC for the work is sufficient to recover all costs incurred. Audit noted that in the period from 2014-15 to 2018-19, HKPC completed 788 consultancy projects which were productivity related assignments elsewhere than in Hong Kong. Of these 788 projects, 308 (39%) did not recover all costs incurred, contrary to the requirement stipulated in the HKPC Ordinance. The total deficit of these 308 projects amounted to \$1.4 million (paras. 2.10 and 2.11).

4. ***Need to promulgate guidelines on fee concessions.*** According to HKPC Standard Practices, pricing for all forms of HKPC services should be based on the full-cost recovery principle and concessions can be applied if certain criteria are met. Audit reviewed the consultancy projects accepted in 2018-19 and noted that the clients in 484 (51%) of the 944 projects accepted were small and medium enterprises according to HKPC Standard Practices and concessions of up to 30% could be offered to them. Of these 484 consultancy projects, 221 (45.7%) were not offered any concession, 250 (51.6%) were offered 20% concessions, 12 (2.5%) were offered 30% concessions and 1 (0.2%) was offered a 65% concession. However, there was no documentary evidence showing the justifications for the different concession rates offered in each project (paras. 2.14, 2.17 and 2.18).

5. ***Delay in consultancy project completion.*** Audit examined the consultancy projects completed in the period from 2014-15 to 2018-19 and found that of the 4,299 consultancy projects completed, 1,243 (29%) were completed after the approved completion date. The average duration of delay for these 1,243 projects was 42 days (para. 2.20).

6. ***Costs incurred for consultancy projects not fully recovered.*** According to HKPC Standard Practices, fees for projects carried out should be charged on a full-cost recovery basis. Audit noted that of the 4,299 consultancy projects completed in the period from 2014-15 to 2018-19, full cost was not recovered in 1,078 (25%)

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projects. The total deficit of these 1,078 projects amounted to \$33 million. However, there was no documentary evidence showing the reasons for their deviations from the full-cost recovery basis (para. 2.21).

7. ***Need to tighten controls on services provided for manufacturing support projects.*** HKPC's manufacturing support projects mainly include projects that provide testing, machining and other professional support services to clients. In the period from July 2016 to September 2018, HKPC found that a staff had not billed two clients after providing workshop services to them with a total value of \$200,000 and \$70,000 respectively. During the same period, the two clients had provided \$200,000 and \$70,000 respectively as sponsorships for two Innovation and Technology Fund (ITF) projects of which the staff was in charge. Audit noted that the minimum sponsorship requirement on the two ITF projects would not have been met if the two sums had been accounted for as workshop service income instead of sponsorships. ITC needs to consider whether follow-up actions on the sponsorship issue identified by HKPC are required (paras. 2.29(a) and 2.33 to 2.36).

8. ***Target on the income of Inno Space not met.*** Inno Space, established in October 2017, is operated by HKPC to provide manufacturing support services to users not engaged in manufacturing support projects. Membership fee was the main source of income of Inno Space other than government subvention. Audit noted that in 2018-19, while the number of members recruited exceeded the target of 200 by 125%, the income fell short of the target by 40%. Audit analysed the number of members recruited in 2018-19 and found that of the 450 members recruited in 2018-19, 236 (52%) were trial members who were not required to pay any membership fee (paras. 2.37 and 2.42).

9. ***Need to promote the utilisation of the equipment of Inno Space.*** Audit reviewed the 2018-19 booking records of ten items of equipment of Inno Space with total cost of \$2.4 million and analysed the number of days on which the items were booked. Audit found that of the 297 available days in 2018-19, the number of days on which the items of equipment were booked was only 26 (8.8% of the available days for booking) on average, ranging from 1 (0.3%) to 138 (46.5%) (para. 2.45).

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Research and development projects

10. *Need to review KPIs for managing R&D projects.* HKPC's R&D projects are funded from different sources, including ITF funded projects, projects funded by other government funding schemes and projects commissioned by private sector clients. HKPC has set two KPIs for managing R&D projects, namely "Number of new R&D projects" and "Number of on-going R&D projects" (paras. 3.2 and 3.3). Audit found that in the period from 2014-15 to 2018-19:

- (a) 68 (33%) of the 203 new projects were counted as both consultancy projects and R&D projects at the same time. They were counted against two targets, namely "Number of consultancy projects accepted" and "Number of new R&D projects". If these 68 projects had only been allowed to be counted against the target for either R&D projects or consultancy projects, the achievement of the targets on the KPIs might have been affected (para. 3.4(a)); and
- (b) on average, 60% of the on-going R&D projects were projects brought forward from previous years, with delayed projects included therein accounting for 4%. Using the number of on-going projects as a KPI might give an unintended incentive for project teams to delay projects in hand unnecessarily (paras. 3.7 and 3.8).

11. *Late submission of project reports for ITF funded R&D projects.* For the 33 ITF funded R&D projects completed in the period from 2014-15 to 2018-19, Audit noted that, of the 106 Progress Reports and Final Reports due for submission by HKPC to ITC, 37 (35%) were submitted late (para. 3.12).

12. *Need to improve KPIs for commercialisation of R&D results.* HKPC has set two KPIs relating to commercialisation of its products and technologies, namely "Number of patents/licences/royalties" and "Number of products/technologies commercialised" (para. 3.18). Audit noted that in the period from 2014-15 to 2018-19:

- (a) of the 86 patents, licences or royalties awarded/entered, 77 (90%) were patents awarded, while the number of licence or royalty agreements entered only contributed 9 (10%) of the total. However, a product or technology is not commercialised when a patent is awarded (para. 3.21); and

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- (b) of the 97 products or technologies commercialised, only 45 (46%) were developed from R&D projects. Moreover, when a product or technology was sold to more than one client, the single product or technology was counted as more than one products or technologies commercialised (para. 3.23).

13. ***Need to endeavour to increase the number of patents commercialised.*** As at 31 August 2019, HKPC had 123 patents. Audit noted that of these 123 patents, only 4 (3%) had generated licence or royalty income since patent registration, and the total licence and royalty income generated by them was \$1.5 million. The remaining 119 (97%) patents had not generated any licence or royalty income since patent registration (para. 3.26).

Provision of training programmes

14. ***Targets on KPIs for training programmes not met.*** HKPC provides public training programmes for enrolment by the public and corporate training programmes for companies and organisations. Audit analysed the performance of HKPC's training programmes for the period from 2014-15 to 2018-19 and found that: (a) the actual numbers of fee-charging training programmes launched in the period from 2014-15 to 2016-17 were only 60% to 90% of the targets; (b) the actual numbers of people attending the fee-charging training programmes in 2014-15 and 2015-16 were only 52% and 79% of the targets; and (c) the actual income from training programmes for the period from 2014-15 to 2018-19 was only 47% to 65% of the targets, decreasing from \$12.9 million in 2014-15 to \$7.6 million in 2018-19 (paras. 4.3 and 4.6).

15. ***Low enrolment of public training programmes.*** According to HKPC's Guidebook for Organising Public Training Programme (Guidebook), proposals shall be prepared for all new public training programmes and submitted to the management for approval. Audit examined the enrolment rates of 30 of the 120 public training programmes organised in 2018-19 and found that: (a) for 10 (33%) programmes, the estimated enrolment was not included in the proposals; and (b) for the remaining 20 (67%) programmes, the actual enrolment of 12 (60%) of these 20 programmes were less than the estimated enrolment included in the proposals (about 15% to 92% of the estimated enrolment, 59% on average). Audit also found that 38 (32% of 120) programmes had fewer than ten participants. These 38 programmes included 15 with the estimated number of enrolment not included in the proposals and 8 with the estimated number of enrolment set below ten (paras. 4.14, 4.15, 4.17 and 4.18).

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16. *Market demand assessment not conducted for some programmes.* According to the Guidebook, the responsible division should conduct a market demand assessment to justify the launch of each new public training programme. Audit examined the proposals of 30 new public training programmes organised in 2018-19 and found that: (a) for 11 (37%) proposals, market demand assessment was not conducted; and (b) for 2 (7%) proposals, the programme organisers stated in the proposals that market demand assessments had been conducted. However, details and results of the market demand assessments could not be found in the proposals (paras. 4.21 and 4.22).

17. *Need to improve evaluation of training programmes.* According to the Guidebook, all public training programmes organised would be subject to programme-end evaluation by the trainees. Results from the evaluation forms are input into the Public Training Administration (PTA) system for review by the Officer-in-charge (OIC) of the programme and management. The OIC of each programme conducts an annual review to determine whether the programme should be continued in the coming year. There were no internal guidelines on whether the evaluation data of corporate training programmes should also be kept in the PTA system (paras. 4.28 and 4.30). Audit found that in the period from 2015-16 to 2018-19:

- (a) the evaluation data of 242 (43%) of the 559 public training programmes organised were not available in the PTA system. While the evaluation data of 65 (19%) of the 340 corporate training programmes organised were also kept in the PTA system and used for the computation of the overall participants satisfaction index (i.e. one of the KPIs for training programmes), the evaluation data of the remaining 275 (81%) corporate training programmes were not kept in the PTA system (paras. 4.29 and 4.30);
- (b) the annual response rate of the evaluation forms decreased from 51% in 2015-16 to 43% in 2018-19 (para. 4.32); and
- (c) annual reviews had not been conducted for some public training programmes, ranging from 9% to 33% of the programmes organised in each year (para. 4.35).

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18. *Need to improve utilisation of training venues.* Apart from training programmes organised by HKPC, the training venues of HKPC are also available for use by outside organisations. Audit found that the overall utilisation rates of HKPC training venues in 2017-18 and 2018-19 were low (i.e. 17% and 16% respectively). In particular, the utilisation rate of each and every training venue was less than 50% during both office hours and non-office hours (paras. 4.39 and 4.41).

Audit recommendations

19. **Audit recommendations are made in the respective sections of this Audit Report. Only the key ones are highlighted in this Executive Summary. Audit has recommended that the Executive Director, HKPC should:**

Provision of consultancy and manufacturing support services

- (a) **when there is a change in the definition of a performance indicator, review the performance target and inform ITC and the Council of the change and its effect (para. 2.27(a)(i) to (iii));**
- (b) **take measures to ensure that the minimum rate charged for productivity related assignments elsewhere than in Hong Kong is sufficient to recover all costs incurred as stipulated by the HKPC Ordinance (para. 2.27(b));**
- (c) **promulgate guidelines on the basis of determining fee concession rate for each project (para. 2.27(c));**
- (d) **take measures to ensure that consultancy projects are completed in a timely manner with full cost recovered in accordance with HKPC Standard Practices (para. 2.27(d) to (f));**
- (e) **tighten controls on services provided for manufacturing support projects to ensure that all service fees are collected (para. 2.47(a));**
- (f) **step up efforts to ensure the sustainable operation of Inno Space on a self-recovery basis and take measures to promote the utilisation of the equipment (para. 2.47(b) and (d));**

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Research and development projects

- (g) issue clear guidelines on the classification of projects into consultancy projects and R&D projects and on the counting of projects for performance measurement (para. 3.14(a));
- (h) examine the suitability of using the number of on-going projects as a KPI (para. 3.14(b));
- (i) take measures to ensure that Progress Reports and Final Reports of ITF funded R&D projects are submitted to ITC in a timely manner (para. 3.14(d));
- (j) explore the desirability of setting two separate KPIs on the number of patents awarded and the number of licence or royalty agreements entered (para. 3.28(b));
- (k) consider the merits of reporting the commercialisation of products or technologies developed from R&D projects and other projects separately (para. 3.28(c));
- (l) report both the number of products/technologies commercialised and the number of clients to which products/technologies were sold during the year (para. 3.28(d));
- (m) endeavour to increase the number of licence/royalty agreements (para. 3.28(e));

Provision of training programmes

- (n) step up efforts to enhance the performance of training programmes, in particular, the income from public training programmes (para. 4.12(a));
- (o) step up efforts to improve the enrolment rates of public training programmes and consider their worthiness before organising programmes with very few expected participants (para. 4.26(a) to (d));

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- (p) ensure that the Guidebook accurately stipulates the types of new public training programmes requiring market demand assessment and the requirements are complied with (para. 4.26(e) and (f));
 - (q) take measures to improve the evaluation of training programmes (para. 4.37(a) to (d)); and
 - (r) step up efforts to improve the utilisation of the training venues (para. 4.44(a) and (b)).
20. Audit has *recommended* that CIT should, in connection with the reviews of manufacturing support projects by HKPC, consider whether ITC should take appropriate follow-up actions on the sponsorship issue identified by HKPC (para. 2.48).

Response from HKPC and the Government

21. The Executive Director, HKPC and CIT agree with the audit recommendations.