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## Impact Sourcing: Employing Prison Inmates to Perform Digitally-enabled Business Services

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# Communications of the Association for Information Systems

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## Impact Sourcing: Employing Prison Inmates to Perform Digitally-enabled Business Services

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### Abstract:

Impact sourcing is the practice of training and hiring marginalized individuals (people who normally would have few opportunities for good employment) to provide information technology (IT), business process, or other digitally-enabled services. Perhaps no other population is more marginalized than prisoners. Worldwide there are over six million prisoners, of which over two million are U.S. prisoners. In the U.S., 95 percent of inmates will one day be released. Prison employment programs are interventions aimed at preparing inmates to reenter society. We studied a special type of prison employment program: the hiring and training of prisoners to perform business services using a computer. The impact of prison sourcing needs to be understood in two distinct time periods: while in prison and after prison. Based on a case study at a U.S. Federal Correctional Institution employing 140 inmates in prison sourcing, we found evidence that prison sourcing for business services positively affects the inmates while in prison. The main benefits are good financial compensation, work habit development, productively occupying time, development of business skills, and the elevation of self-efficacy and status. We have almost no data about the impact on future prospects and explain why this gap happens.

**Keywords:** impact sourcing, prison sourcing, business process outsourcing

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## I. INTRODUCTION

Impact sourcing is the practice of training and hiring marginalized individuals who normally would have few opportunities for good employment to provide information technology (IT), business process, or other digitally-enabled services [Carmel, Lacity, and Doty, 2013]. Impact sourcing comprises an ecosystem of different stakeholders, including the impact sourcing organizations (impact sourcers), employees of impact sourcers, communities where employees reside, and clients of impact sourcing services [Accenture, 2012]. To date, most of the research has focused on only two of these stakeholders—the impact sourcers and their clients [Avasant/Rockefeller Foundation, 2012; Lacity, Rottman, and Carmel, 2012]. Since this is an emerging phenomenon, our understanding of the main dependent variable—the *impact* of impact sourcing—is still quite preliminary, particularly regarding the effects of impact sourcing on the marginalized individuals who become employees [Carmel et al., 2013].

Marginalized individuals are individuals relegated or confined to a lower or outer limit or edge of social standing [Wikipedia]. Poverty is a primary attribute of many marginalized individuals [United Nations Development Program (UNDP), 2008], but individuals might also be marginalized because of education, race, religion, gender, sexual orientation, disability, location, or other criteria [Carmel et al., 2013]. Perhaps no other population is more marginalized than prisoners. The International Centre for Prison Studies reports that there are 6,291,179 prisoners worldwide.<sup>1</sup> The United States (U.S.) has the greatest number of inmates, with 2,193,789 prisoners, and the highest incarceration rate, at 737 inmates per 100,000 people, compared to all other countries. Given that 95 percent of U.S. inmates will be released one day and given that 70 percent of released inmates become repeat offenders [Federal Prison Industries, 2012], any intervention that can help released inmates reenter society successfully must have positive impacts on the individuals, their families, and communities. Prison employment programs have been one such intervention method. In this article, we study a special type of prison employment program: the hiring and training of prisoners to perform business services using a computer, otherwise known as “digitally-enabled” business services [Carmel et al., 2013].

Able-bodied and able-minded inmates have always worked—at least in the U.S.—to defray the costs of corrections and to meaningfully occupy inmates. Most prison employment programs train workers in manual tasks, such as furniture building or textiles. But some prison employment programs now train inmates to perform low-level Business Process Outsourcing (BPO) services like call center work, data entry, and document preparation. For example, the all-female state prison at the Arizona State Prison Complex in Perryville, Arizona, employs inmates through a private-sector partnership. Televerde, the private-sector partner, operates four call centers at the complex, and external customers include Cisco, Hitachi, and SAP [Barret, 2010]. A number of other U.S. private-sector partnerships offer call center services in Oregon, Michigan, New York, and South Carolina prisons.

Prison sourcing of business services is not just a U.S. practice. In India, the BBC news announced that 200 prisoners in Charlapally Central Jail near Hyderabad would work in an outsourcing unit performing data entry services. The inmates would be paid 100 rupees per day for this work, compared to fifteen rupees a day for manual labor [Farooq, 2010]. In the United Kingdom (UK), the Ministry of Justice is considering prison sourcing for call centers because the prisoners have “genuine British accents” [Firstpost, 2012].

Prison sourcing is a substantial business. In U.S. federal prisons, inmate employment is managed by Federal Prison Industries (FPI), also known as UNICOR, a wholly-owned government corporation (public partnership) established in 1934. As can be seen in Table 1, annual revenues for all sourcing for U.S. federal prisons exceeds USD 600 million. In addition, there are state prison industries. For example, California state prison sourcing in 2010 had revenues of USD 180 million. Table 1 also shows that “Services”—which includes the kind of digital services that is the focus of this article—is (still) a small part of American prison sourcing.

<sup>1</sup> See “World Prison Populations,” <http://news.bbc.co.uk/2/shared/spl/hi/uk/06/prisons/html/nn2page1.stm>.

**Table 1: U.S. Federated Prison Industries Revenues and Profits**

Source: FPI Annual Report, 2012

Business Segment:	2012		2011	
	Revenues	Profits	Revenues	Profits
Clothing and Textiles	\$214m	\$20m	\$239m	\$34m
Electronics	\$68m	(\$7m)	\$76m	(\$7m)
Fleet & Industrial Products	\$139m	\$2m	\$233m	\$21m
Office Furniture	\$142m	\$10m	\$156m	\$11m
Recycling	\$16m	\$5m	\$15m	\$5m
Services	\$27m	\$2m	\$26m	(\$1m)
<b>Total</b>	<b>\$606m</b>	<b>\$32m</b>	<b>\$745m</b>	<b>\$62m</b>

Research on prison industry employment programs has found that inmate participation is associated with lower recidivism rates, higher rates of employment in halfway houses, and higher wages after release compared to inmates who were not in these programs (e.g., Conan, 2010; James, 2007; Saylor and Gaes, 1997, 2001). However, we are not aware of any studies that specifically examine the effects of training and hiring inmates to perform *digitally-enabled business services*. Our primary research question is:

*How does business services employment affect the inmates' current lives, family relationships, and future prospects?*

We also want to understand the context surrounding business services employment in prisons. We want to know how inmates are selected for work, how they are trained and onboarded, and how their work is assigned, managed, and evaluated. We also want to learn which practices, processes, and technologies are used to protect information and guarantee quality.

To begin to answer our research questions, we conducted a case study at the Federal Correctional Institution (FCI) in Elkton, Ohio. At the UNICOR facility in the Elkton FCI, inmates process patent documents and perform data entry services. Based on key informant interviews with inmates and staff, direct and participant observation, and documents, we found evidence that prison sourcing of business services positively affects the inmates while they are in prison. We identified six benefits: business services employment offers the best financial compensation, develops business skills, develops work habits, productively occupies time, builds self-efficacy, and elevates social status. We did not gather enough evidence to make claims about the effects of prison sourcing for business services on family relationships or future job prospects. We suspect the main effects after release have more to do with developing a work habit than with gaining computer skills to perform digitally-enabled services.

We believe this research makes an important contribution to society. Given the number of imprisoned people worldwide, any intervention that can help these individuals successfully complete their confinement and prepare them to reintegrate into society benefits not only the individuals, but their families, communities, and ultimately tax payers. However, programs like UNICOR have come under attack by opponents who argue that prison industry programs hurt small businesses and steal jobs from law-abiding citizens [Carroll, 2010; Gruber, 2005; Smith-Ingley and Cochran, 1999; James, 2007]. Although the ethics of prison sourcing is not the focus of this article, we do discuss these concerns.

The article is organized as follows. We summarize the relevant literature on impact sourcing and prison intervention effectiveness in Section II. In Section III, we explain the research method. Section IV provides a detailed case description of the prison, the UNICOR facility, and the business services performed by inmates. Section V focuses on the inmates' and staff's views on what they perceive as the effects of business services employment on inmates' current lives, family relationships, and future prospects. Section VI discusses the case study findings, briefly covers the ethics of prison sourcing, and reflects on the limitations of the current research. Section VII offers concluding remarks.

## II. LITERATURE REVIEW

Prison sourcing research is informed by two literatures, impact sourcing and prior studies on prison employment programs. This review shows that impact sourcing research has yet to examine *prisoners* performing digitally-enabled services. Prison employment program research describes the effects of prison employment on crime outcomes. This literature has studied the recidivism effects of prisoners who work while incarcerated, but none of the studies seems to examine prisoners performing digitally-enabled services, nor do they focus on the immediate effects of prison sourcing.



## Impact Sourcing Literature

We see prison sourcing of digital work as another instance of sourcing. Sourcing, the allocation of (digital) work tasks to different units, represents the drive to find better and cheaper sources of work. The topic of sourcing is vast: outsourcing, offshore outsourcing, nearshoring, legal services outsourcing, business process outsourcing, crowdsourcing, open sourcing, impact sourcing, and many more. Within this broad topic, we viewed *impact sourcing* as the area most relevant to our current research. Impact sourcing informs the discussion of training marginalized workers to perform digitally-enabled services.

As stated above, impact sourcing is an emerging phenomenon that aims to transform people's lives, families, and communities through meaningful employment in digitally-enabled services [Carmel et al., 2013]. Phrased differently, it is to sourcing what the “double bottom line” is to business. The Rockefeller Foundation has been the leading global institution promoting impact sourcing through its Digital Jobs Africa Initiative, supporting key reports by The Monitor Group in 2011 and Avasant in 2012. In addition to the Rockefeller Foundation, a number of organizations, like the International Association of Outsourcing Professionals [IAOP, 2009] and National Association of Software and Services Companies [NASSCOM] foundation, and scholars have begun to examine impact sourcing [Heeks, 2012a, 2012b; Lacity et al., 2012] and its related concepts: ethical sourcing [Heeks, 2012a, 2012b], sustainable global outsourcing [Babin and Nicholson, 2009, 2012], micro-work [Gino and Staats, 2012], corporate social responsibility (CSR) in outsourcing [Babin, 2008], social outsourcing [Heeks and Arun, 2010], and rural sourcing [Lacity, Carmel, and Rottman, 2011].

Much of the empirical work on impact sourcing has focused on case studies of impact sourcers, the organizations that sell information technology outsourcing (ITO) and BPO services. Sample case studies include Cayuse Technologies, Digital Divide Data (DDD), eGramIT, Maharishi Institute, Matrix Global, Onshore Outsourcing, Paradigm Express, Ruralshores, Samasource, TechnoBrain, and TxtEagle (see Table 2).

**Table 2: Prior Studies on Impact Sourcing**

Source	Impact Sourcer	Targeted Marginalized Individuals	Primary Services	Location
Accenture, 2012	Digital Divide Data	Unemployed high school graduates ready for work/study program	BPO	Cambodia, Laos, Kenya
Accenture, 2012	Maharishi Institute	Disadvantaged populations with high school diploma	BPO	South Africa
Accenture, 2012	TechnoBrain	Poor and vulnerable populations	ITO BPO	Nairobi, Kenya, Uganda
Accenture, 2012; Lacity et al., 2012	Cayuse Technologies	Native Americans	ITO (~35%) BPO (~65%)	U.S.
Gino and Staats, 2012; Lacity et al., 2012; The Monitor Group/ Rockefeller Foundation, 2011	Samasource	Bottom of the Pyramid (BoP)	BPO (microwork)	Headquarters in U.S., 16 partners in Haiti, Kenya, India, Cameroon, Zambia, Uganda
Lacity, Rottman, and Khan, 2010; Lacity et al., 2012	Onshore Outsourcing	“No-collar” individuals in rural community	ITO	U.S.
Lacity et al., 2012	Matrix Global	Ultraorthodox “haredi” Jewish women	ITO	Israel
The Monitor Group/ Rockefeller Foundation, 2011	TxtEagle	Urban workers with high school education	BPO (microwork)	China, India, Latin America, Southeast Asia, Africa
The Monitor Group/ Rockefeller Foundation, 2011	RuralShores	Disadvantaged populations	BPO	India

The case studies listed in Table 2 focus on impact sourcers by studying their business models, service offerings, and workforce development. These cases include some interviews with marginalized individuals who became employees of impact sourcers, but no detailed analyses of the actual effects of impact sourcing on employees were

presented, with the exception of Accenture [2012]. The Accenture report found positive effects of impact sourcing on a Native American tribe by tracking the number of tribal employees trained, jobs created, and total number of tribe members employed over a three-year period, from 2009 to 2011. Although all these cases are about training and employing marginalized individuals to perform digitally-enabled business services, none of them looks at training and employing prisoners.

### Prison Employment Program Literature

*Inmates who participate in the FPI program are less likely to engage in disruptive behavior, a benefit which contributes significantly to safe and secure management of prisons, thereby reducing operating costs. Additionally, inmates participating in the FPI programs are 24% less likely to return to a life of crime, resulting in reduced future enforcement and incarceration costs [FPI's 2012 Annual Report, p. 1].*

Within the fields of criminology, public policy, psychology, and sociology, hundreds of studies have examined the effects of intervention programs on crime outcomes, often measured as *recidivism rates*.<sup>2</sup> The most frequently examined adult intervention programs have been cognitive behavioral therapy, drug treatment programs, adult drug courts, intensive supervision, and job training in the community after release from prison. In comparison to this prolific body of research, fewer studies have been conducted on the effects of prison employment programs [Aos, Miller, and Drake, 2006; Lipsey and Cullen, 2007; Wilson, Gallagher, and MacKenzie, 2000]. Some researchers have argued that the small number of prison employment studies are too methodologically weak to attribute the effects of prison employment intervention programs on recidivism [Lipsey and Cullen, 2007; Richmond, 2008]. Despite these research limitations, our review of the literature found that prison employment programs are associated with lower recidivism rates of between 0 percent<sup>3</sup> and 24 percent (see Table 3; note that all these studies are in the U.S.).

**Table 3: Prior Studies on the Effects of Adult Prison Employment Programs**

Source	Method	Context	Findings
Aos et al., 2006	Meta-analysis of 571 studies on the effects of intervention programs, prevention programs, and sentencing options	U.S. adult and juvenile corrections	Across four studies of correctional industries programs, "crime outcomes" were reduced by 5.9%.
Federal Prison Industries Annual Report, 2012	Not explained	Federal U.S. adult corrections	"Inmates participating in the FPI programs are 24% less likely to return to a life of crime."
Lipsey and Cullen, 2007	Meta-meta-analysis of meta-analyses on correctional rehabilitation programs	U.S. adult and juvenile corrections	Reviewed four meta-analyses on adult educational, vocational, and work programs and found recidivism rates decreased by 1% to 10%.
Richmond, 2008, 2012	Ten-year study on recidivism on 19,456 female inmates from 1993 to 2003	Female UNICOR inmates (U.S.)	No significant differences in re-arrest or recommitment to federal prison after correcting for pre-selection bias.
Saylor and Gaes, 1991, 1992, 1996, 1997, 2001	Analysis of archival records	Federal U.S. adult corrections; >7000 Prisoners	Participation in work programs was associated with better post-release adjustment, higher employment, more money earned, and lower first-year recidivism.
Wilson et al., 2000	Meta-analysis of 33 studies on the effects of intervention programs	U.S. adult corrections	Across four studies of correctional industries programs, recidivism rate was reduced by 10%.

William Saylor and Gerald Gaes, who both have served as Directors of Research for the Office of Research and Evaluation (U.S. Bureau of Prisons), are among the most prolific researchers on the effects of correctional work/industries programs. Conducting research on thousands of inmates, they consistently found that participation in

<sup>2</sup> A measurement of the rate at which released offenders commit other crimes, either by arrest or conviction

<sup>3</sup> Richmond [2008, 2012] did find that UNICOR participants are 13.4 percent less likely than nonparticipants to be re-arrested and 25.2 percent less likely to return to custody, but after adjusting for pre-selection bias using a propensity score methodology, the difference evaporated. In other words, females who sought and received UNICOR jobs have different characteristics than those females who did not seek or receive UNICOR jobs.

work programs was associated with better post-release adjustment, higher employment, more money earned, and lower first-year recidivism [Saylor and Gaes, 1991, 1996, 1997, 2001; Gaes, Camp, Nelson, and Saylor, 2004].

Aos et al. [2006] conducted a meta-analysis of 571 empirical articles on the effects of fifty-four intervention programs, prevention programs, and sentencing options. Aos et al. [2006] found four studies [Drake, 2003; Maguire, Flanagan, and Thornberry, 1988; Saylor and Gaes, 1996; Smith, Bechtel, Patricky, and Wilson-Gentry, 2005] that examined the effects of correctional industries in adult prisons on post-prison release crime outcomes. The authors found that, across the four studies, correctional industries programs reduce crime outcomes by 5.9 percent. They also found that the marginal cost of the program per individual was \$417 and produced net benefits of \$9,439 per individual. Wilson et al. [2000] conducted a meta-analysis of thirty-three studies of education, vocation, and work programs on recidivism rates, of which four studies examined the effects of correctional industries programs (which four studies are not indicated). Overall, they found that recidivism rates for prisoners in the correctional work/industries programs was 40 percent, compared to the 50 percent comparison group, an overall 10 percent reduction in recidivism rates.

Since our study is about sourcing digitally-enabled business services, it is important to note that most of the empirical studies are dated prior to the FPI's business services group in the mid-2000s, thus none of these studies specifically address prison employment programs for this kind of work. Richmond [2012] is the newest research, yet her study was unable to differentiate the type of work women were doing in UNICOR. We did not find any prior studies that examined inmates who were performing digitally-enabled services.

Furthermore, the scarce studies on prison employment programs measure only one type of outcome variable, namely, post-release recidivism, and do not consider more immediate effects on a prison's other missions such as safety, security, cost efficiency, engaging inmates in meaningful work, and inmate self-improvement [Gaes et al., 2004]. A number of researchers have called for more assessments of immediate (i.e., process) measures of prison effectiveness because recidivism is affected by so many factors outside the control of a prison [Gaes et al., 2004; Logan, 1993]. These factors include prior criminal history, age, sex, education level, gang participation, police practices, supervision, and living in crime-prone neighborhoods [Gaes et al., 2004], to name a few. Thus, our research fills two gaps by focusing on digitally-enabled services and by focusing on immediate effects on inmates' lives while in prison.

### III. RESEARCH METHOD

To investigate our research question, we selected a case study method because the boundaries between the phenomenon under study (the impact of prison sourcing on inmates) and its real-life context (prison life) are intertwined and not clearly defined [Yin, 2003]. A case study also is appropriate when seeking answers to "how" questions about contemporary events over which the researcher has little or no control [Yin, 2003]. The case study is best categorized as an explanatory case study that seeks to explain the causal links between an intervention (prison sourcing) and its effects [Yin, 2003]. A single case was selected for reasons of practicality; it took nearly two years of paperwork and processes to get permission to conduct this research. Evidence for the case study came from key informant interviews, direct and participant observation, and documents. The research site and each source of evidence are explained further below.

#### Research Site

We selected a prison called the Federal Correctional Institution (FCI) in Elkton, Ohio, as our research site. This prison is a "low security facility," which makes research access easier. Elkton was recommended to us by a previous FPI manager because this location offers business services. Inside the prison compound is a room dubbed "the factory," with about 150 computers where trained inmates provide business services to external customers. The vast majority of the prisoner work (97 percent) involves a multi-year project preparing patent documents for electronic publishing for the U.S. Patent and Trademark Office (USPTO). The USPTO contracted a for-profit firm, which, in turn, hired the for-profit government unit, UNICOR. We describe the work and the work process in more detail below.

#### Key Informant Interviews

Our research questions are answered best by the key informants placed in organizational positions that provide access to the answers for the research questions under study [Elmendorf and Luloff, 2006]. This method maximizes the chances of collecting relevant information that the researchers may not have considered in advance [Tremblay, 1957]. Key informant interviews are appropriate when seeking answers to questions in which the subject matter is sensitive (like prison sourcing) and when researchers are more concerned with the quality, not quantity, of responses [Fontana and Frey, 1994; Mahoney, 1997; Yin, 2003].

We designed two interview guides, one for the prison staff and one for the inmates. For staff participants, the guides have open-ended questions on their role at the prison, the history of the UNICOR business services at the facility, the nature of the work, the relationship with clients, and the process for selecting, training, and assessing inmate work performance. The inmate interview guide asked open-ended questions about how they came to be employed at UNICOR and the work they do (see Appendix A). Both guides asked questions about how they think this work affects the inmates' lives in prison and their family relationships, and how it might affect their life after their release.

With a key informant method, the sample size is less relevant than targeting participants with full knowledge of the phenomenon under study, in this case, the effects of prison sourcing of business services on the inmates' current and future lives [Creswell, 1998; Ponterotto and Casas, 1991; Seidler, 1974]. Prior to our arrival, our UNICOR host requested volunteers from among the inmates she manages at UNICOR. She also set up interviews with key staff members. For this study, we formally interviewed nine inmates who work for UNICOR, two UNICOR staff members, and three people from the Bureau of Prisons in senior staff positions (see Table 4).

The formal interviews occurred in Fall of 2013 during a two-day visit to the prison. The formal interviews began with the administration of the Informed Consent Form and proceeded to the open-ended questions. The formal interviews with inmates lasted between twenty and thirty minutes; staff member interviews lasted between thirty and forty-five minutes. All participants were guaranteed anonymity to promote open and frank discussions.

<b>Table 4: Key Informant Interviews</b>			
Identifier	Organization	Role	Gender
I1	Inmate	Employed in Patent Services	Male
I2	Inmate	Employed in Patent Services	Male
I3	Inmate	Employed in Patent Services	Male
I4	Inmate	Employed in Patent Services	Male
I5	Inmate	Employed in Patent Services	Male
I6	Inmate	Employed in Patent Services	Male
I7	Inmate	Employed in Patent Services	Male
I8	Inmate	Employed in Patent Services	Male
I9	Inmate	Employed in Data Services	Male
U1	UNICOR	Senior Staff	Female
U2	UNICOR	Senior Staff	Male
BOP1	Bureau of Prisons	Senior Staff	Female
BOP2	Bureau of Prisons	Senior Staff	Female
BOP3	Bureau of Prisons	Senior Staff	Male
<b>Total: 14 Formal Key Informant Interviews</b>			

For the nine inmates interviewed, the years of service at Elktion's UNICOR facility ranged from six months to six years. Eight inmates presently work on patent document preparation and one inmate previously worked on patent document preparation but now manages data entry of electricity bills for the U.S. Department of Defense. Among the nine people, six were Black, two were White, and one was Hispanic. Six of the inmates we interviewed had prior manual labor UNICOR experience before coming to the Elktion prison, including heating, ventilation, and air-conditioning (HVAC), cooking, forklift-operation, construction, textiles, and furniture-making experiences. The average sentence duration was 16.2 years (five inmates responding). The average number of years remaining on the sentence was 5.7 years (five inmates responding).

### Other Data Collection

In addition to the formal interviews, our UNICOR host arranged for us to tour the prison facility and to converse with UNICOR and Bureau of Prisons senior staff. We were also able to gather documents including the Inmate Information Handbook, Visitor's Guide, UNICOR's qualifying exam, employee grade scales, commissary order sheet, and annual reports from Federated Prison Industries.

### Direct Observation

During the tour, we observed inmates in the yard, billiards hall, craft room, outdoor leisure area, and the gym. We also toured a housing unit where inmates sleep, shower, watch television, and type emails on a closed server for processing by staff. We toured the warden's offices, commissary, inmate cafeteria, and kitchen. We also saw the basketball courts, track, and baseball fields, which were unoccupied at the time. Our tour passed by several key areas such as the infirmary, solitary confinement, visitor's room, counseling center, and education center. Although we did not enter these areas, our tour guides explained the functions of each. We also spent extensive time (about six hours) in the UNICOR facility.



## Participant Observation

With this method, researchers are not just passive observers but interact with people, including casual social interactions and informative conversations [Yin, 2003]. We interacted with staff members and with one additional inmate who allowed us to sit with him at his computer in the UNICOR facility (see Table 5). This inmate showed us the entire workflow for processing the patent documents, the error slips he fills out, the queries he sends, and the knowledge bases he consults to execute tasks. A UNICOR manager was with us for two days except when we were conducting formal interviews. She informed us about prison life and how UNICOR works. A BOP senior staff member served as one of our tour guides on the first day and explained all of the educational and training programs at the facility. The acting warden welcomed us to the facility and explained how corrections is “a people business.” Another BOP leader gave us a tour of the kitchen and explained the training inmates receive in food safety and food preparation. We met the inmate who cooked a special meal for us in the staff cafeteria.

**Table 5: Participant Observation**

Identifier	Organization	Role	Gender	Researcher/Participant Interaction
P10	Inmate	Production control	Male	Informal interview; work observation; demonstrated the entire patent process
P11	Inmate	Unknown	Male	Explained how the commissary works
P12	Inmate	Cook	Male	Explained the special lunch he made for us
U1	UNICOR	Senior staff	Female	Tour guide, hostess
BOP1	Bureau of Prisons	Senior staff	Female	Tour guide
BOP4	Bureau of Prisons	Senior staff	Male	Conversation about FCI
BOP5	Bureau of Prisons	Senior staff	Male	Conversation about culinary arts program and tour of kitchen

## Data Analysis

Recording devices are not allowed in prison, so the three researchers took extensive notes and captured revelatory direct quotations during interviews, conversations, and tours. Each night, we wrote up our notes and discussed in depth what we observed and heard each day. We aimed to describe neutrally what we saw and heard first. Then we reflected on what this might mean. We were well aware of our positions as outsiders and, thus, very cautious before ascribing meaning to evidence. We asked our UNICOR host to review the case description and discussion sections below to either confirm or challenge our interpretation [Dubé and Paré, 2003; Klein and Myers, 1999].

## IV. CASE DESCRIPTION

The Elkton prison is a relatively new facility, built in 1997, that houses 2,555 male inmates (data for 2013). The location is about 500 km west of New York City, in the eastern portion of Ohio. The prison is divided into two units: the Federal Correctional Institution (FCI) and the Federal Satellite Low (FSL), which have populations of 1963 and 592 respectively. The annual turnover rate is about 1,000 people. The FCI facility was our research site. It can house only inmates with remaining sentences of twenty years or less. The inmate population includes violent offenders, drug offenders, sex offenders, and some white collar crime offenders. The FCI staff comprises about 350 people.

### Description of the Prison Site

Direct observation, participant observation, and documents helped set the context for understanding how business services employment affects the lives of inmates. Overall, the prison was newer, cleaner, quieter, and more organized than the preconceived notions one might form based on books, movies, and television. The following observations stuck us as relevant.

#### The Physical Facilities and Grounds Are Clean

The prison parking lot is newly paved, and the exterior grounds, which are maintained by inmates, are immaculate. Inside the compound, all buildings and grounds are clean, orderly, and uncluttered. Inmates (identified by the tan-colored prison uniforms) were cleaning the grounds, washing windows, sweeping floors, doing dishes, and mopping public areas. The housing units were also clean. Each inmate is required to make his bed and keep his living area clean and free of clutter. Inmates keep personal possessions in a locker by their bed.

### The Prison Is Quiet

Boisterous behavior is against prison policy. Inmates may listen to music or watch television only with headsets, and the volume cannot be heard by anyone except the person wearing the headset. For music, inmates may buy an MP3 player and individual songs from the commissary. Each MP3 player is assigned to a specific inmate to prevent theft. At the gym, for example, most men worked out on stationary bikes or treadmills while listening to music with their headsets. (Weight lifting is no longer allowed in U.S. federal prisons.) Inmates can watch television only in their housing units using headsets. Because of the headsets, inmates can disengage from their surroundings. Even inmates who were interacting, such as playing billiards or dominos and working on crafts, were talking quietly whenever we observed them. Inmates are allowed to move between buildings each hour during a ten-minute period. Even during these times, the inmates talked quietly and walked slowly. Inmates form single lines and stand in line quietly before meals.

### The Inmates and Staff Are Polite

Everyone in prison is addressed formally, using “Mister,” “Miss,” or “Misses” prefixed to a last name. During our tour, the tour guides often would encounter inmates they knew, and they would address each other formally. The staff also refer to each other formally, even those who work closely together each day, at least in our presence.

### The Prison Staff Members Do Not Carry Weapons

As a “low security facility,” the staff members at Elkton FCI do not carry weapons. The staff members mingle with the inmate population in all areas and appear to do so fearlessly. However—the potential for danger is acknowledged. Prior to starting our tour, our tour guide showed us a tribute wall displaying portraits of staff members killed in the line of duty. (Not one of them was from the Elkton facility.) She also told us that in the unlikely event a disruption occurs while on our tour, we were to follow her instructions. There are guards stationed in security rooms and a locked weapons room near the warden’s office.

### The Prison Has Many Security Measures

Two concentric, tall, electronically-monitored fences with razor wire circumnavigate the prison. Concrete paths adjacent to the fences are several feet deep to prevent tunneling out of the facility. Two roaming vehicles and security cameras further monitor the perimeter. Headcounts are conducted six times a day. Visitors also are closely monitored. Each person who enters the facility presents a photo ID, signs in, and goes through a security process similar to the procedure in U.S. airports. Each person also walks through a body scanner. Visitors are stamped on the hand. Visitors may not bring in cell phones, recording devices, cameras, or any other electronic equipment.

### Most Inmates Need Income

Although the prison provides three meals, accommodations, clothing, and some supplies, inmates still need money for basic goods and services while in prison. For example, inmates pay for phone minutes, email credits, snacks, beverages, greeting cards, hair-care products, laundry detergent, additional clothing, MP3 players, healthcare service copays, and other miscellaneous items. Sample prices include \$8.80 for a book of stamps, \$2.00 copay for a healthcare visit, \$2.05 for a bottle of shampoo, \$44.10 for an MP3 player with headphones, and \$18.10 for sweatpants. Inmates are allowed to buy items only from the commissary (no outside items allowed), and there is a \$290 spending maximum per inmate per month. The spending limit is designed to create financial parity among inmates. In addition to needing money for life maintenance within the prison, prisoners need money to pay court fines, victim restitution, and/or child support.

Inmate income comes either from family and friends or from wages earned while working in prison. Regarding the former, outsiders may fill inmate accounts through a national lock box. Several inmates reported that supporting them in prison was a financial burden on their families. Regarding the latter, work-eligible inmates are required to have jobs inside the prison. Most job assignments are controlled through the prison’s Performance Pay System, which provides monetary payment for work. Typical institutional maintenance jobs, such as food service, landscaping, or cleaning are low paying and wages start at 23 cents per hour (about \$30 per month). In contrast, wages at the Federal Prison Industries (UNICOR) are significantly higher. Inmates working in the UNICOR facility typically earn \$1.15 per hour. Because *UNICOR pays the highest wages in the prison*, its jobs are the most desirable and have the longest waitlists.

### Description of UNICOR: Workplace and Work

The UNICOR workplace is inside the prison. Although called a factory by the people inside the prison, the work area is a large warehouse-like space with a high ceiling and open floor plan. Rows of long tables serve as work areas. The main door is locked and can be opened only by designated staff. Inmates enter and exit the UNICOR workplace by passing through a metal detector. Inmates may bring beverages inside the facility, but they cannot bring anything

else—no papers, pencils, or pens. An individual work area has a computer monitor, keyboard, paper error forms, pencil, instruction manual, and coding index sheets that summarize the codes contained in the instruction manual. There are about 148 work areas in total.

Along the north side of the room is a row of UNICOR staff offices. Each staff office has a full view of the facility floor. Each office has two doors. The exterior door of each staff office opens to the facility and the interior door leads to the inner staff office area. Inmates are not allowed in the office area unless accompanied by a staff member. As for computer security, inmates have their own logon ID and password. They can access only the workflow software; they are unable to access other software or the Internet.

As far as the work schedule, the inmates work weekdays from 7:10 AM until 3:20 PM and have two fifteen-minute breaks and forty-five minutes for lunch. Inmates are responsible for showing up for work on time. Inmates must set their own alarm clocks, make their beds, clean their living areas, and be dressed and at the facility on time. Next, we describe the business services performed by the inmates.

### Patent Processing

The U.S. Patent and Trademark Office outsources the electronic capture and publication of patents to a private IT contractor. The contractor is an American firm that we will call Beltway Inc.<sup>4</sup> Beltway Inc. is contracted to digitize, tag, and electronically publish over 16 million historical patents. To help with this task, Beltway Inc. contracts with UNICOR to proofread and edit the formatting and tagging codes. Together, Beltway Inc. and UNICOR produce over 180,000 unique pages of published XML patent material per week. At the time of our visit, the project was about halfway complete, and the remaining eight million patents will require at least five more years to complete.

Beltway Inc. batches work at the beginning of each week and uploads it to a secure server. At the Elkton prison, the workflow happens in four steps: processing, senior review, quality assurance, and production control (see Figure 1).

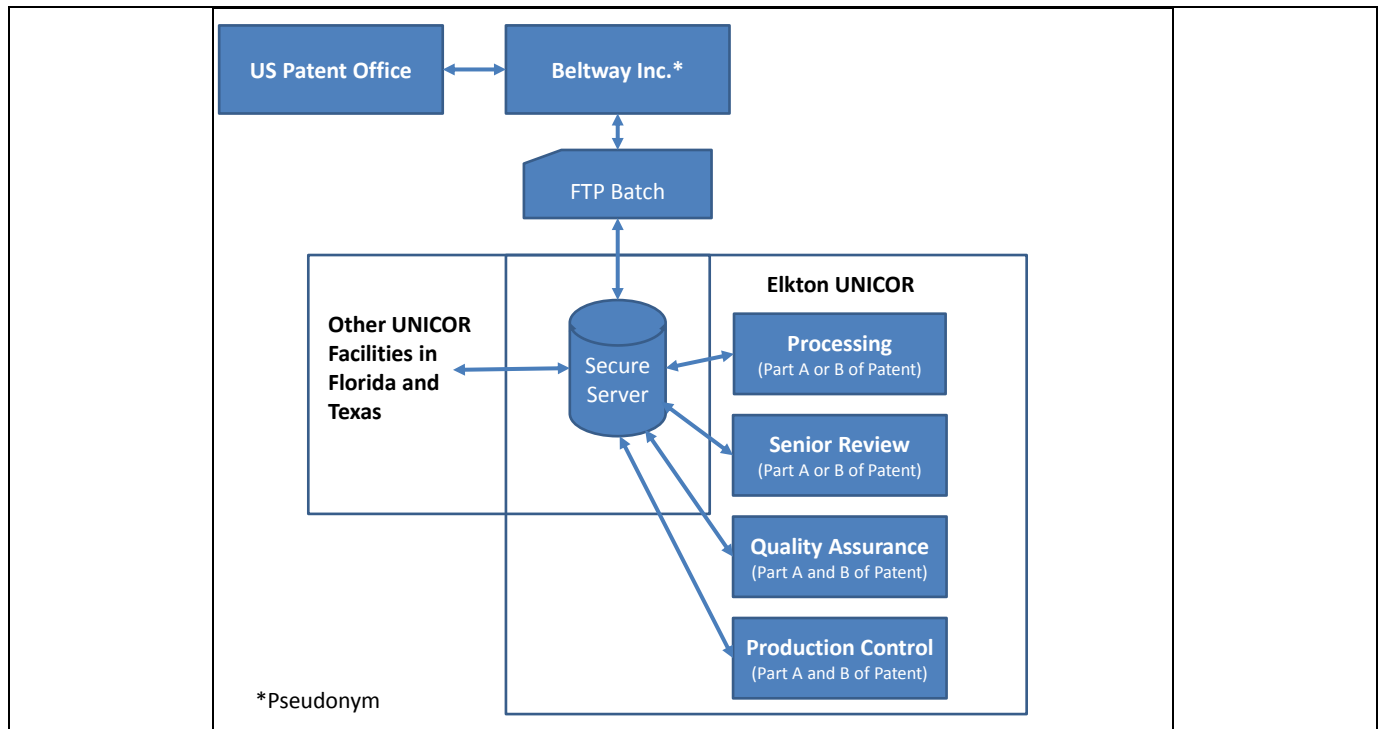


Figure 1. Patent Document Workflow at the Prison

At the processing phase, an inmate logs into the system and can pull work from the work queue based on his qualifications. Newly hired inmates, for example, work only on simple patents. The workflow system will assign the inmate either (a) the abstract and claim or (b) the body of a patent. This way, the inmate at the processing level sees only part of an entire patent document. On the inmate's screen, there are two display windows. The top window displays a read-only, scanned image of the portion of the patent assigned to the inmate. The bottom window is an

<sup>4</sup> "Beltway Inc." is careful not to highlight its connection to UNICOR because of the sensitivity of using prison sourcing. Since our research is done in cooperation with the suppliers, we have committed to restrict some data.

editable work file that contains HTML- and XML-like codes to tag the document for electronic posting. The inmate has a number of tasks to complete, such as making sure formatting commands are to specification and that content sections are properly tagged. In addition to fixing errors, inmates also are instructed to generate a query back to Beltway Inc. under specific circumstances. For example, if an inmate spots a missing period at the end of a paragraph, he generates a query to ask whether the document needs a period or if the text was mistakenly deleted. The work is challenging in that there are hundreds of codes and rules to learn. Once the processor is finished, he sends the completed work back to the workflow system.

Senior review is the second phase. Only experienced workers perform this work. Inmates check the work performed at the processing stage. When a reviewer spots an error, he fixes the error online and fills in a hand-written error form to provide feedback to the processor. Error reports also are used to calculate the processor's error rate. Once the reviewer is finished, he sends his completed work back to the workflow system.

The third step is quality assurance where a completed patent is brought together for the first time. The quality assurance person reviews the abstract, claim, and body for a patent. He duplicates the checks made by the senior reviewers. The quality assurance person also finds, fixes, and reports on errors. Once complete, he sends the job back to the work queue for the final phase, production control.

Production control replicates the quality assurance process and will, for the final time, find, fix, and report on any errors. After production control completes the task, the work goes back to the server. Once the batch of work is complete, it is transferred back to Beltway Inc.

Inmates may ask for help from a tutor during any stage in the process. Tutors are inmates with senior-level work experience. They roam the facility floor and help inmates as needed. Only people with good social skills want and get these jobs. The tutors do not get paid more for this work, but they can earn bonuses.

UNICOR is contractually required to complete a batch of work in a specified time period and to a specified level of quality. Each morning, a UNICOR manager assesses progress on the batch and will reallocate labor as needed to complete the batch on time. If processing is behind, for example, a manager could reassign the more qualified senior reviewers, quality assurers, or production controllers to perform processing tasks. In some rare instances, the only way to complete a batch on time is to work overtime. Inmates desire overtime because they can earn "time and a half" (150 percent) in wages.

UNICOR assigns each inmate a quota and an allowable error rate based on his grade level. The quotas are the minimum amount of characters an inmate must review in a day. (To give an indication of volume of work, we saw a 117-page document that represented half the work a production controller had to review in a day.) The quota increases and the error rate decreases as the grade levels get higher. Inmates are highly incented to improve productivity and quality in order to qualify for the next grade level because higher grade levels earn higher wages. But in order to keep costs down, UNICOR can allow only a certain number of inmates at each grade level.

#### Other Work

Although the majority of work performed in the UNICOR workplace is patent document processing, a small percentage of work, representing about 2 or 3 percent of revenues, is data entry of the U.S. Department of Defense's electricity bills. Inmates copy data from printed electricity bills into a spreadsheet that will be used to analyze energy consumption.

#### Elkton's UNICOR Waitlist

The UNICOR job has the longest waitlist in the prison, with 350 inmates signed up at the time of our visit. For the patent processing work, inmates can apply only if they have a high school diploma.<sup>5</sup> UNICOR maintains four categories of waitlists. Category 0 is for inmates with fewer than twenty-four months left on their sentence. This is the lowest priority waitlist because UNICOR's training is expensive and the inmate would not work for very long in the facility. Category 1 is the highest priority waitlist and includes inmates with prior UNICOR experience. Prior UNICOR experience is desirable because the inmates have already received UNICOR training and understand its work ethic. Category 2 waitlists inmates who owe fines. This is a priority waitlist because the government keeps half of the inmate's salary to help pay off their fines. At the Elkton prison, this category was the longest waitlist with over 200 inmates. Category 3 contains all other inmates.

<sup>5</sup> Many prisoners complete their high-school diplomas while in prison. This is called a GED (General Equivalency Diploma).

## Workforce Exclusions

Inmates can work at this UNICOR workplace only if they have never been convicted of a computer-related crime. For example, if a sex offender downloaded child pornography from a website, that act would prohibit him from working at a UNICOR computer job. Some white collar criminals also would be excluded from this work.

## Testing and Training

UNICOR trains people in groups. If UNICOR needs, say, twelve more workers, it will administer an eligibility exam to about twenty inmates. The exam assesses reading comprehension, logic, and algebraic math skills. Those who pass the exam then receive four weeks of classroom training. The inmates learn basic keyboarding and computer skills in addition to learning the actual tasks associated with editing patent documents. After classroom training, an inmate shadows an experienced inmate for two weeks. When training is complete, the inmate begins working as a Processor.

## V. EFFECTS OF PRISON SOURCING ON INMATES

In this section, we present the inmates' perceptions of the effects of UNICOR's business services employment on their current lives, family relationships, and future prospects. The primary input was the key informant interviews with nine inmates employed in the UNICOR facility. Interview data on the perceived benefits of working for Elktion's UNICOR facility are summarized in Table 6. Below, we discuss each perceived benefit in more detail. Where relevant, we also include commentary from the formal interviews with three BPO leaders.

<b>Perceived Benefits</b>	<b>Perceived positive effect on prison life</b>	<b>Perceived positive effect on family relationships</b>	<b>Perceived positive effect on future prospects</b>	<b>Number of inmates out of 9 mentioning this effect</b>
Provides best financial compensation	√	√		9
Develops business skills	√		√	7
Develops a work habit	√	√	√	6
Productively occupies time	√			6
Builds self-efficacy	√			6
Elevates social status	√	√		4

### 1. Provides the Best Financial Compensation in the Prison

All nine inmates said the reason they wanted to work for UNICOR was because of the higher wages. Compared to the prison's institutional maintenance jobs that earn about \$30 a month in wages, UNICOR employees can earn several hundred dollars a month. The financial benefits clearly provide a positive effect for their lives in prison. Specific supporting quotes from the interviews include: *"This job helps with money," "I like the extra money to buy stuff," "We need a lot of money," "It costs us money to be here,"* and *"This pays the most."* Four inmates specifically said that the financial compensation prevents them from being a burden on their family. One person said that his mother used to send him \$100 a month which placed a great drain on her financial resources, so he is relieved to be financially self-sufficient now. He said, *"My mom doesn't have to send me money anymore."* Another person said, *"I don't have to ask my family for money."* None of the inmates said anything that tied financial compensation from this job to future job prospects.

### 2. Develops Business Skills

Seven of the inmates mentioned that the UNICOR job builds valuable business skills. Across the interviews, inmates specifically mentioned management, business, people, computer, and political skills. One inmate discussed at length the skills he has learned about running a business, dealing with people, dealing with politics, and learning computer skills. He explained that when he was an *"independent businessman"* prior to prison, he would ignore people who disagreed or annoyed him. At UNICOR, he said he is *"forced"* to work with everyone. He said, *"I used to be an independent business man, but I learned to become an interdependent business man."* He further explained that, when he gets out of prison, he wants to buy, rehab, and sell old homes. To do that, he said, *"I need to depend on other people."* (He specifically said he did not want a computer job when released.) Seven inmates also understand that businesses expect employees to be productive and to do good work. They discussed the expectations in terms of quotas and allowable error rates. The inmates who work as tutors, in particular, seem to positively develop their people skills. One person said, *"This job requires you to deal with all kinds of people."* Another person said, *"I like helping the guys out."*

Two inmates mentioned learning computer skills as a positive benefit, but these comments seemed to be related more to building self-efficacy (see below) rather than building valued job skills for the future.

### 3. Develops a Work Habit

The routine of this office job clearly develops the habit of work. The UNICOR job requires that the inmates arrive at work on time and that they complete a full day's work. Absenteeism is prohibited except in the case of illness verified by Health Services. The inmates did not use the term *work habit*, but they did use phrases such as "*having a routine*," "*getting up every day and doing the same thing*," learning "*responsibility*," having a "*structure*," and "*When I wake up I know I have a job*." One of the younger inmates expounded on this idea: He said he was a drug dealer since the age of twelve, and he never had a schedule before. He would wake up at a different time each day and had no idea what he would do that day. He said, "*I guess I just did what I felt like*." He talked about the revelation of learning that "*normal*" people do the same thing each day. He clearly expressed that a routine is a positive aspect of work. (He was not complaining of boredom.) The work habit benefited their current lives in prison. One inmate, for example, said that when he's at work, he doesn't feel like an inmate. Another said he likes workdays and he dreads the weekends.

### 4. Productively Occupies Time

The inmates we interviewed have long prison sentences, ranging from six to twenty-one years. The UNICOR job keeps inmates occupied during the day, helps time to pass more quickly ("*time goes by more quickly*," "*I'm not bored*"), and keeps them out of trouble in the housing units or in the "yard." They are highly cognizant of the fact that any disciplinary sanctions outside of the UNICOR facility could result in the loss of their UNICOR job. Once fired by UNICOR, an inmate can never return. Representative quotes include, "*This job keeps me out of trouble*," "*It feels good to have something to lose*," and "*I don't want to lose this job*." Occupying inmate time and keeping inmates out of trouble was discussed only in terms of positively affecting their lives in prison; no mention was made of its effects on family relationships or on future prospects. One staff member we interviewed, with sixteen years of prison experience, confirmed that the inmates who work for UNICOR are better behaved. She said, "*I never have problems*" with the UNICOR inmates. She also said they come out of work "*too tired to cause any trouble*." Another staff member said that in order to continue working for UNICOR, the inmate must have "*clean conduct*" and "*[t]hey have so much to lose if they lose their job*."

### 5. Builds Self-efficacy

Working at UNICOR builds the inmates' beliefs that they can perform tasks well. One inmate, for example, said he used to walk by the UNICOR facility, seeing the computers through the window, and say to himself, "*I am not smart enough to do that*." But as he got to know the people on his unit who worked for UNICOR, he said to himself, "*If that fool can do it, I can do it!*" He went on the UNICOR waitlist and was eventually selected for testing and training. He now likes to boast about his computer skills. Another inmate relayed a similar story of thinking himself incapable of learning how to use a computer, but now he is proud of his work. High self-efficacy is associated with high self-esteem and more pro-social behaviors, such as helping others [Bandura et al., 2003; Judge et al., 2002]. Other inmates talked about the positive feelings they have about themselves. One person said that the UNICOR job "*makes me feel good*." Another said that the job "*makes me feel I am doing good*." A third person said he felt good when the people in the facility tell him, "*Thanks, man, you helped me*." A BOP staff member added that "*[t]hey feel good that they accomplish things every day*."

### 6. Elevates Social Status

Working at UNICOR gives the inmates status above the other inmates. Four inmates said that the non-UNICOR workers envy them because of their higher pay. One said, "*My friends say, 'I wish I could get in,'*" With their higher wages, UNICOR workers can outsource tasks to other inmates, like doing their laundry, making their beds, and cleaning their living spaces. This gives them status as well. One inmate said that the non-UNICOR inmates "*think that we think we're better than them, but we don't think that*." One person tied this benefit to relationships with family by saying his family is "*proud*" of the work he is doing. One of the BOP staff members added that inmates like to tell their children, "*Daddy's at work*."

### Additional Staff Comments

One BOP staff member said that, because UNICOR employment requires a high school diploma, it motivates the other prisoners to earn a diploma while in prison. Perhaps one staff member summarized it best. She said UNICOR is "*the most desirable job in the compound*," "*the most beautiful work environment*," "*the best pay*," "*it takes a burden off family*," and "*inmates can buy things they need like shoes and warm clothes*." She concluded, "*It's a gift to work at UNICOR*."



## Usefulness After Prison

Interestingly, two of the inmates mentioned how this computer work will help them with future job prospects because it could be used as a job reference. We pressed the staff about this point in our follow-up interviews and learned that personal references by UNICOR or prison staff are forbidden and all staff is forbidden to keep in contact with inmates after they are released. UNICOR, as a company, does not write references to its workers—even those who have worked for UNICOR for many years. The prison, however, does allow inmates to use the standard Bureau of Prisons work performance reports. These reports possibly could be used by inmates as a proxy for a reference. We were not able to learn if released prisoners find this document useful as a tool to help them get a job.

## VI. DISCUSSION

We sought an answer to the question, “How does business services employment affect the inmates’ current lives, family relationships, and future prospects?” We initially positioned this question at the intersection of impact sourcing and prison employment programs. We thought there might be something special about teaching prisoners to use a computer to perform business services. We did not find compelling evidence that the effects of digitally-enabled business services are greater than the effects from other high-paying prison employment programs. The most compelling effects had to do with pay, work habits, general business skills, occupying time and building self esteem. The fact that the inmates learned to use computers for their jobs was not frequently mentioned as a perceived benefit. Only two inmates made specific comments tying computer-efficacy with higher self-efficacy. The next sections reflect on the evidence and consider some research limitations.

### Reflections on the Findings

The nine inmates we interviewed reported significant positive benefits of their business services jobs on their current lives in prison. The main benefits identified are good financial compensation, work habit development, productively occupied time, development of business skills, elevated self-efficacy, and elevated social status. The BOP staff members corroborated these findings. Perhaps the most compelling evidence, however, is that 350 people are on the UNICOR waitlist—by far the longest waitlist at the Elkton prison. In contrast, some of the vocational programs have no waitlists. Clearly, inmates want the UNICOR jobs because they perceive that the jobs will provide substantial benefits. But again, the benefits could apply to any higher-paying prison job. The development of business skills is interesting, particularly as it relates to productivity and quality, but again these are generic business skills relevant to any type of employment program.

In contrast to their present lives, the inmates spent very little time discussing the effects of their UNICOR jobs on their future business prospects. None of the inmates expressed a desire to find a job that uses computers after their release. Only one person discussed any concrete ideas for employment after release; he said he wanted to work in real estate. Furthermore, BOP staff could not comment on the effects of UNICOR employment on future prospects because the prison does not track a person once he is released. The staff’s only knowledge about released inmates comes anecdotally from other inmates who may keep in contact with them.

We also wanted to understand the context surrounding business services employment in prisons. As evidenced by the long waitlists, UNICOR jobs are the most desirable because they pay the highest wages. We learned how inmates are selected for work, how they are trained and onboarded, and how their work is assigned, managed, and evaluated. Inmates must have a high school diploma and no prior computer-related crimes. Inmates are waitlisted, and the highest priority goes to prior UNICOR workers. If inmates pass the entrance exam, they receive four weeks of classroom training and two weeks of work shadowing. Work is assigned based on experience and grade level to one of four stages of work—processing, senior review, quality assurance, and production control. Work is evaluated based on quotas and error rates. We also learned which practices, processes, and technologies are used to protect information and guarantee quality. Physical security measures ensure inmates do not bring in or remove items from the UNICOR facility. Technical security measures include unbundling of work and the inability to access any software other than the workflow software.

We note that the nine inmates were overwhelmingly positive about their work experiences at UNICOR. But, were inmates self-censoring? There is some evidence that they were. When asked the specific question, “What is the worst thing about this job?” five inmates did not really respond. Two people gave brief answers. One person said, “*I can’t buy books at the store anymore,*” which refers to a prison policy, not a UNICOR policy. Another person said, “*waking up at 6:00 [is hard].*” One person gave a longer answer to this question. He essentially said that UNICOR is supposed to be run as a business, but “employees” are still treated as “inmates.” He also said that promotions to higher pay grades are based on “politics” rather than aptitude. He claimed inmates perform at higher pay grades by meeting those quotas and error rates but will often not get promoted for “political reasons.” One most revealing comment came from an inmate who confessed that the non-UNICOR inmates call him a “slave.” When asked to explain, he said that some inmates say that UNICOR inmates are earning money for the government and that “the

government makes money off of prisoners.” This comment provides a segue into an important discussion point: the controversy over prison sourcing.

## The Ethics and Politics of Prison Sourcing

Prison sourcing has been criticized for decades—long before outsourcing of computerized business services was introduced. We speak only briefly to these arguments—on both sides—because this is not the focus of our article.<sup>6</sup>

The criticism of prison sourcing has two main thrusts. First, prison sourcing represents exploitation of labor [Rusche and Kirchheimer, 1968; Weiss, 2001]. Thus, the government and for-profit organizations are benefitting at the expense of the prisoners. Second, prison sourcing represents cut-throat competition with the private sector. Opponents argue that prison industry programs hurt small businesses and steal jobs from law-abiding citizens [Carroll, 2010; Gruber, 2005; Rohrich, 2013; Smith-Ingley and Cochran, 1999; James, 2007]. They argue that the U.S. federal inmates working in prison factories earn extremely low wages (\$0.23 to \$1.15 an hour), and, thus, “legitimate” businesses cannot economically compete for work. As a result, a number of restrictive actions have been taken against UNICOR for unfair competition, particularly by apparel and furniture manufacturers.

The arguments for prison sourcing have two thrusts: positive cash flow for society and positive impact on recidivism. First, the payment flow from prison work back into society is positive. The prisoners labor to pay for their needs and family support and to pay victims. For example, a 2011 California report asserts that California Prison Industry Authority (CALPIA) provides an economic benefit of \$497 million [Harris, Goldman, and Price, 2010]. The second argument is the lower recidivism rate that these programs bring, as we discussed earlier in the article. Again, an example from California: “[B]eginning in FY 2007-08, CALPIA participants returned to prison, on average, 26 to 38 percent less often than offenders released from the ... general population” [CALPIA, 2013].

## Limitations of Current Research

This research has a number of limitations. Overall, the external validity of a single case study is weak and could be strengthened using replication logic to select additional cases [Yin, 2003]. We have recommended the types of additional cases to study in the future research section below.

Additionally, each specific data collection method used in the case study also is limited. Key informant interviews have two main drawbacks: informant bias and random error [Kumar et al., 1993; Marshall, 1996]. We do not know the extent to which the inmates we interviewed were biased and self-censoring. Furthermore, the inmates were not selected at random, but volunteers were solicited among the UNICOR workers. The inmates we formally interviewed worked only for UNICOR, so we have no control group of non-UNICOR inmates. Multiple informants per site increases the reliability and validity of findings [Seidler, 1974], and assessing the extent to which informants’ information is consistent can demonstrate reliability [Tremblay, 1957]. For this case, we interviewed fourteen key informants, of which nine were inmates. We heard consistent views on the value of the UNICOR business services jobs on inmates’ lives in prison.

Direct observation also has limitations. Direct observation makes researchers rely on their perceptions rather than on the insights of members [Adler and Adler, 1994]. These limitations are best overcome by using multiple observers, supplementing direct observation with other data collection methods, and writing in a verisimilar style that brings the reader close to the subject [Adler and Adler, 1994]. We used all of these research practices. There were three researchers; we supplemented direct observation with participant observation and key informant interviews; we attempted to relay what we observed without analyzing the observations in the case description section.

Finally, participant observation is limited by the “pretense problem” because the researchers disrupt normal behavior [Remenyi, Williams, Money, and Swartz, 1998]. Covert participant observation is the best way to overcome this limitation, but deception raises ethical issues [Oliver and Eales, 2008] as well as practical issues (since none of us was willing to go to prison “undercover”). Participation also always takes the form on an exchange relation [Evans, 2012]. Researchers may feel they “owe” something to the members, which can influence what researchers write. There is always a “political aspect” to qualitative data interpretation [Denzin, 1994]. In reflecting on this limitation, we did omit some observations because we considered them rude to our hosts. Overall, the use of multiple data collection methods was the main way we overcame the limitations of a particular data collection method.

<sup>6</sup> The Prison Industry argues that much of the opposition to prison industry employment programs “has centered around emotional responses to the issue, rather than factual evidence” [Smith-Ingley and Cochran, 1999, p. 98].





## VII. CONCLUSION

*We ask an awful lot of prisons. We ask them to correct the incorrigible, rehabilitate the wretched, deter the determined, restrain the dangerous, and punish the wicked. We ask them to take over where other institutions of society have failed and to reinforce norms that have been violated and rejected. We ask them to pursue so many different and often incompatible goals that they seem virtually doomed to fail. Moreover, when we lay upon prisons the utilitarian goals of rehabilitation, deterrence, and incapacitation, we ask them to achieve results primarily outside of prison, rather than inside. By focusing on external measures, we set [them] up to be judged on matters well beyond their direct sphere of influence [Logan, 1993, p. 23].*

Current thinking in criminology suggests that prison intervention programs should be assessed based on immediate effects. Based on a single case study comprising key informant interviews with inmates and staff, direct and participant observation, and documents, we identified six immediate benefits: business services employment offers the best financial compensation, develops business skills, develops work habits, productively occupies time, builds self-efficacy, and elevates social status. All six of these benefits positively affect the workers' lives while in prison. There was *some* evidence that three benefits positively affected their lives with families: the best financial compensation, work habit development, and social status elevation. In comparison to the evidence gathered on the immediate effects while in prison, we found little evidence that business services employment affects future prospects.

In this article we have explored the impact of prison employment programs at one institution. While this has led to greater insight into the impacts of this facet of sourcing on the inmates involved, additional research is warranted. Using replication logic to increase external validity [Yin, 2003], additional prison sourcing sites should be studied, particularly if a control group of non-UNICOR employed inmates could be used for comparison.

Future research also might explore other populations (like women and juveniles), other locations outside the U.S., and other sourcing models. Concerning the later, based on this case study, we have surmised that the fact that business services are digitally-enabled does not seem highly relevant. But the model we studied isolates the inmates from the end customer. There is another model of digitally-enabled services, namely, direct contact between the inmate and customer populations. At the Elkton prison, inmates do not communicate with customers in any way. However, at call center sites, inmates not only talk with customers, but they must solve their customers' problems. We suspect that direct customer contact likely will produce additional benefits in addition to those we uncovered in this case. Finally, on the topic of non-U.S. prison sourcing, comparisons of various interventions, including employment, education, and the impact of these on key dependent variables—especially recidivism—are important.

In conclusion, we found that prison employment had positive immediate effects on the inmates' lives while they were in prison. As far as long-term effects, we have very little evidence, but perhaps prison intervention program assessments should focus on immediate effects because so many long-term effects (like the effect on recidivism) are beyond a prison's control. While long-term effects could not be assessed in our study, we still are encouraged by one anecdotal comment and thus end with the words of one inmate who said, *"This is my second trip. If I had this job in my first trip, I wouldn't be here again."*

## REFERENCES

*Editor's Note:* The following reference list contains hyperlinks to World Wide Web pages. Readers who have the ability to access the Web directly from their word processor or are reading the article on the Web, can gain direct access to these linked references. Readers are warned, however, that:

1. These links existed as of the date of publication but are not guaranteed to be working thereafter.
2. The contents of Web pages may change over time. Where version information is provided in the References, different versions may not contain the information or the conclusions referenced.
3. The author(s) of the Web pages, not AIS, is (are) responsible for the accuracy of their content.
4. The author(s) of this article, not AIS, is (are) responsible for the accuracy of the URL and version information.

Accenture (2012) "Exploring the Value Proposition from Impact Sourcing: The Buyer's Perspective", <http://www.accenture.com/us-en/Pages/insight-exploring-value-proposition-impact-sourcing.aspx>.

Adler, P., and P. Adler (1994) "Observational Techniques", Denzin, N.K., and Y.S. Lincoln (eds), *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, pp. 377–393.

Aos, S., M. Miller, E. Drake (2006) *Evidence-based Public Policy Options to Reduce Future Prison Construction, Criminal Just Costs, and Crime Rates*, Olympia, WA: Washington State Institute for Public Policy.

- Avasant/Rockefeller Foundation (2012) "Incentives & Opportunities for Scaling the 'Impact Sourcing,' Sector 2012, Corporate Report by Avasant Consultancy", <http://www.rockefellerfoundation.org/news/publications/incentives-opportunities-scaling>.
- Babin, R. (2008) "Assessing the Role of CSR in Outsourcing Decisions," *Journal of Information Systems Applied Research*, (1)2, pp. 3–14.
- Babin, R., and B. Nicholson (2009) "Corporate Social and Environmental Responsibility in Global IT Outsourcing", *MIS Quarterly Executive*, (8)4, pp. 123–132.
- Babin, R., and B. Nicholson (2012) *Sustainable Global Outsourcing: Achieving Social and Environmental Responsibility in Global IT and Business Process Outsourcing*, London: Palgrave.
- Bandura, I., G. Caprara, C. Barbarane, M. Gerbino, and C. Pastorelli (2003) "Role of Affective Self-regulatory Efficacy in Diverse Spheres of Psychosocial Functioning", *Child Development*, (74)3, pp. 769–782.
- Barret, V. (2010) "Silicon Valley's Prison Call Center", *Forbes*, June 28.
- CALPIA (2013) [http://pia.ca.gov/About\\_PIA/AboutPIA.aspx](http://pia.ca.gov/About_PIA/AboutPIA.aspx) (current November 2013).
- Carmel, E., M. Lacity, and A. Doty (2013) "The Impact of Impact Sourcing: Framing a Research Agenda", Fourth International Conference on the Outsourcing of Information Services, Mannheim, Germany.
- Carroll, D. (2010) "Behind the Fences: UNICOR's Affect on Private Business", *Business Credit*, (112)3, pp. 12–13.
- Conan, N. (2010) "Inmates' Jobs, from Call Centers to Paint Mixing", *Talk of the Nation*, National Public Radio, broadcast, December 16.
- Creswell, J. (1998) "Choosing Among Five Traditions" in Denzin, N.K., *Qualitative Inquiry and Research Design*, Thousand Oaks, CA: Sage Publications.
- Denzin, N. (1994) "The Art and Politics of Interpretation" in Denzin, N.K., and Y.S. Lincoln (eds), *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, pp. 500–515.
- Drake, E. (2003) *Class I Impacts: Work During Incarceration and Its Effects on Post-prison Employment Patterns and Recidivism*, Olympia, WA: Washington State Department of Corrections.
- Dubé, L., and G. Paré (2003) "Rigor in IS Positivist Case Research: Current Practices, Trends, and Recommendations", *MIS Quarterly*, (27)4, pp. 597–635.
- Elmendorf, W., and A. Luloff (2006) "Using Key Informant Interviews to Better Understand Open Space Conversation in a Developing Watershed", *Arboriculture & Urban Forestry*, (32)2, pp. 54–61.
- Evans, G. (2012) "Practicing Participant Observation: An Anthropologist's Account", *Journal of Organizational Ethnography*, (1)1, pp. 96–106.
- Farooq, O. (2010) "Outsourcing Unit to Be Set Up in Indian Jail", [http://news.bbc.co.uk/2/hi/south\\_asia/8677486.stm](http://news.bbc.co.uk/2/hi/south_asia/8677486.stm).
- Federal Prison Industries (FPI) *Fiscal Year 2012 Annual Management Report*, November 15, 2012.
- Firstpost (2012) "UK Prisoners to Challenge Outsourcing Jobs to India", [http://www.firstpost.com/world/uk-prisoners-to-challenge-outsourcing-jobs-to-india-414033.html?utm\\_source=ref\\_article](http://www.firstpost.com/world/uk-prisoners-to-challenge-outsourcing-jobs-to-india-414033.html?utm_source=ref_article).
- Fontana, A., and J. Frey (1994) "Interviewing: The Art of Science" in Denzin, N.K., and Y.S. Lincoln (eds), *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, pp. 361–376.
- Gaes, G., S. Camp, J. Nelson, W. Saylor (2004) *Measuring Prison Performance: Government Privatization and Accountability*, Oxford: AltaMira Press.
- Gino, F., and B. Staats (2012) "The Microwork Solution", *Harvard Business Review*, (90)12, pp. 92–96.
- Gruber, A. (2005) "Competing with Inmates", *Government Executive*, (37)12, pp. 32–34.
- Harris, T.R., G.G. Goldman, and S. Price (2010) *The Economic Impact of the California Prison Industry Authority on the California Economy for FY 2008/09*, CALPIA, December.
- Heeks, R. (2012a) "A Model for Assessing IT Impact Sourcing Relationships", <http://ict4dblog.wordpress.com/tag/socially-responsible-outsourcing/>.
- Heeks, R. (2012b) "The Research Agenda for IT Impact Sourcing, blog. ICTs for Development", <http://ict4dblog.wordpress.com/2012/05/06/the-research-agenda-for-it-impact-sourcing/>.

- Heeks, R., P. Gao, and A. Ospina (2010) "Delivering Coherent ICT Policies in Developing Countries", *eDevelopment Briefing Papers*, (14), pp. 1–4, <http://www.sed.manchester.ac.uk/idpm/research/publications/wp/di/short/CDIBriefing14PolicyCoherence.pdf>.
- Heeks, R., and S. Arun (2010) "Social Outsourcing as a Development Tool: The Impact of Outsourcing IT Services to Women's Social Enterprises in Kerala", *Journal of International Development*, (22)4, pp. 441–454.
- IAOP (2009) "Summary of Findings from the IAOP 2009 CSR Survey", *IAOP Research White Paper*, <http://www.iaop.org/Content/23/126/1698/>.
- James, N. (2007) "Federal Prison Industries", Congressional Research Service, Cornell University ILR School, [http://digitalcommons.ilr.cornell.edu/key\\_workplace/309](http://digitalcommons.ilr.cornell.edu/key_workplace/309).
- Judge, T., A. Erez, J. Bono, C. Thoresen (2002) "Are Measures of Self-esteem, Neuroticism, Locus of Control, and Generalized Self-efficacy Indicators of a Common Core Construct?", *Journal of Personality and Social Psychology*, (83)3, pp. 693–710.
- Klein, H., and M. Meyers (1999) "A Set of Principles for Evaluating Interpretive Field Studies in Information Systems," *MIS Quarterly*, (23)1, pp. 67–94.
- Kumar, N., Stern, L., and Anderson, J. (1993) "Conducting Interorganizational Research Using Key Informants," *Academy of Management Journal*, (36)6, pp. 1633–1651.
- Lacity, M., E. Carmel, and J. Rottman (2011) "Rural Outsourcing: Delivering ITO and BPO Services from Remote Domestic Locations", *IEEE Computer*, (44), pp. 55–62.
- Lacity, M., J. Rottman, and E. Carmel (2012) "Emerging ITO and BPO Markets: Rural Sourcing and Impact Sourcing", *IEEE Readynotes*, IEEE Computer Society.
- Lacity, M., J. Rottman, and S. Khan (2010) "Field of Dreams: Building IT Capabilities in Rural America", *Strategic Outsourcing: An International Journal*, (3)3. pp. 169–191.
- Lipsey, M., and F. Cullen (2007) "The Effectiveness of Correctional Rehabilitation", *A Review of Systematic Reviews*, *Annual Review of Law and Social Science*, (3), pp. 297–320.
- Logan, C. (1993) "Criminal Justice Performance Measures for Prison", in Greenfield, L., (ed.), *Performance Measures for the Criminal Justice System*, Washington, DC: Bureau of Justice Statistics, pp. 1–23.
- Maguire, K.E., T.J. Flanagan, and T.P. Thornberry (1988) "Prison Labor and Recidivism", *Journal of Quantitative Criminology*, (4)1, pp. 3–18.
- Mahoney, C. (1997) "Common Qualitative Techniques," in Frechtling, J., and L. Sharp Westat (eds.), *User-Friendly Handbook for Mixed Method Evaluations*, The Division of Research, Evaluation and Communication for the National Science Foundation, publication number NSF97-153, pp. 1–17, <http://www.nsf.gov/pubs/1997/nsf97153/start.htm>.
- Marshall, M. (1996) "The Key Informant Technique", *Family Practice*, (13)1, pp. 92–97.
- Monitor Group/Rockefeller Foundation (2011) "Job Creation Through Building the Field of Impact Sourcing", Corporate Report by Monitor Consultancy, <http://www.rockefellerfoundation.org/blog/job-creation-through-building-field>.
- Oliver, J., and K. Eales (2008) "Re-evaluating the Consequentialist Perspective of Using Covert Participant Observation in Management Research", *Qualitative Market Research: An International Journal*, (11)3, pp. 344–357.
- Ponterotto, J., and M. Casas (1991) *Handbook of Racial/Ethnic Minority Counseling Research*, Springfield, IL: Charles C Thomas.
- Remenyi, D., B. Williams, A. Money, and E. Swartz (1998) *Doing Research in Business and Management*, Thousand Oaks, CA: Sage.
- Richmond, K. (2008) "Factories Within Fences: The Effect of Prison Industries on Female Inmates", *Proceedings of the American Society of Criminology*.
- Richmond, K. (2012) "The Impact of Federal Prison Industries Employment on the Recidivism Outcomes of Female Inmates", *Justice Quarterly*, DOI:10.1080/07418825.2012.668924.
- Rohrlich, J. (2013) "Will Your Job Be Reshored to a Federal Prisoner?" <http://www.minyanville.com/business-news/editors-pick/articles/Will-Your-Job-Be-Reshored-To/3/12/2013/id/48675>.
- Rusche, G., and O. Kirchheimer (1968) *Punishment and Social Structure*, New York: Russell & Russell.

- Saylor, W., and G. Gaes (1991) *PREP Study Links UNICOR Work Experience with Successful Post-release Outcome*, Washington, DC: U.S. Bureau of Prisons.
- Saylor, W., and G. Gaes (1992) "The Post-release Employment Project", *Federal Prisons Journal*, (2)4, pp. 32–36.
- Saylor, W., and G. Gaes (1996) *PREP: A Study of "Rehabilitating" Inmates Through Industrial Work Participation, and Vocational and Apprenticeship Training*, Washington, DC: Federal Bureau of Prisons.
- Saylor, W., and G. Gaes (1997) "Training Inmates Through Industry Work Participation and Vocational and Apprenticeship Instruction", *Corrections Management Quarterly*, (1)2, pp. 32–43.
- Saylor, W., and G. Gaes (2001) "The Differential Effect of Industries and Vocational Training on Post-release Outcomes for Ethnic and Racial Groups", *Corrections Management Quarterly*, (5)4, pp. 17–24.
- Seidler, J. (1974) "On Using Informants: A Technique for Collecting Quantitative Data and Controlling for Measurement Error in Organizational Analysis", *American Sociological Review*, (39), pp. 816–831.
- Smith, C.J., J. Bechtel, A. Patricky, L. Wilson-Gentry (2005) "Correctional Industries Preparing Inmates for Re-entry: Recidivism & Post-release Employment", <https://www.ncjrs.gov/pdffiles1/nij/grants/214608.pdf>.
- Smith-Ingley, G., and M. Cochran (1999) "Ruinous or Fair Competition: The Correctional Industries: Public Debate", *Corrections Today*, October, pp. 82–100.
- Tremblay, M. (1957) "The Key Informant Technique, A Nonethnographic Application", *Family Practice*, (59)4, pp. 688–701.
- UNDP (United Nations Development Program) (2008) "Promoting Inclusive Parliaments: The Representation of Minorities and Indigenous Peoples in Parliament", United Nations Development Program Advisory Committee, First Advisory Meeting on Inclusive Parliaments, <http://www.ipu.org/dem-e/minorities/faq.pd>.
- Weiss, R. (2001) "Repatriating Low-wage Worker: The Political Economy of Prison Labor Reprivatization in the Postindustrial United States", *Criminology*, (39)2, pp. 253–291.
- Wilson, D., C. Gallagher, and D. MacKenzie (2000) "A Meta-analysis of Corrections-based Education, Vocation, and Work Programs for Adult Offenders", *Journal of Research in Crime and Delinquency*, (37), pp. 347–368.
- Yin, R. (2003) *Case Study Research: Design and Methods, third edition*, Thousand Oaks, CA: Sage.

## APPENDIX A: INMATE INTERVIEW GUIDE

### Part I: Administer the Informed Consent Form

### Part II: We essentially want to hear the story of how you came to be employed in this job.

- When and how did you first hear about the work program?
- What made you want to apply to this work program?
- When did you apply?
- What was the process for getting selected?
- When were you selected?
- Please describe the training you were given (type of training; duration of training).

### Part III: Next we want to hear about your job and how that may have changed over time.

- Tell us about the first few days on the job—what work did you do?
- What was difficult about this job in the beginning?
- What did you do if you had questions or needed help?
- Who is your boss?
- Has the type of work you do changed over time?
- How is the quality of your work determined?
- How much are you paid?
- How many hours a week do you work?
- Can you describe a problem you've had at work and tell us how it was resolved?
- What do you like best about this job?
- What do you like least about this job?

### Part IV: Finally, we want to understand how this work program affects your current and future life.

- How does the money you are earning help you?

How does the opportunity to work affect your life in prison?  
If you didn't have this job, what work would you likely have done while in prison?  
Will this opportunity be helpful to you when you are released?  
What do your family and friends think of your working in this job?  
Is there anything else you would like to share with us about your job?

**Part V. Thank the participant for his/her time.**

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